THE MULTIDISCIPLINARY APPROACH TO HEALTH AND DISEASE

SELECTED PAPERS

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PREFACE

The modern approach to health and disease is interdisciplinary and holistic. This is clearly reflected in the definition of health formulated in 1948 by the World Health Organization (WHO), according to which health "(....) is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (Heszen, Sęk, 2008, p. 48). It follows from this definition that an impairment of this well-being is not necessarily due solely to the existing symptoms of disease, but has much broader determinants (social, cultural). Health as well-being is sometimes equated with quality of life, although these concepts differ with respect to their range (quality of life has a much wider range). However, if we refer to health when assessing quality of life, then we make evaluations of various spheres of life and life as a whole while taking into account the health condition. According to the World Health Organization, quality of life reflects the individual's perception of his/her position in life in the context of culture and value systems in which they live and in relation to his/her objectives, expectations, standards and interests (WHOQOL, 1995). It has a complex and multidimensional nature, but it is essentially comprised of six basic dimensions: physical, psychological, independence, social relationships, environment and the spiritual dimension (WHOQOL, 1998).

This monograph, entitled *The Multidisciplinary Approach to Health and Disease. Selected Papers* is the result of many years of theoretical and empirical research in various academic centers, health care and social assistance institutions, in which health issues are subject of theoretical and empirical analyses. The content of this book is divided into five chapters, focusing the Reader's attention on disorders of mental and somatic health, the therapeutic relationship and selected methods of psychological diagnosis.

Chapter One - *Social and Psychological Dimensions of Mental Disorders* contains five papers. The following are subject to detailed analysis in this chapter: specific cognitive impairments in people with schizophrenia (Steuden, Janowski, Kaszuba), eating disorders (Dżygadło, Łepecka-Klusek, Kozłowicz), evaluation of the effectiveness of psychoeducation in the treatment of eating disorders (Dżygadło, Kozłowicz, Jarosz, Łepecka-Klusek, Pilewski), dementias (M. Steuden) and borderline personality disorder (Sumiła, Cieślukowska, Dziemian, Pyrzanowska-Sumiła). A common feature of all these disorders are difficulties in daily functioning, due to various reasons. Schizophrenic disorders are characterized by distinctive abnormalities of thought and perception and flattened inadequate affect. In disordered thinking, peripheral and irrelevant features of the concept, become prominent and replace those that are relevant and appropriate to the situation (ICD-10, 1997). In people with schizophrenia, cognitive deficits are the cause of problems in interpretation of reality, empathic understanding, feeling, and taking other people's perspectives, the ability to act and make decisions (Bora et al., 2006; Frith, 1987). Eating disorders, due to the variety and multiplicity of psychopathological symptoms, are not a uniform group. According to ICD-10 (1997) they include: anorexia nervosa, atypical anorexia nervosa, bulimia nervosa, atypical bulimia nervosa, excessive eating associated with other psychological factors, and other eating disorders. Anorexia nervosa involves striving to reduce the body weight, much below the accepted standards with respect to age and height, with a distorted evaluation of one's own appearance and with co-occurring fear of gaining weight, which results in significant reduction of food intake. Two types of this disorder are usually distinguished - restrictive (without increasing the amounts of food) and bulimic (episodes of excessive eating behaviors with resultant compensatory behaviors in the form of taking laxatives or emetics and even more restrictive dieting. Bulimia nervosa is a syndrome characterized by periodic episodes of binge eating and excessive concentration on weight control. Over the duration of this disorder, somatic disorders can occur, as well as atrophic changes in the central nervous system. In the next article *Medical and Psychological Aspects of Dementia*, different dementia syndrome are the subject to theoretical analyses – including those occurring in the course of Alzheimer's disease, vascular disease and dementia with Lewy bodies, their basic neuropsychological symptoms and diagnosis. The theoretical analyses are complemented by a review of selected clinical cases. Dementias are disease entities in the nosological sense, but are the result of various diseases of the brain and other brain damaging agents (e.g., cardiovascular diseases, diabetes, kidney diseases, intoxication, vitamin deficiency), and the risk of their occurrence increases with age (Bilikiewicz, Parnowski, 2002). In particular, they affect the elderly, they are sometimes associated with great suffering of those affected, and always pose serious stress for relatives and care-givers (Steuden, 2011). In the article *Borderline Personality Disorder in Adolescence: A Case Study*, the authors reveal the complexity of the clinical picture and diagnostic difficulties of mental health disorders in adolescence. The subject of an in-depth analysis is borderline personality disorder, characterized by a tendency to act impulsively without considering the consequences of behavior together with emotional instability.

Chapter Two – *Chronic Illness from the Physician's and Psychologist's Perspectives* includes six articles which elaborate on the dynamics of struggling with chronic diseases with different course (Heszen), psychological factors in the etiology of irritable bowel syndrome (Janowski, Steuden), psychological aspects of diabetes in children and adolescents (Głąb, Wikiera, Bieniasz, Barg, Noczyńska), quality of life in women with urinary incontinence (Szymona-Pałkowska, Janowski, Kraczkowski, Steuden, Adamczuk, Robak, Matysik-Woźniak, Gałkowska-Bachanek), correlates of quality of life in cardiovascular diseases (Zarzycka, Kochanska, Śliwak, Raczak) and the experience of vitiligo (Steuden, Sadowska, Janowski, Cecot). The common feature of the topics discussed here is the search for links between health and quality of life, perceived consequences of the disease, the patient's life situation, perceived opportunities and constraints. Chronic disease usually puts a person in a situation of dependence on others to satisfy basic needs, forces the ill person to change their functioning in everyday life and achieve a balance between dependence and independence in social functioning. The treatment and rehabilitation process may reveal different forms of dependency (social, financial, emotional, institutional). The proper selection of treatment and rehabilitation methods, agreed with the patient and suited to his/her needs has a positive impact on quality of life. Improvement in the somatic functioning, as a result of the treatment is usually reflected in the psychological dimension, in better social functioning and modifies quality of life. Peterman and Cella (2000), referring quality of life to the category of health, emphasize the extent to which "… the basic or expected mental, physical, emotional and social well-being factors is influenced by medical factors or treatment". The results of research reported in the articles presented here also allow us to identify the needs of the ill and are the basis for developing and monitoring support programs. Such treatment is important for the rehabilitation of the chronically somatically ill, which will favor their satisfaction with the treatment process and increase their quality of life despite the disease (Testa, Simonson, 1996). Thus, it is important to take into account the individual appraisal of the disease, which refers to its meanings and what makes the patients life meaningful (Peterman, Cella, 2000). One of the key goals of treatment is to restore the physical fitness to the ill person, and, in the psychosocial dimension, acceptance of the disease and maintenance of the skills enabling the optimal functioning, despite the limitations arising from the disease. The empirical studies indicate that the severity of the disease and its burden do not straightforwardly depend on the degree of satisfaction with one's own life. People with similar disease severity may differ in terms of quality of life. A similar case is observed in the evaluation of the effectiveness of treatment - an objective improvement of health due to the treatment process does not necessarily translate into improved quality of life in the subjective sense (Steuden, 2002). This discrepancy is dictated by different needs, expectations, and different ways of evaluating the situation of the disease.

The third chapter entitled *Psychological and Medical Aspects of the Therapeutic Relationship* contains studies concerning the factors affecting the relationship between the doctor and the patient experiencing chronic pain (Szerla, Ortenburger, Domański, Tarnopolski), the dentist – patient relationship conducive to maintaining better quality of life (Tanasiewicz, Skucha-Nowak, Twardawa, Wierucka-Młynarczyk, Skaba), the issues related to the care to adolescent with depressive symptoms and addicted to psychoactive substances (Sumiła, Rzepnikowska, Pyrzanowska-Sumiła, Pakalska-Korcala). Creating a good therapeutic relationship depends on a complex configuration of many factors, from purely behavioral, and related to the exchange of information, through those linked with a sense of closeness. The list of the factors contributing to building a therapeutic relationship can be created based on the disability in ill people, cognitive, emotional deficits, deficits of social relationships or the existential aspects relating to individualized experience of one's own illness or disability. Each time, however, this list will be incomplete. The treatment of chronically ill people requires from those providing support - a doctor or psychologist - not only professional skills, but also empathy, defined as the ability to experience thoughts, feelings and emotions of another person, and thus understand his/her behavior. In the process of treatment, empathy is revealed in the behaviors and attitudes towards the ill. Research shows that it is linked to conscientiousness, duty, integrity and thoroughness in medical care, with pro-social behaviors, observance of moral principles, polite attitude to patients, creating a more friendly atmosphere, competence in decision making, patient satisfaction and physician's satisfaction with treatment (Hojat et al., 2002). It can be claimed that empathy is linked with the possibility of creating a better therapeutic relationships with patients and witch achieving better treatment effects. The therapeutic style is important in the healing process, and it is a complex interaction between the patient and the doctor. Fernandez-Alvarez et al. (1998) point to its complexity and isolate the following dimensions in it: 1) the conditions of the treatment, 2) the emotional exchange that relates to a method of communication with the patient, disclosure of one's own emotional states and responses to the behavior of the patient, 3) personal commitment - reflects the beliefs of the doctor on his/her role associated with treatment, involvement in the problems of the ill people, including the willingness to help them cope with problems; 4) the method of gathering information, taking into account the ability of listening, questioning, and 5) the method of exerting influence on the patient - refers to the level of directiveness in the way of treatment.

In Chapter Four - *The Care for Somatic and Psychological Quality of Life* – the analyses reported by the authors include: ratinale and indications fro psychological intervention in patients with psoriasis (Janowski), review of the literature on cognitive-behavioral therapy for people with posttraumatic stress disorder (Shubina), physical activity and maintaining quality of life during late adulthood (Gerc), the supporting role of palliative care for children in the terminal stage of illness (Hulewska), theoretical analyses and review of research on the dreams of the blind (Gerc) and quality of life and social exclusion in Japan (Olejarz).

The subjective assessment of health status is not the exclusive domain of the patient, but is also shared by those providing treatment - a doctor, psychologist and other health professionals. Although they use clinical, objective diagnostic criteria, it is their method of data collection and valuation that affects an assessment of the disorder and selected therapeutic interventions. The information communicated to the patient, influence their cognitive appraisal of the chronic disease, the way of valuation of life, both as a whole and its individual spheres and, consequently, quality of life with the disease.

In the last chapter - *Selected Psychometric Instruments in Clinical Diagnosis* - two studies are presented that attract the Reader's attention to the usefulness of the salutogenetic theory of sense of coherence in the psychological diagnosis (Januszewski) and sense of coherence and psychological health indicators in the bio-psycho-social perspective among adolescents (Januszewska). Sense of coherence is a general orientation of a person expressed as stable and dynamic belief in the predictability and meaningfulness of the world and one's own position in life. The psychological aspect it as a complex personality trait that combines beliefs about the world, oneself and one's own relationships with the world. Sense of coherence was referred to metaphorically by Antonovsky (1987) as the key to health, because it can be considered as a factor that makes people cope with stress effectively and consequently do not get sick, or return to health faster if getting sick (Heszen, Sęk, 2008). A strong sense of coherence motivates human activity and mobilizes resource, which is important in the therapeutic work.

The book is addressed to students of psychology and medicine, to professionals and all those who are interested in the reflection on the interdisciplinary approach to health and disease and who want to help the ill person in his/her struggle with illness and disability.

Stanisława Steuden, Konrad Janowski

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Chapter 1

Social and Psychological Dimensions of Mental Disorders

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INTERPRETATION OF PROVERBS BY PEOPLE WITH SCHIZOPHRENIA

Abstract

An inability to abstract from the literal meanings of a word is observed in people with schizophrenia, as well as a weak reference to a word's real content. The classification of objects (or phenomena) made by the patient with schizophrenia often relies on incidental relationships. Cognitive impairment in schizophrenic patients affects their functioning in the social world. The objective of this study was to analyze the thought impairments in schizophrenia as revealed in interpretations of proverbs. Thirty-nine patients with schizophrenia and nineteen healthy controls took part in the study. Qualitative analysis was performed to categorize the interpretations provided by the patients and controls, and quantitative analysis to calculate the frequency of each interpretation category in both groups. Abstract interpretations of proverbs were found to be significantly less frequent in the patients than in the control group, whereas concrete, literal and unrelated interpretations were observed to be significantly more frequent in the patients compared with healthy controls. The cognitive difficulties exhibited by the patients, as reflected in impaired proverb interpretations, may be responsible for difficulties in social functioning.

Key words: proverb interpretation, thought impairment, schizophrenia, language

Introduction

Studies of cognitive function in people with schizophrenia show "reduced cohesiveness and adaptation of mental processes, causing the patient's dysfunctional experiences and responses in relation to internal and external demands" (Wciórka, 2004, p. 285), and the disintegration of thought, which is a constant and integral feature of the disease. This process is individualized for each person and depends on the person's needs and aspirations (Zeigarnik, 1969). Cognitive impairment occurs in approximately 75% of patients (Borkowska, Rybakowski, 1997, cf. Goldberg, 1993), are important in development of the disease (Czerwinski, 1980) and affect the overall functioning of the afflicted person (Hunca-Bednarska, 1997).

Due to a poor prognosis, impaired attention, memory and executive functions are important (Borkowska, Rybakowski, 1997; 2005; Moritz, Woodward, 2006; Wciórka et al., 2006). There is a relationship of cognitive dysfunction with the negative symptoms (Wciórka et al., 2006). The severity of cognitive deficits correlates with the severity of the negative symptoms, however, such a relationship was not observed for the positive symptoms (Masiak, Masiak, 2001; Wciórka et al., 2006). The efficiency of cognitive functions - especially the ability of abstraction and generalization is critical for understanding the social context and plays an important role in the structuring of knowledge which is "a form of permanent representation of reality, having the shape of ordered and interconnected structure of information encoded in long-term memory" (Nęcka, 2006, p. 137). Abstracting activity reflects the degree of adequacy of the person's behavior in the surrounding reality, enables uncovering the relationships between various features, the recognition of similarities and differences between objects, and identification of causal and correlational relationships (Chlewinski, 1999, p. 267). It is believed in cognitive psychology that analogy and metaphor are based on the same type of cognitive activity (Chlewinski, 1999), hence it seems possible to assess the process of abstraction and analogical reasoning on the basis of proverbs which are a kind of metaphor.

Dead metaphors were used in the study reported in this paper. Rooted in the culture, they reflect the natural way of communication (Chlewiński, 1999; Wiejak, 2003), are an indirect form of communication and a natural means of expression, which is learnt over the course of development. Thanks to them, the person develops the way of communication and transferring information (Barker, 2000, p. 31), thus learning how to adapt the forms of expression to a context, communicates using the language appropriate for a given environment, containing the elements of an emotional, imaginary, expressive and symbolic character, i.e. the figurative language, which is a form of metaphor (Cohen et al., 2006; Langton, Coltheart, 2004). The proverb is the most abstract type of metaphor, whose understanding depends on the intellectual capabilities of the person: the ability to read the symbolic meanings of metaphors, to refer these meanings to reality, to make generalizations and draw conclusions (Kostka-Szymańska, 2003).

An inability to "abstract from the literal meanings of a word" (Zeigarnik, 1969, p. 120) is observed in people with schizophrenia, or, conversely, a weak reference to a word's real content. The classification of objects (or phenomena) made by the patient, often relies on incidental relationships, excessively general and inadequate to reality. Describing pictures, defining concepts and interpretation of proverbs also indicate that people with schizophrenia often use some general schemata and a stimulus given to them does not direct the thought process. When formulating judgments, they do not take into account the criterion of reasonableness, they have many random and undirected associations. Two trends associated with the operation of generalization can be demonstrated in people with schizophrenia – the first is manifested in reduced ability to perceive pertinent and relevant relationships between objects, the second consists in accepting irrelevant relationships as valid (Hunca-Bednarska, 1997, cf. Namysłowska, 1972). The difficulties in identifying relevant and irrelevant stimuli and following inadequate responses are explained by the researchers in terms of dysfunctional information processing (Drat-Ruszczak, 1995; Hunca-Bednarska, 1997). There is no doubt that the presence of these impairments makes it difficult to explore the world and cope in the surrounding reality.

The processes of thinking in people with schizophrenia can be inferred on the basis of an analysis of their utterances, reflecting the features of disorganization (Czernikiewicz, 2004; Doherty, Hawkins et al., 1996; Kaczmarek, 1995; Woźniak, 2000). The cause and mechanism of occurrence of language pathology in schizophrenia are not fully understood, however, it ise considered very important in the diagnosis (Woźniak, 2000). Due to the poverty of the speech content and its disorganization, the language pathology resembles the negative symptoms (deficiency), however, because of such language features as "mental leaps, deviation from the plot, distraction, illogicality, minuteness, forgetfulness and ringing speech," it can also be included into the group of positive symptoms (Czernikiewicz, 2004, p. 22; cf. Adreasen, 1984). The syntactic structure of speech is the least affected in schizophrenia, which seems to follow from the fact that the formation of speech and learning the rules of grammar takes place in childhood, becomes preserved and fixed with time and takes the form of a habit. Hence, lower stylistic variation and lower syntactic complexity are observed in the patients compared to healthy control subjects (Woźniak, 2000).

The language impairment is more clearly revealed on the semantic level – the utterances of people with schizophrenia relate mainly to general issues and the content strays away from the described objects (Zeigarnik, 1969). The speech of the patients is characterized by the term ‘word salad,’ which means “inconsistent use of words, using bizarre forms of expression and neologisms” (Woźniak, 2000, p. 113). A disintegration of the relationship between the name and its meaning is observed, as revealed in the construction of words based on the similarity of sounds, ignoring previous meanings when assigning new meanings to the names, creation of “unusual, occasional and incidental forms” (Woźniak, 2000, p. 152). Language ceases to perform its function, which means that words are unable to refer the listener to the described object.

Analyzing the pragmatic aspect of language, it can be observed that the utterances of the patients often give the impression of a monologue, they lose their function of communication, are devoid of nonverbal expression – the emotional tone. The speech loses its social purpose. People with schizophrenia, similarly to those with frontal lobe dysfunction, do not show interest in the surrounding world, are withdrawn, make an impression of being steered from the outside by current circumstances rather than by their own needs (Kaczmarek, 1994). Their associations are distant, detached from the main plot. Due to the shortage of ideas and words experienced by the patient, in place of the old forms, new, often unusual means of expression occur (Kępiński, 1972).

Cognitive impairment in schizophrenic patients affects their functioning in the social world (Czerwinski, 1980; Kaczmarek, 1994; Nieznański, 2003, Wciórka et al., 2006). The results of studies indicate that higher levels of mental activity before the onset of the disease are associated with a more positive prognosis for functioning (Steuden, 1997). The results of several studies support the hypothesis according to which the emotional aspect is also important for social contacts (Kucharska-Pietura, 2008; Kucharska-Pietura, Masiak, 2004). Communication of emotions depends on cognitive processes, such as perception and expression, and their mutual interaction. In patients with chronic schizophrenia perception face is clearly impaired, and thus weakened recognition of emotions. Undoubtedly, this has a significant impact on social competence, the judgments about human relationships (Mueser, Doonan, 1996). Impairment in the sphere of emotions results in reduced motivation, loss of interest, passivity, preoccupation with oneself and social withdrawal (Kucharska-Pietura, Masiak, 2004). According to Green et al. (2000; cf. Nieznański, 2003) cognitive deficits affect more strongly instrumental social skills (e. g. understanding of social situations, problem solving) than the general level of social functioning. Research conducted by Nieznański (2003) confirmed the existence of impaired social cognition processes, which result from “non-social" cognitive processes. Vigilant attention, verbal memory, executive functions and language skills are of particular importance for social functioning. The processes of social cognition operate on different material than non-social processing operations, the former are qualitative, complex, associated with the situational context, occur in the interaction of the participants. Their impairments stem from deficits in information processing and abstract thinking, factors associated with the clinical manifestation of the disease, quality of interpersonal relationships and communication within the family. Patients with schizophrenia often mistakenly interpret the behavior of other people (e. g., as threatening), are less involved in social interaction, are more withdrawn (Nieznański, 2003).

Functioning in society, in the relationships with people, requires communication skills using the language code specific to a given group. Behind the literal meaning, a deeper meaning lies, whose capturing involves the abstract thinking ability and knowledge of the language expressions characteristic of the group. According to Lakoff and Johnson (1988), the metaphor is significant not only for language but also for thinking and acting. Understanding its meaning and its correct application not only demonstrates the ability of abstract thinking, but also about being rooted in the culture (Barker, 2000; Lakoff, Johnson, 1988). Since proverbs are an expression of man's participation in culture and a means of communication, they were used for the study reported in this article to assess understanding of social situations in people with schizophrenia.

It is assumed in this paper that language and thought influence each other and that the analysis of verbal signs and the rules for their use by people with schizophrenia, their way of thinking can be concluded. To assess understanding of the socio-cultural context, proverbs were used. On the basis of material collected in response to five proverbs, the following hypotheses were tested: *There are differences between patients with schizophrenia and healthy subjects in the interpretation of proverbs. Patients with schizophrenia, compared with healthy subjects, give fewer abstract interpretations and more concrete, literal and unrelated interpretations. Similarly, there are differences in the interpretation of proverbs in patients differing in duration of the disease.*

Material and Methods

Thirty-nine patients with schizophrenia (19 subjects suffering for less than 5 years and 20 patients suffering from more than 5 years) participated in the study. They were treated in Świętokrzyskie Centre for Psychiatry in Morawica and in the Neuropsychiatric Hospital in Lublin. The control group consisted of 19 healthy subjects. The majority of patients suffering for less than 5 years were diagnosed with paranoid schizophrenia (53%), the remaining were diagnosed with paranoid syndrome (26%), simple schizophrenia (11%), residual schizophrenia (5%) and schizoaffective syndrome (5%). In the group suffering from chronic schizophrenia, 95% had a diagnosis of paranoid schizophrenia, the remaining 5% - simple schizophrenia. This is related to disease duration and associated disambiguation of the symptoms.

Patients with schizophrenia also differed with respect to the number of hospitalizations (increasing with the disease duration) and the nature of the subjective experience of the disease. Significant differences between patients with varying period of the disease duration included changes in the relationships with others, and changes in daily activities. The sample of patients was also diverse in terms of age, which is associated with the age of onset – the onset is typically 25 to 34 years of age in women, whereas 15 to 24 years of age for men (Wciórka, 2004; Frith, Johnstone, 2003; Kalat, 2006).

In addition to people suffering from schizophrenia, 19 people without mental disorders were also enrolled. The results gathered from these individuals served as the reference data, the control group. The participants were matched by gender (50% males and 50% females), other sociodemographic characteristics were not homogeneous.

In order to assess the cognitive processes - abstraction and reasoning by analogy in the context of understanding social situations, a method belonging to an experimental test kit to test the cognitive processes in patients with brain injuries was used (Łucki, 1995). The study used five proverbs: 1) *An apple never falls far from the tree*, 2) *All that glitters is not gold*, 3) *He who digs a pit for others, falls in himself*, 4) *Grain by grain and the hen fills her belly* 5) *All goats jump onto leaning trees*. The proverbs were given to the subjects in writing, each on a separate piece of paper.

Each participant was examined individually after prior obtaining informed consent for the participation in the study. The subjects were asked to interpret the proverbs. Understanding of proverbs requires abstract thinking abilities. Although the words used in them are concrete, they represent more general ideas and concern mostly a group of phenomena with similar characteristics, rather than just one particular phenomenon. Therefore, the ability to distinguish relevant from irrelevant features is important, in order to assign objects and phenomena to the same category. Abstract (A) interpretations were judged to be the most correct, indicating a metaphorical understanding of the meaning of the proverbs. Concrete (C) interpretations also revealed a degree of understanding the proverbs' meanings, however, they pertained to a specific situation, example, or the subject's own life. As a matter of fact, they are rich in detail, however, do not refer to a generalized meaning (Kaczmarek, 2006). The interpretations of proverbs provided by the subjects were assigned to four categories proposed by Kaczmarek (2006) in The Proverb Interpretation Test. He lists the following types of interpretations: abstract, concrete, literal and unrelated. The abstract interpretation (A) is "an explanation of the meaning of a proverb at an abstract and generalized level, capturing the general idea contained in the proverb" (Kaczmarek, 2006, p. 7). The concrete interpretation of (C) is "an utterance, in which the subject uses an example or an illustration to explain the symbolic meaning of a proverb, often referring to his/her own experience" (Kaczmarek, 2006, p. 7). The literal interpretation (L) reveals a "lack of understanding of the metaphorical meaning of a proverb, the interpretation refers to the real situation presented in the proverb, it resembles the proverb from the formal side" (Kaczmarek, 2006, p. 7). The unrelated interpretation (U) demonstrates a "lack of understanding of a proverb, explanations are poorly or loosely associated with the contents of proverb or are entirely unrelated" (Kaczmarek, 2006, p. 7). Delusional contents and derailments characteristic for the schizophrenic speech were also categorized as unrelated interpretation.

Proverbs and their interpretations used in the study:

1) *An apple never falls far from the tree*, 2) *All that glitters is not gold*, 3) *He who digs a pit for others, falls in himself*, 4) *Grain by grain and the hen fills her belly* 5) *All goats jump onto leaning trees*.

1. An apple never falls far from the tree.
    - a) In the garden, apples are usually near the apple trees (L)
    - b) Children are usually similar to their parents (A)
    - c) Fruits are usually picked up in the garden (U)
2. All that glitters is not gold.
    - a) We should not make judgments only by external characteristics (A)
    - b) Not only does gold shine(L)
    - c) It makes no sense to collect all shiny objects (U)
3. He who digs a pit for others, falls in himself.
    - a) Be careful at your feet if you do not want to fall into a trap (L)
    - b) Do not trip someone if you do not want to be tripped (A)
    - c) Do not dig holes on the way into the town if you want to get there fast (U)
4. Grain by grain and the hen fills her belly.
    - a) Steady work can lead to wealth (A)
    - b) Grain by grain, one can eat till satisfied (L)
    - c) The grains can be used to feed all the hens in the village (U)
5. All goats jump onto leaning trees.
    - a) Sloping tree does not resist the wind force (U)
    - b) Goats eat leaves from the leaning tree (L)
    - c) The weak person is attracts all the ills (A)

(A, C, L, U – refer to the adopted categories of interpretation).

Results

The analysis of interpretation of proverbs made by patients with schizophrenia and by healthy individuals indicates significant differences between the compared groups.

A statistically significant difference ($P<0.001$) was observed for the abstract category in the interpretation of each of the proverbs. Healthy individuals (68-100%) interpreted the proverbs mostly providing their broad meanings, referring to the metaphorical sense. They explained the meaning of the first proverb as a resemblance between the offspring and parents. People with schizophrenia also gave the abstract interpretation, however, the number of such interpretations was much lower (38%). In this group, the first proverb also interpreted in a literal way (28%), indicating its literal meaning, e. g. *an apple can not fall away*, or *an apple is the same as the apple tree*. The differences for this category are statistically significant ($P<0.05$). Among the responses of patients with schizophrenia, concrete interpretations occurred (18%), which were not observed among the answers of healthy controls. These interpretations had the character of examples such as: *if the mother is respectable, then the daughter will be good* or *my father is an alcoholic, that alcohol is in me (...)*. The frequency of this type of interpretations significantly differentiated the patients and healthy individuals ($P<0.05$).

When interpreting the second proverb, the abstract response was given by 100% of healthy subjects (for example: *not everything that is beautiful, has a value*) and only 21% of the patients. The difference in the frequency of this interpretation category is statistically highly significant ($P<0.001$). Most of the answers given by patients with schizophrenia fell into the unrelated category (31%). Their examples include: *you can escape from the wealth of gold, or make a life for yourself, stars*, or *I do not have a golden ring, it will suffice for me to know that I'm married*. Their relationship with the metaphorical meaning of the proverb is very loose and the provided associations – distant from the content of the proverb. Patients with schizophrenia also exhibited concrete interpretations (18%), as exemplified by the following utterance: *a handsome boy need not be a good man*, and literal interpretations (18%), for example: *not everything that shines is gold*. With regard to these three categories of interpretation of (unrelated, concrete and literal), the differences were significant ($P<0.05$) between persons suffering from schizophrenia and those in good mental health.

The differences between the groups are most pronounced in the abstract and unrelated categories of interpreting the proverbs *He who digs a pit for others, falls in himself*. Patients with schizophrenia most frequently provided an abstract interpretation (36%), however, compared with healthy subjects (84%), their ratio was significantly lower. Understanding this proverb at an abstract levels requires demonstration of its metaphorical meaning, such as: *if someone wants to hurt somebody, runs the risk that he will fall into trouble himself*. Among the patients a high (compared with the group of healthy subjects) percent of unrelated responses (18%) was observed, for example: *male-female relations, seduces - no seduces, feeling nothing, and then vice versa (...)*. Such responses reflect a lack of understanding of the meaning carried by the proverb, and are a reflection of loose associations stimulated by the presented verbal material. The differences in the frequency of both types of interpretation in comparison with the control group are statistically significant ($P<0.05$). The percentage of concrete and literal interpretations in schizophrenic patients was higher compared with healthy subjects but did not reach the statistical significance level.

The differences between the compared groups in understanding the proverb *Grain by grain and the hen fills her belly* pertained to two categories of interpretation: abstract and unrelated. Healthy people usually provided the abstract interpretation (79%), for example: *small steps can lead to the target*, while among people with schizophrenia only 18% reported this type of interpretation, which reflects a highly significant difference between the groups (*P*<0.001). The patients also reported unrelated responses (23%), for example, *a grain reminds me of my grandmother who had a field* or *restraint in eating and drinking*, or *one cannot get rid of sperm*. The occurrence of this type of interpretations is - as in the case of previous proverbs – a reflection of distant, loose associations stimulated by the content of the proverb and significantly differentiated the patients from the healthy subjects (*P*<0.05).

Table 1. Categories of proverb interpretations in patients with schizophrenia and healthy controls.

Categories of interpretation:	Patients with schizophrenia		Healthy controls		χ^2	*P*<
	n	%	n	%		
Interpretation of the proverb: *An apple never falls far from the tree*						
Abstract	15	38	17	89	13.442	0.000
Concrete	7	18	0	0	3.878	0.049
Literal	11	28	0	0	6.613	0.010
Unrelated	5	13	0	0	2.666	0.103
No response	1	3	2	11	1.651	0.199
Interpretation of the proverb: *All that glitters is not gold*						
Abstract	8	21	19	100	32.443	0.000
Concrete	7	18	0	0	3.878	0.049
Literal	7	18	0	0	3.878	0.049
Unrelated	12	31	0	0	7.371	0.007
No response	4	10	0	0	2.093	0.148
Interpretation of the proverb: *He who digs a pit for others, falls in himself*						
Abstract	14	36	16	84	11.943	0.001
Concrete	9	23	3	16	0.413	0.520
Literal	6	15	0	0	3.260	0.071
Unrelated	7	18	0	0	3.878	0.049
No response	3	8	0	0	1.541	0.214
Interpretation of the proverb: *Grain by grain and the hen fills her belly*						
Abstract	7	18	15	79	20.191	0.000
Concrete	16	41	3	16	3.694	0.055
Literal	4	10	0	0	2.093	0.148
Unrelated	9	23	0	0	5.190	0.023
No response	3	8	1	5	0.117	0.732
Interpretation of the proverb: *All goats jump onto leaning trees*						
Abstract	7	18	13	68	14.406	0.000
Concrete	9	23	4	21	0.030	0.862
Literal	7	18	1	5	1.729	0.189
Unrelated	9	23	1	5	2.841	0.092
No response	7	18	0	0	3.878	0.049

Interpretation of the proverb *All goats jump onto leaning trees* proved to be most difficult for both the group of patients with schizophrenia and healthy individuals. The difficulty can be explained by a lack of popularity of this proverb in the region where the study was carried out. Patients with schizophrenia were less likely to provide abstract interpretation (18%), whereas it occurred in 68% of healthy individuals. Understanding the metaphorical meaning of this proverb was reflected the following explanation: *If someone is weak, others take advantage of him/her*. The difference between the patients and healthy people in this category was statistically highly significant (*P*<0.001). No significant differences between healthy subjects and patients were found for the remaining interpretation categories, although slightly higher rates were obtained in the group of patients with schizophrenia.

In conclusion, the above analysis of the interpretation of proverbs suggests significant differences between the group of patients with schizophrenia and the group of healthy subjects. The graphic illustration of the frequency of the interpretation categories reflecting the meanings of the proverbs is presented in Figure 1.

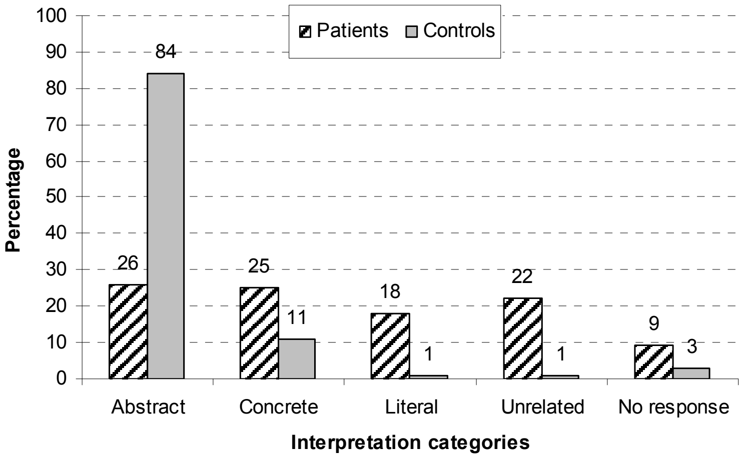

Figure 1. Total percentages of categories of proverb interpretations for all five proverbs in patients with schizophrenia and healthy controls.

The summary of the percentages of interpretation categories for all proverbs is presented in Table 2. The data contained herein indicate statistically significant differences between the groups in all four adopted categories of proverb interpretations. The highest statistically significant differences (*P*<0.001) between the patients with schizophrenia and healthy subjects were found in the abstract interpretation of proverbs. It prevailed in most of the utterances of healthy individuals (84%), whereas it was found in only 26% of utterances of patients suffering from schizophrenia. Significant differences were observed with regard to the frequency of the unrelated interpretation. It occurred in 22% of patients with schizophrenia and in 1% of healthy individuals. A similar difference was observed for the category of literal proverb interpretation – it was found in 18% of patients with schizophrenia and in 1% of healthy individuals. Differences in the frequency of literal and unrelated interpretations between the two groups were statistically significant (*P*<0.001). The concrete interpretations were also more common in the group of patients (25%) compared to healthy subjects (11%) – the difference was statistically significant (*P*<0.05).

Table 2. Categories of proverb interpretations in patients with schizophrenia and healthy controls – summary.

Categories of interpretation:	Patients with schizophrenia		Healthy controls		χ^2	*P*<
	n	%	n	%		
Abstract	51	26	80	84	86.94	0.000
Concrete	48	25	10	11	7.93	0.005
Literal	35	18	1	1	16.77	0.000
Unrelated	42	22	1	1	21.23	0.000
No response	18	9	3	3	3.51	0.061

Discussion

The material collected on the basis of the analysis of proverb interpretations allows drawing conclusions about the differences between the patients with schizophrenia and healthy subjects. The differences observed for most of the adopted interpretation categories are statistically significant at $P<0.05$ or $P<0.001$, which confirms the research hypothesis. It is hard to decide whether the obtained responses reflect thought disorders, language disorders, or disorders related to both functions. The problem of interdependence of thought and language is important for the interpretation of these results. Language can be interpreted as a tool for thinking, and its analysis at the syntactic, semantic and pragmatic levels allows inferences not only about the correctness of the language usage in these areas, but also about the nature of the process of thinking. It is difficult to determine to what extent the data collected on the basis of the respondents' verbal utterances reflect the underlying mental operations, and to what degree they reflect language disorders. Czernikiewicz (2004) assumes that disorder of speech organization (schizophasia) may be a sign of disorganization of thinking, but thought disorder can manifest itself also in other forms, and schizophasia may be due to factors other than disorganized thinking.

Based on the collected data, attempts can be made at characterization of thinking and language of people with schizophrenia and suggestion of interpretative hypotheses with references in data from the literature. The obtained results indicate a significantly poorer understanding of the meaning of proverbs by people with schizophrenia, compared to healthy subjects. Significant differences between patients and healthy individuals pertained to the response rate in the category of abstract interpretation for the all analyzed proverbs. People with schizophrenia significantly less likely than healthy people provided an abstract interpretation of proverbs, which may be associated with poor understanding of the material or with difficulties in communicating the thought contents. Interpretation of proverbs by the patients was concrete – when explaining the meaning of the presented verbal material, patients often resorted to examples, talked about their own experiences, provided concrete interpretations used not referring to the general sense of the proverbs. Such utterances occurred in the interpretation of most of the proverbs. Impaired ability to abstract may be associated with less adequate mental representation of reality. The patients focus on the details, when it is not necessary, treat irrelevant aspects of the situation or object as significant and they act accordingly. They probably perceive every situation as a unit, not referring to previously learnt experience. As a result, their daily functioning can be a challenge as even an action simple for and executed in an automatic way by healthy individuals, may be complicated for a person with schizophrenia (Chlewiński, 1999).

These observations are confirmed by the works of Zeigarnik (1969) and Hunca-Bednarska (1997) which point to the presence of problems with information processing and generalization ability in schizophrenia. According to these authors, people with schizophrenia either use excessively abstract concepts which are poorly related to the objects they denote or they overuse concrete concepts which are often related to the irrelevant features of the object. Confirmation of these observations was obtained in our study of the interpretation of proverbs by people with schizophrenia and healthy individuals. On this basis, a reduced capability for abstract thinking, and the tendency to concrete and unrelated utterances can be inferred as characteristic for patients with schizophrenia.

The unrelated interpretations may also reflect thought derailments defined by Zeigarnik (1969) as "unexpected deviations from the proper course of thinking due to incorrect, inappropriate associations" (Zeigarnik, 1969, p. 175). These include utterances based on distant, loose associations, which appeared in the interpretation of most proverbs and metaphors made by people suffering from schizophrenia. Their frequency was statistically significant. Interpretations of proverbs made by people with schizophrenia show that their reasoning is based on random associations, personal memories or delusional content. According to Kaczmarek (1994), this type of utterances is a reflection of the disintegration of thinking, as it lacks logical relationships between the components, incomprehensible sentence structures appear, and utterances become uncommunicative.

It can be assumed that the efficiency of cognitive functions, such as abstraction and reasoning through analogy, is reduced in people with schizophrenia. Since the methods we used in this study examined these functions in the context of social situations, one more conclusion can be drawn – that patients with schizophrenia have difficulty in understanding the socio-cultural context in which they live.

The attitude of isolation from others, as observed in people suffering from schizophrenia, is probably the result of many complex factors. One of them can be constituted by a barrier that separates the patient's world from the world of healthy people, starting at the stage of analyzing the perceived information. Complications in understanding the perceived world - its repetitive elements and complex structures, which include interpersonal relationships - probably considerably hamper the selection of the mode of action adequate to the situation. These observations may be relevant in the practice of psychology. Work with people suffering from schizophrenia is specific - it is important to take into account the fact that metaphorical messages can be confusing for them. On the other hand, it may be helpful to use concrete examples to illustrate the transmitted message. In this report we focused on the description of selected mental operations. The collected results can also be analyzed at the level of linguistic correctness. Perhaps, the persons with schizophrenia are able to understand the presented material, but they cannot verbalize their thoughts correctly. Then the difficulty may lie on the side of communication and verbal expression, rather than thinking. This, however, requires further in-depth studies taking into account other factors influencing the functioning of people with schizophrenia.

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Interpretacja przysłów przez osoby chore na schizofrenię

Streszczenie

U osób chorych na schizofrenię obserwuje się często niezdolność abstrahowania od dosłownego znaczenia słowa lub też, przeciwnie, słabe odniesienie do rzeczywistego znaczenia słowa. Klasyfikowanie przedmiotów i zjawisk dokonywane przez osoby chore na schizofrenię często zasadza się na przypadkowych skojarzeniach. Zaburzenia funkcji poznawczych u pacjentów ze schizofrenią wywierają wpływ na ich funkcjonowanie w świecie społecznym. Celem niniejszego badania była ocena zaburzeń poznawczych w schizofrenii, ujawniających się w procesie interpretacji przysłów. W badaniu udział wzięło trzydziestu dziewięciu pacjentów ze schizofrenią oraz dziewiętnaście osób bez zaburzeń stanowiących grupę kontrolną. Przeprowadzono analizę jakościową mającą na celu zaklasyfikowanie podawanych przez badanych interpretacji przysłów, a także analizę ilościową zmierzającą do oceny częstości poszczególnych kategorii interpretacji przysłów w grupie pacjentów i w grupie kontrolnej. Uzyskane wyniki wskazują, iż pacjenci podawali abstrakcyjne interpretacje przysłów istotnie statystycznie rzadziej niż osoby zdrowe, a istotnie statystycznie częściej – interpretacje dosłowne, konkretne i niepowiązane. Trudności poznawcze ujawnione przez pacjentów przy interpretacji przysłów mogą stanowić podstawę trudności w ich funkcjonowaniu społecznym.

Słowa kluczowe: interpretacja przysłów, zaburzenia myślenia, schizofrenia, język

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EATING DISORDERS AS A MEDICAL AND SOCIAL PROBLEM

Abstract

Eating disorders are an increasing public health problem. They may give rise to serious physical problems such as hypothermia, hypotension, electrolyte and acid-base imbalance, endocrine disorders and kidney or liver failure. These persons are also at risk of long-term psychological and social problems, including depression, drug addiction or suicide. The costs resulting from the reduction in quality of life, loss of productivity, the prevalence of serious medical problems and mortality are high. The aim of this study was to show the impact of dieting, media, and body dissatisfaction on quality of life of patients with disorders related to nutrition. This article explains the concept of "eating disorders" and notes the prevalence and characteristics of individual disorders.

Key words: eating disorders, quality of life, EDNOS, public health

Introduction

Eating disorder is a realization by the abnormal pattern of behavior, manifested inter alia in the adoption of excessive or insufficient amounts of food to an extent detrimental not only in somatic functioning of the human body, but also in his social relations, emotional life, cognitive functioning (Weber, Ziółkowska, 2009).

Eating disorders were earlier associated with Western culture, but are now seen all over the world, in all social and cultural contexts (Gordon, 2001). They are one of the reasons of common mental disorders among young women (Hsu, 1996). There are reports of young children (Kohn, Golden, 2001), as well as middle-aged adults developing eating disorders, but they are still most common among younger women (Hoek, van Hoeken, 2003). Only one of ten cases of anorexia nervosa (AN) or bulimia nervosa (BN) is male, while 50% of cases with binge eating disorder (BED) are male (Freeman, 2005; Hoek, van Hoeken, 2003; Weltzin, Weisensel, Franczyk et al., 2005). These disorders can have a serious impact on various life domains, such as mental and physical detriments to health, which affects the quality of life. Still, approximately 25 to 50 percent of the cases are never detected in the health-care system, since many patients do not actively seek treatment (Keski-Rahkonen, Hoek, Susser et al., 2007; Wentz, Gillberg, Gillberg et al., 2001). Taking into account the spontaneous remission of the disease it is the case among both eating disorders and other psychiatric disorders, but it is very rare.

Classification of Eating Disorders

The most popular diagnostic system used for eating disorder research, DSM-IV (Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition), divides the eating disorders diagnoses into three categories: anorexia nervosa (AN), bulimia nervosa (BN) and eating disorders not otherwise specified (EDNOS).

Anorexia Nervosa

The term “anorexia” originates from Greek and consists of two words: “an” – lack, “oreksis” – appetite. The oldest reports of girls starving until dangerous weight lost date back to the Middle Ages (Rabe-Jabłońska, 2006). Anorexia nervosa is characterized by an abnormally low body weight (at least 15% below what would be expected), a corresponding fear of weight gain, and an undue emphasis on weight and shape in self-evaluation (American Psychiatric Association, 2000). Although amenorrhea (i.e. loss of 3 consecutive menstrual cycles) is currently required for the diagnosis, the importance of this symptom is unclear, and as such, the eating disorders workgroup of the Diagnostic and Statistical Manual of Mental Disorders (DSM) (Fifth Edition) has strongly considered removing it as a criterion for AN (Attia, Roberto, 2009). Anorexia nervosa can be classified into 2 subtypes: the restricting and the binge-eating/purging subtype. Patients with AN who rarely binge-eat or purge but maintain a fairly regular pattern of caloric restriction may be classified as having the restricting subtype. Those who regularly engage in binge eating and/or compensatory behavior to prevent weight gain will be diagnosed as having the binge-eating/purging subtype (American Psychiatric Association, 2000). Many of those with the restricting subtype will eventually develop binge eating, with at least one-third of patients crossing over into BN (Eddy, Dorer, Franko et. al., 2008).

Depression, a consequence of poor caloric intake and low weight, is frequently co morbid with AN and often resolves with refeeding (Fairburn, Harrison, 2003). Anxiety symptoms are common and often precede the development of the illness (Godart, Berthoz, Rein et al., 2006). Anorexia nervosa mortality is the highest among all psychiatric disorders. The index of annual mortality is 5.6%, which is 12-fold higher than the annual mortality index in women aged 15-24 years among the general population (Athey, 2003). When anorectic patients finally present at the doctor`s, they are usually urged to do so due to medical problems secondary to malnutrition and starving, e. g. lack of menstruation or infertility (Becker, Grinspoon, Klibanski et al., 1999).

Bulimia Nervosa

Bulimia was first identified as a separate disorder by Dr. Gerard Russell in the late 1970s (Mehler, Crews, Weiner, 2004). The main signs of bulimia are attacks of uncontrolled overeating and using methods of counteracting consequences of these attacks by provoking vomiting, overuse of laxatives, diuretics and starving (Makara-Studzińska, Morylowska-Topolska, Koślak et al., 2010). Another symptom is the self-assessment dependence of body weight and dimensions (Namysłowska, 2000). Bulimia nervosa can be classified into 2 subtypes: the purging type, which is characterized by episodes of binge-eating (an inordinately large amount of food, in a short period of time, in an out-of-control fashion), followed by compensatory behavior, such as self-induced vomiting, laxative abuse, and diuretic abuse. The non-purging type is characterized by excessive exercise, fasting, or strict diets (American Psychiatric Association, 2000). The prevalence of BN is estimated to be 1% in young women and 0.1% in young men; one of ten cases of BN are male (Hoek, van Hoeken, 2003). Death risk is significantly lower in bulimia compared to anorexia, although it is still higher than in the general population of women matched by age (Keel, Mitchell, 1997). Pathogenesis of bulimia can be best understood with a bio-psycho-social model (Makara-Studzińska, Morylowska-Topolska, Koślak et al., 2010).

Eating Disorders Not Otherwise Specified

Most patients presenting to clinical settings would be classified as having an eating disorder not otherwise specified (EDNOS), a category designated in the DSM (Fourth Edition, Text Revision). It includes all disease entities, which go beyond the specific diagnostic criteria of AN or BN (Fairburn, Cooper, Bohn, 2007). The prevalence of EDNOS has been estimated to be between 2.4 to 5.4% among young women (Hoek, van Hoeken, 2003; Machado, Machado, Goncalves et al., 2007; Wade, Bergin, Tiggemann et al., 2006). DSM-IV gives six examples of EDNOS: binge eating disorder (BED), night-eating syndrome (NES), orthorexia nervosa, pica, bigorexia, anarchy eating.

Binge-eating disorder is characterized by the consumption of large amounts of food in a 2-hour time period, accompanied by a perceived loss of control (American Psychiatric Association, 2000). Additional symptoms include feeling uncomfortably full, eating rapidly, eating alone, eating when not hungry, and feeling disgusted afterward (Cremonini, Camilleri, Clark et al., 2009). Unlike BN, compensatory behavior (e. g. vomiting, laxative abuse) does not accompany these binge episodes (American Psychiatric Association, 2000). Binge-eating disorder occurs in both men and women and affects many diverse populations and a broad age range (those aged 25-50 years) (Hudson, Hiripi, Pope, 2007). Physical complications associated with BED are usually secondary to attendant obesity (Pomeroy, 2004). Prevalence rates increase with increasing adiposity and have been estimated at 1.5% to 5.2% in the general population, 6% to 14% in obese outpatients, and 8% to 42% in patients seeking bariatric surgery (Colles, Dixon, O'Brien, 2007; Allison, Engel, Crosby et al., 2008).

NES (night eating syndrome) is a compelling need to feel eating large quantities of food in times of evening and night, often without the awareness of these activities. Typically viewed as a long-term circadian shift in eating behaviors, NES may be exacerbated by stress (Allison, Ahima, O'Reardon et al., 2005). It should be distinguished from "nocturnal sleep-related eating disorder," a parasomnia that occurs much less frequently in this population, is characterized by eating unusual foods or nonfood substances associated with a semiconscious state or sleep walking, and can be associated with the use of hypnotic agents (Birketvedt, Florholmen, Sundsfjord et al., 1999). A recent evaluation of the diagnostic criteria for NES identified 3 core features of the disorder: (1) evening hyperphagia and/or nocturnal eating, (2) initial insomnia, and (3) awakenings from sleep. The first 2 criteria must both be present to indicate a diagnosis of NES (Allison, Engel, Crosby et al., 2008).

Orthorexia is a new concept and does not have a universally accepted definition or valid diagnostic criteria. As such, there is relatively little information available about orthorexia (Donini, Marsili, Graziani et al., 2004). Bratman used orthorexia nervosa to define a pathological fixation on the consumption of appropriate and healthy food (citation for Mathieu, 2005). It is not an independent diagnostic category, but it has some similarities with other eating disorders. It can lead to malnutrition and weight loss as in AN. Unlike AN and BN, people with ON are preoccupied with consuming healthy and pure foods instead of the quantity of food or physical appearance (Arusoğlu, Kabakçi, Köksal et. al, 2008). Healthy eating habits are actually not pathological. When a person is excessively preoccupied with consuming healthy food, spends an excessive amount of time with the preoccupation, and experiences dysfunction in daily life as a result, then it could be evaluated as a disorder that is linked to behavior and personality (Donini, Marsili, Graziani et al., 2004).

Anarchy eating is another non-specific eating disorder. According to Weber and Ziółkowska this disorder includes:

- constant snacking, crunching, giving preference to fast-food;
- replacing food cooked products with products that do not require preparation;
- eating in hurry, with fingers in all kinds of places – standing up, often on the march, or even in bed (Weber, Ziółkowska, 2009).

Anarchy eating is typical of the people with a tendency to anorexia, maintain normal weight or obese.

Bigorexia is obsessive preoccupation with the external and the muscles of the body (Weber, Ziółkowska, 2009). In cases of reverse anorexia, bigorexia, or muscle dysmorphia, the primary focus in not on how thin a person can get but rather on how large and muscular (Pope, Phillips, Olivardia, 2000). There are not many reports in the literature on the frequency of this disorder.

Pica has been defined as the craving or compulsive ingestion of non-food substances, but an enhanced craving for or intake of foodstuffs is sometimes included in this definition (Louw, du Preez, Malan et. al, 2007). Recently, pica has been linked to obsessive-compulsive (OCD) spectrum disorders (American Psychiatric Association, 1994). The prevalence of pica in iron-deficient adults varies widely, but may be as high as 58% (Marinella, 1999), whereas other studies, despite including an increased craving for food substances in their definition of pica, showed a prevalence as low as 5% (Munoz, Marcos, Risueno et al., 1998). Lower socioeconomic groups, young children, pregnant women, or nursing mothers with increased nutritional demands are at higher risk, as well as those with brain damage, epilepsy, mental retardation, psychosis, or dementia (Moore, Sears, 1994; Rose, Porcerelli, Neale, 2000).

Dieting and Eating Disorders

Research suggests that dieting behavior may be causally linked to eating disorders (Patton, Johnson-Sabine, Wood et al., 1990). In population-based surveys with young, dieting is often assessed using a single item (e. g. how often have you been on a diet to lose weight), which may or may not provide a brief definition of dieting (e. g. by diet, we mean change the way you eat to lose weight) (Neumark-Sztainer, Story, Hannan et al., 2002). In 2003, the YRBSS (The Youth Risk Behavior Surveillance System) found that almost 60% of female and 29% of male school students were trying to lose weight (Grunbaum, Kann, Kinchen et al., 2004). Prevalence estimates for dieting among children aged 6-11 range from 20 to 56% for girls and from 31 to 39% for boys (Schreiber, Robins, Striegel-Moore et al., 1996).

Retrospective data from individuals with eating disorders provide evidence of the association between dieting and eating disorders (Haines, Neumark-Sztainer, 2006). A number of studies involving clinical samples have found that the majority of individuals with eating disorders report that they started to diet before they initiated their disordered eating behaviors (Bulik, Sullivan, Carter et al., 1997). Further evidence of the association is provided by prospective studies within community samples of adolescents. Among adolescents, self-reported dieting has been shown to predict increased risk of disordered eating behavior (Stice, 2001) and sub-threshold eating disorders (Leon, Fulkerson, Perry et al., 1999; Santonastaso, Friederici, Favaro, 1999). These results suggest that self-reported dieting among adolescents may lead to more severe eating pathology (Figure 1) (Haines, Neumark-Sztainer, 2006).

Seemingly conflicting results have been found in experimental studies with females, which have shown that assignment to a prescribed low-calorie diet was associated with greater decreases in eating disorder symptoms as compared with controls

(Presnell, Stice, 2003; Stice, Presnell, Groesz et al., 2005; Reeves, McPherson, Nichaman et al., 2001). A plausible explanation for these apparent inconsistent findings is that the experimental interventions, which typically involve education sessions promoting healthy dietary behaviors (i.e. eating a balanced diet, eating regular meals), result in participants engaging in more healthful weight loss behaviors than are typically practiced in the general population (Haines, Neumark-Sztainer, 2006).

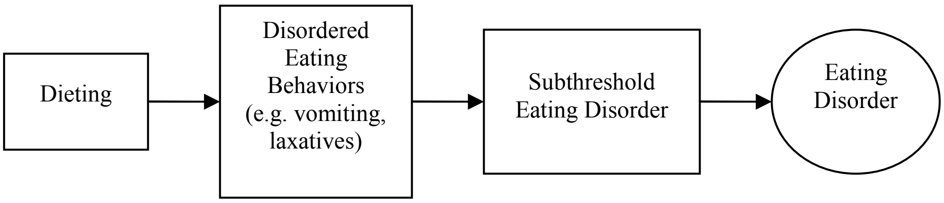

Figure 1. Hypothesized association between dieting and eating disorders (Haines, Neumark-Sztainer, 2006).

Given the strong influence that peers and families can have on the dieting behaviors of youth (Wertheim, Martin, Prior et al., 2002), interventions that include strategies focused on changing peer and family norms, such as educating parents that the comments they make about their own weight or their child`s weight can be counterproductive to obesity prevention efforts and implementing anti-dieting campaigns in school settings, may be effective in reducing among youth (Haines, Neumark-Sztainer, 2006). In addition, providing youth with the skills and support for healthy alternatives to dieting, (i.e. healthy eating and regular physical activity) may also be effective in reducing dieting behavior among youth (Austin, Field, Wiecha et al., 2005).

Media and Eating Disorders

Media are ubiquitous in nowadays. A recent study surveyed a nationally representative sample of youth have found that, on average, youth spend 6.5 hours per day watching television and videos, using print media, playing video games, using computers and listening to CDs, MP3 players, tapes and the radio (Rideout, Roberts, Foehr, 2005). Media use and the internalization of the messages promoted by the media have been explored as putative risk factors for eating disorders.

A key tenet of socio-cultural theories of eating disorders is that society, through avenues including mass media, pressures individuals to conform to the cultural ideal for size and shape (Heinberg, 1996). This cultural ideal has changed throughout history, becoming increasingly lean and muscular in relation to men and thin, fit in relation to women. Media`s pressure to conform to the ideal promotes internalization of this ideal, which leads to body dissatisfaction.

Several cross-sectional surveys have found a positive association between media use and body dissatisfaction and disordered eating behavior among both youth and adolescents (Utter, Neumark-Sztainer, Wall et al., 2003; Harrison, 2000; Harrison, 2000). One of the surveys found that decreases in magazine reading over 16 months were associated with decreases in eating disorder symptoms among a sample of adolescent girls (Vaughan, Fouts, 2003).

Findings from prospective research provide evidence for the hypothesized association between thin-ideal internalization and eating disorder symptoms (Haines, Neumark-Sztainer, 2006). Thin-ideal internalization has been shown to predict body dissatisfaction and also eating disorders. Field et al (Field, Camargo, Taylor et al., 1999) found that girls who reported at baseline trying to look like females in the media were almost two times more likely to report purging behavior one year later than those that did not report trying to look like figures in the media, after adjustment for age and BMI (Haines, Neumark-Sztainer, 2006).

Number of studies also raise the problem of short-term effects of exposure to media coverage of young woman.

A recent meta-analysis of these laboratory-based experiments suggests that exposure to thin-ideal images causes a modest, acute increase in body dissatisfaction (Groesz, Levine, Marnen, 2002). Among males, experimental research examining exposure to media images and body satisfaction has produced mixed results (Haines, Neumark-Sztainer, 2006). Some studies have found that exposure to muscular ideals has acute negative effects on body build satisfaction in young men (Agliata, Tantleff-Dunn, 2004; Leit, Gray, Pope, 2002), while others have found no association (Hargreaves, Tiggemann, 2002; Humphreys, Paxton, 2004).

The implication of these findings are that interventions aimed at decreasing media use and increasing children`s and adult`s critical viewing skills through media literacy may be effective in reducing the incidence of obesity and eating disorders. Nutritionists as well as people dealing with public health could implement strategies that encourage children, parents and caregivers or adults to restrict media viewing times and access by limiting the types of programs in television or magazines that are available around them, but do not promote healthy life style. Schools and community-based organizations that serve youth should implement media literacy interventions that strive to educate especially youth about the advertising process and provide them with skills to critically analyze the media they consume (Brown, 2001; Neumark-Sztainer, Sherwood, Coller et al., 2000).

Body Dissatisfaction and Eating Disorders

Body dissatisfaction is common among men and women at different ages. This concern about 50% of girls and 30% of boys (Neumark-Sztainer, Story, Hannan et al., 2002; Ricciardelli, McCabe, 2001). Body image dissatisfaction is very often an established risk factors for eating disorders (Stice, 2002). Figure 2 shows the hypothesized association between body dissatisfaction and eating disorders. The first proposed mechanism suggests that body dissatisfaction leads to elevated attempts to reach the thin ideal using dieting behaviors, which in turn increases the risk for eating pathology (Field, Camargo, Taylor et al., 1999). The second hypothesized mechanism is that body dissatisfaction contributes to negative affect (anxiety or depression), which, in turn, is thought to increase the risk of binge eating and the use of radical compensatory behaviors, such as purging behavior (Stice, 2001). Third, body dissatisfaction may directly promote the development of eating disorders (Stice, 2002).

There is a substantial support for the role of body dissatisfaction in the development of dieting behaviors (Haines, Neumark-Sztainer, 2006). Cross-sectional studies have shown that children and adolescents with higher levels of body dissatisfaction also engage more frequently in dieting behaviors (Hill, Bhatti, 1995). Prospective studies involving adolescent women have found that elevated body dissatisfaction at baseline were significantly associated with dieting behaviors at follow-up 8 months later (Wertheim, Koerner, Paxton, 2001), 9 months later (Stice, Mazotti, Krebs et al., 1998) and 20 months later (Stice, 2001). There is also evidence from prospective studies that body dissatisfaction predicts negative affect (Stice, Hayward, Cameron et al., 2000; Stice, Bearman, 2001). Numerous prospective studies have found body dissatisfaction to predict bulimic bahaviors (Field, Camargo, Taylor et al., 1999) and eating pathology (Wertheim, Koerner, Paxton, 2001).

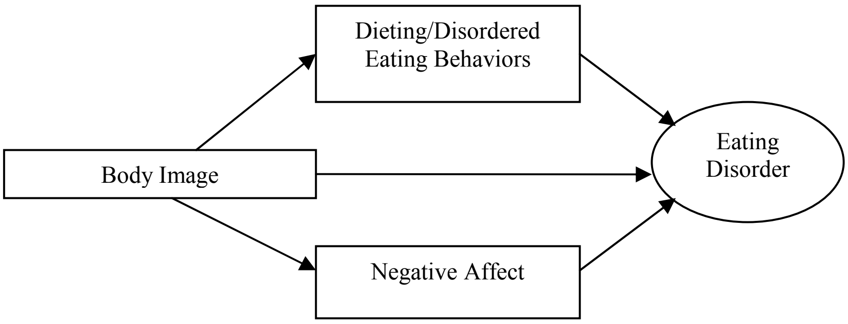

Figure 2. The hypothesized association between body dissatisfaction and eating disorders (Haines, Neumark-Sztainer, 2006).

Findings from the above-mentioned studies suggest that interventions aimed at improving body satisfaction may have serious implications for the prevention of obesity and eating disorders among men and women, which is reflected also in enhancing the quality of life. Body image dissatisfaction is more commonly addressed in eating disorder interventions than in obesity prevention interventions (Levine, Smolak, 2006).
Strategies that may effectively promote a positive body image among youth include individual-level strategies, such as psycho-educational activities that provide youth and adolescent with opportunities to learn about and challenge socio-cultural ideals of body size and shape (e.g. Steiner-Adair, Sjostrom, Franio et al., 2002), and environmental-level activities, such as working with peer groups to reduce the level of body comparison and negative body talk that occurs among youth (e.g. Piran, 1999).

Conclusion

Eating disorders are a serious problem, associated with a number of somatic diseases, the negative psychological consequences and the substantial reduction in quality of life.

Dieting, the influence of the media, and body image dissatisfaction are a primary risk factors for diseases with nutritional substrate. Therefore, such an important role for public health and health promotion is the precise knowledge and understanding of them. With properly constructed nutrition education and health-risk individuals will have the opportunity to verify their knowledge of image created by the media. In addition, attention should be paid to the fact that people with eating disorders often observed (in the later stage of the disease) tendency to overweight and, consequently, obesity. Therefore, it is reasonable to pursue effective prevention programs, which can not only reduce the incidence of eating disorders, but also their consequences.

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Zaburzenia odżywiania jako problem medyczny i społeczny

Streszczenie

Zaburzenia odżywiania są coraz większym problemem zdrowia publicznego. Mogą one prowadzić do poważnych problemów fizycznych, takich jak: hipotermia, hipotonia, zaburzenia równowagi elektrolitowej i kwasowo-zasadowej, zaburzenia hormonalne i niewydolność nerek lub wątroby. Tacy ludzie są także narażeni na ryzyko wystąpienia długoterminowych problemów psychologicznych oraz społecznych, w tym depresji, leków, uzależnień, czy samobójstw. Koszty wynikające z obniżenia jakości życia, spadku produktywności, występowania poważnych problemów medycznych oraz umieralności są wysokie. Celem pracy było ukazanie, jaki jest wpływ odchudzania się, mediów oraz niezadowolenia z własnego wizerunku na jakość życia pacjentów z zaburzeniami związanych z odżywianiem. W artykule wyjaśniono pojęcie

„zaburzenia odżywiania” oraz zwrócono uwagę na częstość występowania i charakterystyczne cechy poszczególnych zaburzeń.

Słowa kluczowe: zaburzenia odżywiania, jakość życia, EDNOS, zdrowie publiczne

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ASSESSMENT OF THE EFFECTIVENESS OF EDUCATION ON EATING DISORDERS, INCLUDING A NEW EATING DISORDER NOT OTHERWISE SPECIFIED – ORTHOREXIA NERVOSA

Abstract

The frequency of occurrence of illnesses and health deviations related, inter alia, to low quality of food and a bad diet is currently becoming a more and more frequent problem not only in Poland, but also in other developing countries. In recent years, the number of people suffering from different types of eating disorders is constantly increasing. These people categorize food according to whether it is healthy or not, showing an obsessive interest and an excessive sensitivity to the consumption of healthy food. Aim: Assessment of the effectiveness of eating disorders education of selected inhabitants of Lublin Province. Material and Methods: The sample consisted of patients between the ages of 18 and 75 (n=1000). The research tool was a self-constructed questionnaire, used before and after the training in the Institute of Dietotherapy and Personal Training Slim+Fit in Lublin. Results: There are statistically significant differences concerning respondents' knowledge before and after the training. Such highly significant differences emerged in all the issues examined. Conclusion: The effectiveness of educating patients about eating disorders is high, evidence of which can be seen not only in a significant gain in knowledge about this subject, but also in a change in some of their attitudes.

Keywords: orthorexia nervosa, eating disorders, ORTO-15 test, eating disorders not otherwise specified

Introduction

Eating disorders have been one of the most important medical and social problems of the modern world for several dozen years (Dobrzyńska, Rymaszewska, 2006; Jablow, 2003; Józefik, 1999). A basis for formulating their definition in the present article is provided, on the one hand, by different typologies of eating disorders specified in international classifications (Kowalczuk, 2008), and on the other hand, by clinical observations, research work of contemporary psychologists and psychiatrists, as well as their experience and views. In the International Classification of The International Statistical Classification of Diseases and Related Health Problems, tenth revision (ICD-10) these disorders were classified as bahavioural syndromes associated with physiological disturbances and physical factors. According to Weber and Ziółkowska (2009), these are bad eating habits of an individual, including, among others, an excessive or insufficient food intake, which is harmful not only to somatic functioning of a human organism, but also to individual's social relations, emotional life, cognitive functioning. According to the classification of the American Psychiatric Association (APA) presented in DSM-IV eating disorders (Eating Disorders) contain two fundamental subjects: anorexia and bulimia (1997). The classification DSM-IV published by APA also includes in this subgroup Eating Disorders Not Otherwise Specified (EDNOS) (Brykczyńska, 2000). These abnormalities do not meet the diagnostic criteria for any familiar eating disorders and occur if (Ziółkowska, 2001):

1. all of the symptoms of anorexia appear, except that a patient has regular menses;
2. all of the symptoms of anorexia appear, except of body weight loss;
3. all of the symptoms of bulimia appear, except that binge-eating and inappropriate compensatory behaviour occur at least twice a week or last less than three months;
4. despite normal body weight, after eating small amounts of food, a patient uses inappropriate compensatory behaviour, such as self-induced vomiting;
5. large amounts of food are repeatedly chewed and spat out, but not swallowed.

The diagnostic criteria for selected eating disorders are presented in Table 1. Whereas the classification of eating disorders is shown in Figure 1 (Gawęcki, Roszkowski, 2009).

Table 1. Diagnostic criteria for selected eating disorders

	Diagnostic criteria
Anorexia nervosa	Refusal to maintain body weight above minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected or failure to make expected weight gain during periods of growth, leading to maintenance of body weight less than 85% of that expected); Intense fear of weight gain or becoming fat despite being underweight; Disturbance in the way in which one's body weight or shape is experienced; a patient is not able to influence her body weight and shape on the basis of self-evaluation or she denies the seriousness of the low body weight; In females after the menarche, amenorrhoea, i.e. the absence of at least three consecutive menstrual cycles. There are two types of anorexia: restricting type: during the current anorexia episode, a patient does not engage in recurrent episodes of binge eating or purging behaviour (i.e. self-induced vomiting or the overuse of laxatives or diuretics); binge eating/purging type: during the current anorexia episode, a patient engages in recurrent episodes of binge eating or purging behaviour (i.e. self-induced vomiting or the overuse of laxatives, diuretics, enemas).
Bulimia nervosa	Recurrent episodes of binge eating, i.e. eating, in a short period of time (e.g. within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time, a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control how much and in what way one is eating); Recurrent inappropriate compensatory behaviour used in order to prevent weight gain, such as self-induced vomiting, fasting, excessive exercise; The binge eating and inappropriate compensatory behaviour both occur, on average, at least twice a week for three months; Self-evaluation is mainly determined by body shape and weight; There are two types of bulimia: purging type: during the current bulimia episode, a patient engages in recurrent self-induced vomiting or use of laxatives, diuretics, or enemas; non purging type: during the current bulimia episode, a patient uses inappropriate compensatory behaviour, such as fasting or excessive exercise without recurrent episodes of self-induced vomiting or use of laxatives, diuretics, or enemas.

Eating disorders not otherwise specified	All the criteria for anorexia nervosa are met, except that a patient has regular menses; All the criteria for anorexia nervosa are met, except of body weight loss; All the criteria for bulimia nervosa are met, except that binge eating and inappropriate compensatory behaviour occur less than twice a week or last less than three months; Despite normal body weight, after eating small amounts of food, a patient uses inappropriate compensatory behaviour, such as self-induced vomiting; large amounts of food are repeatedly chewed and spat out, but not swallowed.
Pica	Eating, chewing, licking substances and products that are nonnutritive, do not contain any energetic ingredients (e.g., hair, chalk, plaster, laundry starch and other detergents, glue, rust, ice, or soil), and are often toxic (tar, paint, mortar, faeces, rotten leaves). It is observed in children more frequently than in adults, it usually occurs between the 12th and 24th month of life, it may accompany autism, mental retardation etc. This disorder can also develop in pregnant women and disappear following the birth of the child.
Night eating syndrome	Feeling a persistent craving for large amounts of foods at night, often without realizing it. Recurrent nightly awakenings and inability to fall asleep again without consuming a substantial amount of food. Sleep disorders, such as insomnia, late-night excessive appetite – consuming at least half of daily food ratio after 19h and hunger in the morning. Compulsive eating – compulsorily, craving hard to resist. Sometimes they co-occur with symptoms of anorexia or bulimia.
Ortorexia nervosa	Paying much more attention to food quality than to the pleasure of eating, though food is repeatedly and slowly chewed; Paying obsessive attention to eating appropriate products: healthy, fit, organic; Organizing one's day around thoughts and activities concerning food, careful planning and selecting menu, often several days in advance; Producing food products by oneself through baking, cultivation, or breeding; Eating meals alone, and after finishing a meal, making a detailed analysis of everything what has been eaten in terms of its usefulness to health; Every breach of healthy eating rules causes remorse, anxiety and fear of becoming fat, which consequently bolsters a regime and reinforces compulsive behaviour; Feeling superior to those, who have bad and unhealthy eating habits, and in consequence, it leads to avoidance of social life.
Eating anarchy	Partial or full resignation from shared meals in order to eat small portions at irregular intervals; Constant snacking, crunching, preference for fast-food products; Replacing home-made meals with ready-made food products; Eating in a hurry, with fingers, in various places – standing up, often while walking or even in bed; This type of eating can, but do not have to, cause excessive body weight. It is typical of anorexic people, as well as of some obese people or those with normal weight.
Bigorexia	Obsessive preoccupation with one's physical appearance and musculature; Belief that one's body is too thin, without fat, not muscular and puny; feeling of physical inadequacy despite objectively distinctive and solid musculature; Spending many hours on exhausting exercising; Using protein supplements etc.; Disorder opposite to anorexia.

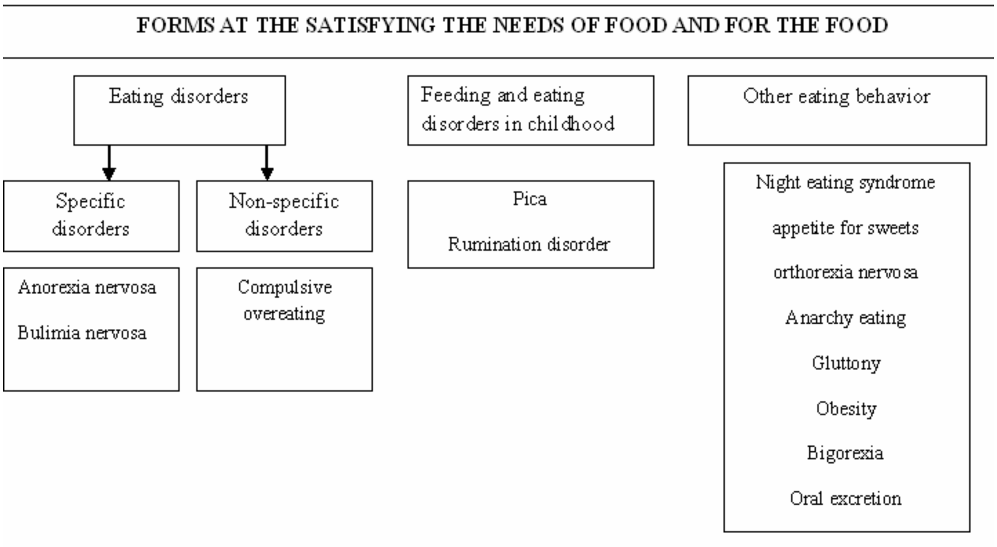

Figure 1. Classification of anomalies in the area of eating.

Eating disorders discussed in the present article were at first occurring only in industrialized countries, however in recent years, they have been more and more frequently observed in cultures, in which the image of an "ideal woman" is identified with the Western pattern (Arusoglu, Kabakci, Koksal, 2008; Gordon, 2001).

Orthorexia nervosa

The mass media and experts in the field of nutrition have noticed a new eating disorder among eating disorders not otherwise specified, which has not yet been recognized as a disease by DSM-IV, and is called orthorexia nervosa (ON) (Andreoli, Cassano, Rossi, 1996; Bratman, Knight, 2000). The term "orthorexia" derives from the Greek. "Orthos" means correct, right, whereas "orexis" stands for hunger. Therefore, this term defines an individual who shows an obsessive interest in healthy food. This disorder is expressed not in a "quantitative" way, as in anorexia or bulimia, but in a "qualitative" manner (Bratman, Knight, 2000). The desire to eat healthy food is not a disorder in itself, but an obsession with specific food products and the lack of moderation and balance may cause the withdrawal from social life, which in consequence leads to orthorexia (Donini, Marsli, Graziani et al., 2005). Such patients can spend a lot of time following rigid eating rules. They are engrossed in thinking about food. Such behaviours resemble obsessive-compulsive symptoms. While going out, patients always try to remember to take their own food with them, because a meal eaten outside the home may be not very good, and may contain an excessive amount of unhealthy fat, chemical substances added to food products and a lot of other ingredients, which they consider harmful to the organism. As a result, their behaviour can have a negative impact on their functioning in the society (Arusoglu, Kabakci, Koksal, 2008). If patients break their eating rules and eat self-forbidden foods, they feel angry and disgraced by their own weakness. Such model of behaviour leads to autodestruction, through imposing on oneself much stricter dietary restrictions or total abstinence from eating certain foods. This type of behaviour is remarkably similar to those who suffer from anorexia or bulimia.

Physicians and nutritionists have noticed that patients with eating disorders are characterized by some typical personality traits, and an illness cannot be diagnosed by a disorder alone. While taking into consideration the beginning of a disorder at puberty or in early adulthood, long duration and periods of exacerbation of symptoms in stressful situations, the dynamics of development of anorexia and bulimia seem to be similar to the dynamics of development of personality disorders (Mikołajczyk, Samochowiec, 2004). On account of small number of undocumented scientific reports on personality development of patients with orthorexia nervosa, we can only speculate that, similarly to the abovementioned disorder units, the development of this disorder is alike. The typical age of developing ON (Orthorexia Nervosa) is a period of the development of individual's autonomy and individuation, during which they build their relationships with peers, parents, the closest surrounding (Mikołajczyk, Samochowiec, 2004). The main factors that disrupt the process of building interpersonal relationships in this period are abnormal personality traits, unpleasant life experience and occurrence of mental disorders (Pervin, Oliver, 2001). Basic criteria, which help to recognize orthorexia nervosa are specified in Table 1.

Patients suffering from anorexia or bulimia usually have problems with the maintenance of normal body weight. Individuals who suffer from orthorexia nervosa maintain weight within normal limits, according to Body Mass Index (BMI). This indicator, based on the ratio of body weight (in kilograms) to height squared (in meters), defines normal development of human organism according to age and sex (Gawęcki, Roszkowski, 2009).

The ORTO-15 test

There are a lot of diagnostic methods used to recognize anorexia or bulimia. On account of the fact that ON has not been recognized as a disorder by DSM-IV, we can only use a questionnaire, which help to diagnose patients with this disorder. The ORTO-15 test was created on the basis of a previously existing model used by Bratmana on population in the USA (Bratman, Knight, 2000). The test consists of 15 questions, which evaluate individual's behaviour towards selection, preparation, purchase and consumption of the food that he considers healthy and appropriate (Arusoglu, Kabakci, Koksal, 2008; Tulmy Bagci Bosi, Camur, Guler, 2007). The structure of the questionnaire is presented in Table 2 (Donini, Marsili, Graziani et al., 2005). The responses which are more indicative of orthorexia nervosa are given a score of "1" in a four-point scale. A score of 4" indicates a normal behaviour, which is in accordance with healthy eating habits. The scores for all the responses are added up. The final test score less than 40 points indicates that a person suffers from orthorexia nervosa (Donini et al., 2005).

Material and Method

The study was conducted from 1st July to 30th October 2010 in the Institute of Dietotherapy and Personal Training Slim+Fit in Lublin. The sample was selected at random – those were people who came to the dietary clinic and expressed their interest in the training concerning eating disorders. 1000 respondents, including 500 men and as many women, took part in the research. The research was divided into three stages. The purpose of the first stage was the verification of respondents' knowledge about different eating disorders. The study subjects were asked to give honest responses to the questions included in the self-constructed questionnaire. The research tool was constructed according to common methodological directives, presented in the literature (Brzeziński, 1998; Jabłoński, 1999), as well as according to suggestions and comments of experts, including the representatives (professors and doctors) of public health, sociology, psychology, and dietetics. The form and vocabulary used for formulation of questions were adjusted to diverse intellectual levels of respondents, hence, to their perception abilities. Each respondent was informed of a way to complete the questionnaire and of the anonymity of obtained results. It was also explained that collected data would be used exclusively for scientific purposes aiming at a better recognition, as well as understanding of issues related to basic eating disorders. The stage of the research tool construction was ended up with a pilot study, conducted among 30 people, whose results were excluded from the present study. The second stage constituted the training concerning the abovementioned content. The respondents familiarized themselves with educational content during a 2-hour lecture, delivered by the first author of the present study in the Slim+Fit Institute. Whereas the third stage helped to verify respondents' knowledge gain achieved during the training. The verification was done through asking the respondents to complete the questionnaire once more.

Table 2. Test for the diagnosis of orthorexia nervosa.

ORTO-15				
	Always	Often	Sometimes	Never
1. When eating, do you pay attention to the calories of the food?				
2. When you go in a food shop do you feel confused?				
3. In the last 3 months, did the thought of food worry you?				
4. Are you eating choices conditioned by your worry about your healthy status?				
5. Is the taste of food more important than the quality when you evaluate food?				
6. Are you willing to spend more money to have healthier food?				
7. Does the thought about food worry you for more than three hours a day?				
8. Do you allow yourself any eating transgressions?				
9. Do you think your mood affects your eating behavior?				
10. Do you think that the conviction to eat only healthy food increases self-esteem?				
11. Do you think that eating healthy food changes your life-style (frequency of eating out, friends, …)?				
12. Do you think that consuming healthy food may improve your appearance?				
13. Do you feel guilty when transgressing?				
14. Do you think that on the market there is also unhealthy food?				
15. At present, are you alone when having meals?				

SCORING GRID FOR ORTO-15 TEST RESPONSES				
ITEMS	**RESPONSES**			
	Always	**Often**	**Sometimes**	**Never**
2-5-8-9	4	3	2	1
3-4-6-7-10-11-12-14-15	1	2	3	4
1-13	2	4	3	1

The research results were subjected to statistical and descriptive analysis. The values of measurable parameters analyzed were presented by means of average value, median and standard deviation, while the values of immeasurable parameters were presented by means of cardinality and percentage. Statistical significance was set at the $p<0.05$ level indicating the presence of statistically significant differences or correlations (Stanisz, 2001.). The database and statistical research was conducted with the use of computer software STATISTICA 8.0 (StatSoft, Poland).

Results

The age of the respondents ranged from 18 to 75 years with a median age of 42,32 ± 17,08 years. More data concerning the demographics of the study sample is presented in Table 3.

Table 3. Demographics of the study sample.

Demographics examined		n	%
Age	up to 35	404	40.4
	36-55	356	35.6
	above 55	240	24.0
Place of residence	city > 50 000 inhabitants	788	78.8
	city < 50 000 inhabitants.	164	16.4
	village	48	4.8
Education level	less than secondary	152	15.2
	secondary	208	20.8
	higher	640	64.0
Attitude to work	not working	368	36.8
	blue-collar worker	296	29.6
	white-collar worker	336	33.6

The highest percentage of subjects were below the age of 35 (404; 40.4%), living in a city with over 50 000 inhabitants (778; 77.8%), having higher education (640; 64.0%) and working professionally (632; 63.2%), including white-collar workers (336; 33.6%).

The scope of respondents’ knowledge about eating disorders, taking into account the division of the respondents into age group, is presented in Table 4.

Table 4. The scope of respondents’ knowledge about eating disorders.

		Respondents’ responses						
		Before training			After training			
		<35 years	36-55 years	>55 years	<35 years	36-55 years	>55 years	
I know the term “eating disorders”.	yes	122	100	70	227	251	222	Z=10,00; $p<0.001$
	no	80	220	408	53	78	169	

Eating disorders are bad eating habits of an individual, including, among others, excessive or insufficient food intake, which is harmful not only to somatic functioning of a human organism, but also to individual's social relations, emotional life, cognitive functioning.	yes	125	63	40	376	176	128	Z=10.54; p<0.001
	no	110	136	254	70	89	105	
	don't know	71	51	150	18	11	27	
The most common eating disorder is:	anorexia	91	61	20	269	214	113	Z=10.20; p<0.001
	bulimia	104	64	40	84	53	35	
	orthorexia	104	84	36	30	40	66	
	night eating syndrome	117	90	61	11	27	22	
	pica	21	40	67	6	15	15	
In today's society, one can meet with promoting eating disorders as a way to lose weight, take care of oneself.	yes	111	60	101	278	180	254	Z=10.39; p<0.001
	no	150	151	27	31	38	11	
	don't know	98	251	51	64	153	9	
What would you do if you suspected that a person you know had problems with eating disorders?	I would try to help her/him	88	69	51	211	79	62	Z=7.88; p<0.001
	I would try to encourage her/him to seek specialist help	112	25	51	276	51	61	
	I would tell her/his family and friends about this person's problem	55	49	100	54	46	96	
	I would do nothing	41	76	167	10	15	27	
	I would avoid her/him	18	23	75	1	3	8	
Do you know where a person suffering from eating disorders can get help?	I know	171	103	34	339	287	58	Z=10.59; p<0.001
	I don't know	104	186	402	16	57	243	
Do you agree with the	yes	33	67	356	15	37	64	

statement that people suffering from eating disorders are guilty of their problems?	no	242	41	25	305	67	248	Z=8.72; p<0.001
	no opinion	16	169	51	14	163	87	
The factors that influence respondents' knowledge about people suffering from eating disorders.	one's own observation, conclusions	89	18	61	101	21	78	Z=9.80; p<0.001
	judgments and opinions of other people	45	107	152	5	14	33	
	information from people, who are in contact with people suffering from eating disorders	61	45	22	89	53	26	
	discussions with other people	36	47	129	4	10	18	
	mass media	105	53	30	379	121	48	
Orthorexia is:	an obsession with the quality of eaten food	125	83	92	268	239	169	Z=9.59; p<0.001
	an obsession with the quantity of eaten food	112	143	97	124	159	55	
	an obsession with one's own body weight	37	132	179	12	18	26	
The main symptoms of orthorexia are:	paying much more attention to food quality than to the pleasure of eating	56	45	15	266	232	94	Z=9.38; p<0.001
	organizing one's day around thoughts and activities focused on	137	112	59	87	71	46	

	food							
	feeling superior to sick people, who feel bad and have bad eating habits	45	59	84	31	55	70	
	paying obsessive attention to selecting healthy, organic or fit food products	132	103	37	25	15	8	
ORTO-15 test is used for the diagnosis of:	orthorexia	101	95	36	275	246	163	Z=10.54; p<0.001
	anorexia	51	101	100	42	62	56	
	bulimia	205	44	267	51	40	65	
ORTO-15 test investigates:	behaviour related to the selection, preparation and consumption of food	113	89	54	297	191	88	Z=8.83; p<0.001
	behaviour related to the selection of food	74	55	43	109	84	35	
	behaviour related to the preparation of food	87	71	34	25	19	12	
	behaviour related to the consumption of food	86	86	208	35	34	71	
In our day, public awareness of eating disorders is sufficient to prevent them.	yes	43	87	306	18	32	66	Z=10.05; p<0.001
	no	114	104	58	278	257	153	
	don’t know	81	93	114	54	68	74	

292 (29.2%) subjects were familiar with the term „eating disorders”, and 708 (70.8%) subjects responded that they had never heard of it before. However, after the training, which aimed at familiarizing the respondents with this problem, 700 (70.0%) of them claimed that they made themselves acquainted with its definition. The differences

in the frequency of responses made by the subjects were statistically significant ($p<0.001$). Similar differences emerged when a correct definition of eating disorders was provided and the respondents were asked to confirm it (or not) according to their knowledge about this subject ($p<0.001$).

The most common eating disorders that respondents listed, before the training, were: night eating syndrome (268; 26.8%), orthorexia (224; 22.4%), bulimia (208; 20.8%), anorexia (172; 17.2%) and pica (128; 12.8%). After the training, the order of the listed eating disorders was different: anorexia (596; 56.6%), bulimia (172; 17.2%), orthorexia (136; 13.6%), night eating syndrome ($n=60$; 6.0%) and pica (36; 3.6%). The differences between the frequency of these responses, before and after the training, were found to be statistically significant ($p<0.001$).

The statement that in today's society one can meet with promoting behaviour that enhances the development of eating disorders as a way to take care of one's appearance and lose weight was confirmed by 272 (27.2%) respondents before the training, and by nearly three times as many respondents (712; 71.2%) after the training. 328 (32.8%) and 80 (8.0%) respondents did not agree with this statement respectively, and 400 (40.0%) and 208 (20.8%) respondents could not take a stand on this issue. Time in which responses to this question were given significantly diversified the frequency of statements ($p<0.001$).

The probable behaviour of the subjects towards somebody who has problems with eating disorders, in both stages of the research, differed significantly ($p<0.001$). In the third stage, there was an increase in the number of respondents who claimed that they would try to help such a person (208, i.e. 20.8%, and 352, i.e. 35.8% respectively), or who would encourage her/him to seek specialist help (188, i.e. 18.8% and 388, i.e. 38.8% respectively). There was, however, a decrease in the number of those, who would do nothing (284, i.e. 28.4% and 52, i.e. 5.2% respectively) or who would avoid a person with eating disorders (116, i.e. 11.6% and 12, i.e. 1.2% respectively).

The vast majority of respondents (692; 69.2%), before the training, were not able to indicate a place where patients with eating disorders could get specialist help. The remaining 308 (30.8%) respondents claimed that they were able to do this. After the training, quantitative data was reversed, and differences between the first and the third stage were significant ($p<0.001$).

Respondents' stance that patients with eating disorders are guilty of their own problems, differed significantly in both stages of the research ($p<0.001$). During the first stage, the majority of respondents confirmed that statement (456; 45.6%), and during the third stage the majority denied it (620; 62.0%).

Quantitative data concerning factors that expand respondents' knowledge about people with eating disorders was also diversified. In the first stage, respondents the most frequently claimed that they were gaining their knowledge on the basis of judgments and opinions of other people (304; 30.4%), and in the third stage – from the mass media (548; 54.8%).

Responses to Questions Concerning Orthorexia

Respondents' stance on definition of orthorexia differed significantly ($p> 0.001$) in both stages. In the first stage, they most frequently chose definitions according to which orthorexia is an obsession: with the quantity of the eaten food ($n= 352$; 35.2%), with one's own body weight ($n=348$; 34.8%), and with the quality of the eaten food ($n=300$; 30.0%). After the training, there was an increase in the number of respondents who defined orthorexia as an obsession with the quality of the eaten food ($n=676$; 67.6%). There was, however, a decrease in the number of those who claimed that it is an obsession with the quantity of the eaten food (n= 268; 26.8%) and with one's own body weight (n=56; 5.6%).

According to the respondents, the main symptoms of orthorexia are: organizing one's day around thoughts and activities focused on food (n=308; 30.8%), paying obsessive attention to selecting healthy, organic products (n=272; 27.2%), and paying much more attention to food quality than to the pleasure of eating (n=232; 23.2%). The most rare symptom, according to the respondents, was feeling superior to sick people, who have bad eating habits, or who feel bad (n=188; 18.8%). After the training, the order of the listed symptoms was different – paying much more attention to food quality than to the pleasure of eating (n= 592; 59.2%), organizing one's day around thoughts and activities focused on food (n=204; 20.4%), superior to sick people, who have bad eating habits, or who feel bad (n=156; 15.6%), and paying obsessive attention to selecting healthy, organic, fit food products (n=48; 4.8%). The differences between the frequency of these responses, before and after the training, were found to be statistically significant ($p<0.001$).

Respondents' stance on the use of ORTO-15 test differed significantly ($p<0.001$). In the third stage, there was an increase in the number of respondents, who claimed that it serves as a method to diagnose orthorexia (232, i.e. 23.2% and 684, i.e. 68.4% respectively). There was, however, a decrease in the number of those, who thought that it is used for diagnosis of anorexia (252, i.e. 25.2% and 160, i.e. 16.0% respectively) and bulimia (516, i.e. 51.6% and 156, i.e. 15.6% respectively).

According to the respondents, before the training, the ORTO-15 test most frequently investigates behaviour related to the consumption of food (380; 38.0%), related to the selection, preparation and consumption of food (256; 25.6%), related to the preparation of food (192; 19.2%), and related to the selection of food (172; 17.2%). After the training, the order of the listed behaviour was different – firstly, related to the selection, preparation and consumption of food (576; 57.6%), and then related to the selection of food (228; 22.8%), to the consumption (140; 14.0%), and to the preparation of food (56; 5.6%). The differences between the frequency of these responses, before and after the training, were found to be statistically significant ($p<0.001$).

Respondents' stance on public awareness of eating disorders differed significantly ($p<0.001$). According to them, before and after the training, this knowledge was sufficient (436, i.e. 43.6% and 116, i.e. 11.6% respectively), insufficient (276, i.e. 27.6% and 688, i.e. 68.8% respectively) to prevent these disorders, or they did not have their own opinion on that subject (288, i.e. 28.8% and 196, i.e. 19.6% respectively).

Discussion

Despite the fact that eating disorders are relatively seldom described in scientific literature, there is an increasing prevalence of eating disorders in young people, especially females. These disorders represent the third most common chronic illness (behind asthma and obesity). The average prevalence rate for anorexia is 0.3% and for bulimia 1% in young females, and 0.1% in males. The other eating disorders occur more often, however they are not recorded due to the lack of appropriate diagnostic criteria (Yeo, Hughes, 2011; Namysłowska 2000; Hoek, van Hoeken, 2003; Machado, Machado, Goncalves et al., 2007). In the conducted research, before the training, the respondents considered night eating syndrome (n=268; 26.8%) and orthorexia (n=208; 20.8%) as the most common disorders, however, after the training, they most frequently chose anorexia (n=596; 59.6%) and bulimia (n=172; 17.2%). The differences between the abovementioned research findings may result from the fact that the respondents did not possess enough knowledge and they often tended to confuse particular eating disorders with their nomenclature.

It is also worth mentioning that the respondents up to 35 years old and those above 55 years old, before and after the training, claimed that in today's society, one can meet with promoting eating disorders as a way to lose weight, or take care of oneself. It influences the way in which people evaluate their own appearance. The reasons for an inadequate self-evaluation of one's body weight and following different diets by youth as well as by adults are diverse. They can be related to changes in body proportions, identity development, and a new image of one's own body shape (Wojtyła-Buciora, Marcinkowski, 2010). Self-perception is also based on cultural and social aspects. In the western culture, the fact of having a good figure is a measure of sexual attractiveness of girls, social advancement, and the ability to achieve success (Trafalska, Niedźwiedzka, Nowacka, 2010; Pilecki, 2009). The acceptance of one's own body shape is also influenced by a family tradition and the environment in which a family lives, since mother's conception of an ideal body often shapes her child's attitude (Morimoto, White, Chen et al., 2002).

In many research, the most frequently listed factor that influences knowledge about people with eating disorders is information from the mass media (Trafalska, Niedźwiedzka, Nowacka, 2010). Marcinkowski, Palicka and Stachowska established, inter alia, that older people prefer radio and television as a main source of information, whereas younger and better educated people – books and the press (Marcinkowski, Palicka, Stachowska, 2005). Taking into consideration these data and the research results shown in the present article (before and after the training n=188, i.e. 18.8% and n=548, i.e. 54.8% respectively), promulgation of educational programme, which propagate healthy lifestyle by promoting a well-balanced diet and knowledge about the most common eating disorders, seems to be deliberate. Eating habits acquired in the first years of life have a positive impact on the development of good habits afterwards. Moreover, people who acquired knowledge about eating habits earlier are not so susceptible to the influence of the mass media and the press concerning the desire to have an "idealized body shape", that is to say, a pattern, which is extremely common in our day. Due to an increase in public knowledge level, such attitude should contribute to a significant restriction of the development of lifestyle diseases, such as eating disorders (Duda, Wichura-Demska, 2008).

According to many research, patients with eating disorders have some common personality traits, among which neuroticism, perfectionism, obsessive-compulsive personality traits, as well as a weak character can be considered as predisposing factors to the occurrence of eating disorders if patients are under an additional environmental stress (Mikołajczyk, Samochowiec, 2004). These conclusions are reflected in respondents' opinions. They claim that people suffering from eating disorders are responsible for their problems, and that the abovementioned traits contribute to the fact that discussed disorders occur more frequently. This opinion was shared most frequently by people above 55 years old (before and after the training n=356, i.e. 35.6% and n=64, i.e. 6.4% respectively).

A major role in taking care of patients with eating disorders should be played by an expert team, which consists of a dietitian, a family doctor, or some other specialist depending on problem complexity, and a psychologist (Yeo, Hughes, 2011; Eder, Stawczyk, Lehmann et al., 2007). On account of the fact that knowledge about eating disorders is superficial, the respondents (n=692; 69.2%) could not tell who a person with such disorders should ask for help, and only 308 (30.8%) respondents chose a correct answer.

Orthorexia nervosa is a relatively new eating disorder. Scientific research on public knowledge of its definition, symptoms, and diagnostic methods have not been published yet. There were research conducted only in Italy and Turkey, which aimed at evaluating the test used for diagnosis of this disorder and the frequency of its occurrence (Donini, Marsilli, Graziani et al., 2005; Arusoglu, Kabakci, Koksal, 2008; Fidan, Ertekin, Isikay et al., 2010).

Conclusion

The respondents demonstrated a low level of knowledge about eating disorders. It indicates a need to extend both health and nutrition education, which help to develop proper eating habits. This education is based, not only on knowledge of dietetics and public health, but also on the elements of psychotherapy and sociology. Therefore, while trying to understand this subject, one has to be aware of the fact that it combines many fields of science.

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Ocena skuteczności kształcenia na temat zaburzeń odżywiania, w tym nowego zaburzenia odżywiania gdzie indziej nie sklasyfikowanego - orthorexia nervosa

Streszczenie

Częstość występowania chorób i odchyleń w stanie zdrowia, związanych m.in. z niską jakością zdrowotną żywności i wadliwym żywieniem jest obecnie coraz częstszym problemem nie tylko w Polsce, ale również w innych krajach rozwijających się. W ostatnich latach liczba osób przejawiających różne formy zaburzeń odżywiania stale wzrasta. Osoby te klasyfikują żywność w zależności od tego, czy jest ona zdrowa, czy nie, przejawiając obsesyjne zainteresowanie i nadmierną wrażliwość w stosunku do konsumpcji prawidłowo zbilansowanej żywności. Cel: Ocena skuteczności kształcenia, wybranej grupy mieszkańców województwa lubelskiego, na temat zaburzeń odżywiania. Materiał i metody: Grupę badaną stanowili pacjenci w przedziale wiekowym 18-75 lat (n=1000). Narzędziem badawczym był autorski kwestionariusz ankiety, zastosowany przed i po kształceniu w Instytucie Dietoterapii i Treningu Osobistego Slim+Fit w Lublinie. Wyniki: Wykazano istotne statystycznie różnice ($p<0.001$), dotyczące wiedzy respondentów przed i po przeprowadzonym kształceniu. Tak wysoce znamienne różnice zarysowały się we wszystkich badanych kwestiach. Wnioski: Skuteczność kształcenia pacjentów z zakresu zaburzeń odżywiania jest wysoka, o czym świadczy nie tylko znaczący przyrost ich wiedzy na ten temat, lecz także zmiana niektórych ich stanowisk.

Słowa kluczowe: orthorexia nervosa, zaburzenia odżywiania, test ORTO-15, zaburzenia odżywiania gdzie indziej nie sklasyfikowane

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MEDICAL AND PSYCHOLOGICAL ASPECTS OF DEMENTIA

Abstract

Dementias are health disorders with incidence remaining in proportion to the age of societies. Living in an aging society, we increasingly encounter this problem. An important issue is how to diagnose dementia symptoms. The methods designed for this purpose should be effective, short and easy to use. Currently, these criteria are satisfied by clock drawing tests, the Mini-Mental State Examination and tests similar to it, and change calculating tests.

Key words: dementia, Alzheimer's disease, vascular dementia, diagnosis, clock test

Introduction

Dementia is defined as an acquired syndrome of cognitive processes deficits involving - in addition to memory problems - deficits in at least two of the following cognitive functions: language (aphasia), intentional complex motor activity (apraxia), the ability to recognize and identify objects (agnosia) and impaired planning, initiating, monitoring and correcting the course of complex behaviors (executive dysfunction). Cognitive deficits are so profound that they impair occupational activity, social functioning and daily activities (DSM-IV).

Some definitions of dementia have been narrowed down to a set of cognitive deficits crucial for the everyday functioning, which make them easier to detect (Borkowska 2002). On the basis of the examination of a selected human population, the incidence of dementia is estimated at 6.3%. While among those aged 55-59 years, the incidence of dementia is 0.4%, among persons aged 95 years and older it already amounts to 43.2%. Among those with dementia, Alzheimer's disease was diagnosed in 72%, vascular dementia was diagnosed in 16% of this population, Parkinson's disease with dementia in 6%, and other types of dementia were diagnosed in 5%. Symptoms of dementia were found to be more common among people with lower levels of education (Ott, Breteler et al. 1995). Taking into account differences in the courses of these diseases, different prognoses and treatments they entail, it is important to both recognize dementia and differentiate between its different types.

For the purpose of identification and differentiation of dementia, neurological examination, neuroimaging, biochemical and psychological tests are all used. The aim of neurological examination is to detect signs of focal brain damage in order to rule out vascular disease, neoplastic processes, traumatic brain injuries, etc. Neuroimaging (CT, MRI) fulfills a similar role. It allows the detection of: atrophic changes in the brain, vascular ischemic areas, traumatic injuries, as well as neoplastic processes. Laboratory tests are intended to exclude a set of causes that may produce reversible symptoms of dementia (pseudodementia). The tests useful for this purpose include: blood count, the levels of thyroid hormones, electrolytes: sodium, potassium, glucose, calcium, vitamin B12, folic acid, the tests for syphilis and HIV (Bilikiewicz, Matkowska-Białko 2004).

Alzheimer's Disease

Despite the use of different testing methods, it is often difficult to arrive with a conclusive diagnosis. The diagnosis of Alzheimer's disease is based on the exclusion of other dementias and detection of amyloid accumulation in the brain tissue (Sobów, Nagata et al. 2003), hence it can usually be confirmed through anatomopathologic examination. It is based on the following findings: diffuse atrophy of the cerebral cortex, lower number of neurons in the cortex, the presence of senile plaques composed of β-amyloid, the presence of disintegrated axon components (intraneuronal neurofibrillary tangles of hyperphosphorylated tau-protein) (Rademakers, Cruts et al. 2005). Brain atrophy is visible in CT and MRI. An expensive examination using positron emission tomography (PET) with intravenous compounds – FDDNP – which bind to the protein fragments of senile plaques and disintegrated neurons, allows assessing their amount in a living patient. Fluoroglucose enables the assessment of brain tissue metabolism which facilitates differentiating between individuals with Alzheimer's disease and other patients (Small, Kepe et al. 2006).

Alzheimer's disease was first described by German psychiatrist and neuropathologist Dr. Alois Alzheimer in 1907 as a case of "unusual disease of the cerebral cortex in 51-year-old woman, Auguste Deter." This patient presented first with delusions of marital infidelity. Later, memory loss, disorientation, impoverishment of language and difficulties in execution of previously learnt skills started to appear. After several years she could not recognize her family and also herself in the mirror. Due to the loss of ability to care for herself, she was placed in mental institution in Frankfurt, where he died in 1906.

Dementia develops gradually, as summation of subtle, increasing symptoms. For this reason, the distinction of 3-7 stages of the disease was proposed. The division into 7 stages of the disease seems more useful for both practical and theoretical purposes. Stage 1 - is a period with no memory impairment or cognitive deficits. Stage 2 - minimal loss of memory, forgetting the words. Stage 3 - early disorientation, the patient tries to hide the problem; this stage lasts: 2-7 years. Stage 4 - late disorientation (the patient needs help in dealing with official matters, it becomes possible to diagnose Alzheimer's disease at this stage), this stage lasts about 2 years. Stage 5 - early dementia – the patient is not able to continue to live independently in society, this stage lasts about 1.5 years. Stage 6 - moderate dementia – loss of awareness of current events, loss of ability to dress themselves and wash, fecal incontinence, hallucinations - occurring at night, the patient is dependent on others; this stage lasts about 2.5 years. Stage 7 - late severe dementia, the patient is able to communicate only with single words, cries or gestures, loses the ability to communicate needs, does not react to environmental stimuli, epileptic seizures can occur; this stage lasts 1-2.5 years (Reisberg, Ferris et al. 1982).

Vascular Diseases Leading to Dementia

In Europe, vascular dementia is found in 8-10% of people with cognitive impairment. Most common are multi-infarct dementia, infarctions of the strategic cerebral areas, subcortical leukoencephalopathy (Binswanger), lacunar syndromes, damage to cortico-subcortical areas, ischemic encephalopathy. The occurrence of dementia may raise the suspicion of cerebrovascular infarctions from large arteries, or efficiency loss of at least 100 ml of the brain tissue (Jellinger 2002). There are mixed forms of dementia, containing elements of vascular disease and Alzheimer's syndrome. The strategic areas of the brain are those whose damage markedly impairs cognitive functions and involve: the angular gyrus responsible for spatial functions; the fronto-cingular area, securing activity and planning; the visual thalamus whose damage may result in decreased activity of different brain areas as expressed by apathy, impaired attention, retrograde and anterograde amnesia, impaired verbal fluency, disinhibition (Lee, Chui 2006), and the temporal-hippocampal areas, responsible for memory functions (Jellinger 2005, de Oliveira Lanna, Madeira at al. 2008).

The factors predisposing to the occurrence of vascular dementia include: hypertension, vascular atherosclerosis, diabetes, cardiac arrhythmias, changes in the microvasculature hyaline degeneration, fibrosis, arteriopathies, a decrease in blood supply to the brain, and blood disorders.

The Hachinski Ischemic Score scale helps to differentiate between Alzheimer's disease and vascular brain damage. The diagnosis of vascular brain damage is supported by the score higher than 7 on Hachinski's scale, while the diagnosis of Alzheimer's disease – by the score lower than 4. (The scores are assigned for the following signs: an abrupt onset of the disease – 2 points, stepwise deterioration – 1 point, fluctuating course – 2 points, nocturnal confusion – 1 point, relative preservation of personality – 1 point, depression – 1 point, somatic complaints – 1 point, emotional incontinence – 1 point, history of hypertension – 1 point, history of ischemic stroke – 2 points, other symptoms of atherosclerosis – 1 point, focal neurological symptoms – 2 points, focal neurological signs – 2 points.) The Hachinski Ischemic Score allows to distinguish between Alzheimer's disease and multi-infarct vascular dementia in 70-80%, however, it is not very specific in the diagnosis of mixed dementia (from 17 to 50%) (Bilikiewicz, Matkowska-Protein 2004). Among the 118 different psychological tests, only two can be helpful in differentiating patients with Alzheimer's disease and those with vascular brain damage. People with Alzheimer's disease scored higher on the test of facial emotional expression differentiation, whereas subjects with vascular brain damage had higher scores on the test of delayed story recall (Mathias, Burke 2009).

Dementia with Lewy Bodies

It is relatively common for dementia to co-occur with symptoms of Parkinson's disease – this is called dementia with Lewy bodies. Its symptoms are illustrated in the following case study. At the age of 60, the patient developed personality changes, irritability, apathy, visual hallucinations, impaired attention and motivation, depression, decreased willingness to participate in social activities. At the age of 74, the disorders of the following functions occurred: memory, language, behavior, reasoning, visuospatial function, recurrent episodes of visual hallucinations, delirium episodes. Neurological examination revealed: abulia, impaired naming, mask-like face, gait disturbance, residual Parkinsonian symptoms, bradykinesia, tremor, increased muscle tone (Piscopo, Marcon et al. 2008).

The features differentiating Alzheimer's disease from dementia with Lewy bodies include: excessive sleepiness during the day, sleeping during the day for two hours or more, episodes of lethargy, fluctuation of cognitive function, episodes of inattention, incoherent speech and variable ability to perform tasks (episodes which are described by the family as "absence" of the patient), the occurrence of visual hallucinations, episodes of speech disorder (Ferman, Smith et al. 2004). Symptoms of dementia precede, coexist with or develop on the symptoms of Parkinson's disease. The diagnosis is based on the clinical manifestations of dementia, lack of changes in blood biochemical parameters, CT and MRI studies may point to generalized brain atrophy, sometimes with predominance of frontal lesions. The presence of Lewy bodies described in 1912 by Levi is a characteristic finding from the anatomopathologic examination; the changes observed in Alzheimer's disease are also present but are not a determining factor for the diagnosis (Ince, Perry, Morris 1998).

Psychological Tests Used Most Commonly in Diagnosis of Dementia

The most common diagnostic tests include a variety of versions of the so-called clock test, tests derived from Folsteins' MMSE scale, and some other complex techniques.

Clock Tests

There are a number of clock tests; some of them consist in showing the patient clock faces set on various hours, and requesting the patient to read out the hour (Schmidtke, Olbrich 2007). In other versions, a clock face - in the form of a circle with points marked on the perimeter or even with numbers – is given to the patient who is then asked to draw the clock hands set on a certain hour. Other clock-related tasks involve giving the patient a clean sheet of paper and then asking him/her to draw a clock with the hands indicating a certain hour, most commonly 10.10 or 11.10.

This test is believed to be an ambiguous task, requiring the patient to face a specific challenge: a clean sheet of paper may bee associated in the patient's mind with a variety of clocks (e.g. watches, wall clocks, etc.), with differently shaped clocks, diversity of clock hands, as well as the need to correct their own mistakes. To complete the task it is necessary to: understand the instruction, have the awareness of the visual space, recognize numbers, know the sequence of numbers, conceptualize the clock, be able to use lines (Royall, Cordes et al. 1998).

It is a common practice to evaluate the performance on the test clinically by judging whether the patient's production of the clock with the set clock hands is correct or incorrect as a whole. Various, relatively precise scoring systems are also available.

Sunderland, Hill et al. (1989) proposed a 10-grade decreasing scale for scoring the test performance. 10 points – the clock hands are set in the correct position, 9 points – a slight error in the position of he clock hands, 8 points - bigger errors in the positions of the hour and minute hand, 7 points – clearly defective positions of the clock hands, 6 points – incorrect position of the clock hands in spite of repeated instructions, 5 points – concentration of numbers in one part of the clock face or reversal of numbers, the clock hands are drawn; 4 points – abnormal sequence of numbers, no numbers or placing them outside the clock face, 3 points – scattered, unassociated numbers and the clock face, lack of the clock hands, 2 points – the drawing indicates unclear understanding of the instructions and similar execution; 1 point – no attempts to respond to the instructions, the drawing is not suitable for interpretation. Obtaining a score of 6 or higher indicated the normal performance on the test (Sunderland, Hill et al. 1989).

In another system, the patient receives a sheet of paper with a predrawn circle of 10 cm in diameter and is asked to complete the circle with numbers, as on the clock face, and to draw the clock hands set on a certain time. Method of scoring: the clock face should be divided into 4 equal quadrants, the first line passes through 12, the second is perpendicular to it. Then the number of digits in each quadrant is calculated, if each of them contains 3 digits, the performance is assessed as normal. One point is assigned for every error made in quadrant I, II and III, and 4 points – for every error in quadrant IV. The scores ranging from 1 to 3 are believed to be within the normal range, the scores of 4-7 – abnormal. The score of 4 and higher suggests the possibility of dementia (Watson, Arfken, Birge 1993). Test sensitivity is 59%, and specificity is 70% (Juba, Tench, Baker 2002).

The Mini-Mental State Examination and Related Scales

The Mini-Mental State Examination (MMSE; Folstein, Folstein, McHugh 1975) scale contains 30 items, the answer to each is scored as 0 or 1. Items are grouped in the following categories: orientation in time and place; attention and counting (subtracting 7s from 100); recall - the patient is asked to repeat the words that he/she previously had to remember; language functions, including naming objects, executing commands and writing; constructional praxis (copying figures). Dementia may be suspected with the MMSE score 24-25, cognitive impairment – with the MMSE scores from 26 to 27, the normal performance is indicated by the MMSE scores from 28 to 30 (Wilmańska, Gułaj 2008). The test is sometimes cumbersome to use due to varying degree of difficulty of individual items and due to the expectations of the respondents who present often only with complaints for memory impairment, for this reason parts from other scales are also sometimes used.

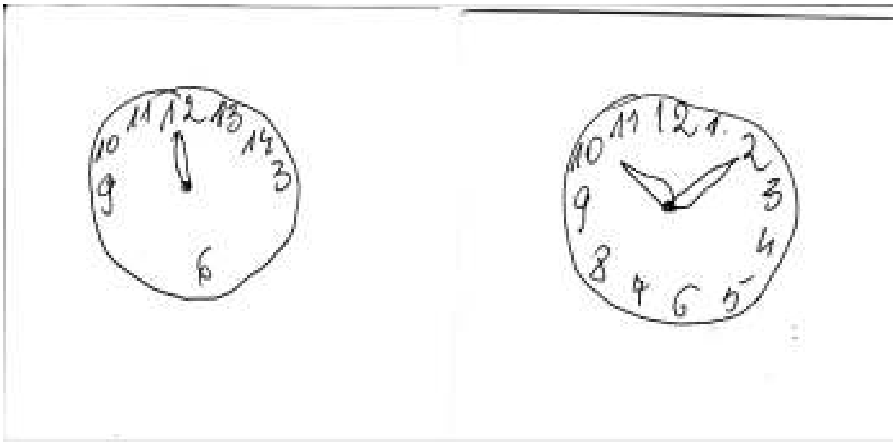
26-item Information and Memory Test is sometimes used, in which the correct performance is indicated by the scores lower than 8, moderate impairment – by the scores from 9 to 19, and severe impairment by scores higher than 20. The abbreviated version of the test takes the following form: Please indicate: 1. name, 2. age, 3. date of birth, 4. place of birth, 5. place of residence, 6. street, 7. length of stay, 8. city name, 9. today's date, 10. what month is now, 11. what year, 12. the day of the week, 13. part of day, 14. time, 15. season, 16. mother's name, 17. graduated school, 18. place of work, 19. name of the current president, 20. name of the previous president, 21. the beginning of World War I, 22. the beginning of World War II, 23. name the months backwards, 24. count from 1 to 20, 25. count backwards from 20 to 1, 26. repeat a phrase previously heard (it is usually an address given during the examination (Katzman, Peck at al., 1983).

The abbreviated version, 6-item Orientation-Memory-Concentration, contains the following components - the questions usually scored 1 or 0, sometimes 2 or 0, and 5 or 0, multiplied by the appropriate weights: Which year is now? (1 or 0x4); Which month is now? (1, 0x3); Repeat after me: John Brown, 42 Market Street, Chicago, What time is it now? (1, 0x3), Count backwards from 20 to 1 (2, 0x2), name months in the backward order (2, 0x2) Repeat the phrase, which I had said (5, 0x2) The sum of possible errors is 28. The normal scores shall be within the 0-6 range (Katzman, Brown, at al. 1983).

A combination of the clock test and change calculating test may be useful for detection of dementia (used with time limit increases the sensitivity of the test). The administration technique: we show the patient the face of a clock with the time 11.10 and ask the patient to read out the time. Time to complete the task is up to 1 minute, two trials are allowed. The change calculating test consists of a set of coins: 3 50-groszy, 7 10-groszy, and 7 5-groszy coins. The patient is asked to combine them in 1-złoty. Time limit is 2 minutes, the sensitivity of the test increases when time is limited to 12 seconds. Two attempts should be allowed. Interpretation: The correct performance on both tests, an incorrect performance on one of the tests require an extended examination (Froehlich, Robinson, Inouye 2002).

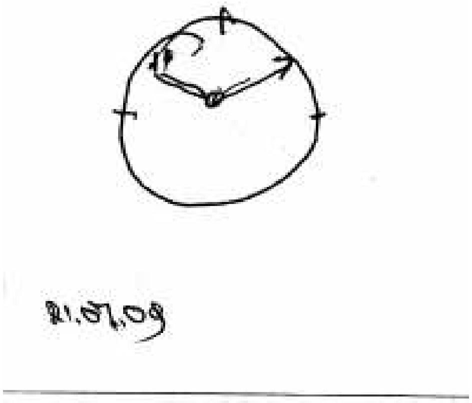
Examples of the Application of the Clock Test

Woman, KZ, 371015, complains of occasional abrupt stopping of thoughts, fears the beginning of dementia, has been treated due to hypertension and type II diabetes. The neurological examination without the signs of CNS damage, CT of the brain - showed no significant changes, ultrasound examination of the carotid and vertebral arteries - showed small plaques. In the first attempt, she drew a clock hand indicating number 12, and immediately drew a second clock with the correct hands. Perhaps, it is an indication of impulsive behavior, the patient also seems to have mild hyperthyroidism. She completed the task of change calculation very fast. She scored normal of the test modeled the abbreviated 6-item version of Orientation-Memory-Concentration.



The clock drawings produced by the patient adequately confirm the complaints reported by her. Being asked to draw a clock with the hands indicating 10 minutes after 10, she began to draw a clock with a hand showing number 12, and then spontaneously quit drawing and drew another, this time correct clock.

Below, there is a drawing of another patient, AW, 311122, he had secondary technical education, an alcoholic, currently not drinking, is usually irritable, demanding, has low criticism toward himself, demonstrating strength, noisy (he had a stroke in 2005), in the ultrasound examination (2008) of the carotid and vertebral arteries, atherosclerotic plaques were found, however without hemodynamic significance, brain CT (2008) - revealed an old ischemic area in the basal nuclei of the right hemisphere. The MMSE score was 26 in 2005, and 28 in 2007. Currently, he is irritable, explosive, not resourceful, requiring constant care of his wife, negates her value as a partner in life, demands obedience from her, instantly calculates 2 złoty from the coins. His score on the test modeled on the abbreviated 6-item version of Orientation-Memory-Concentration was abnormal.



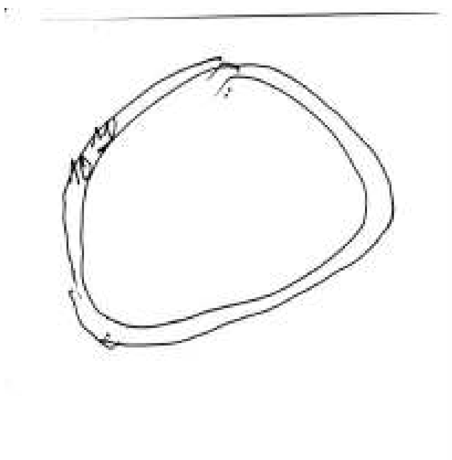
The clock drawing produced by the patient is correct, it can have some features of oversimplification.

Case report M.T. 430803, she was brought by her husband, presented complaints of forgetting in everyday life, she kept losing her purse, keys, documents, was always looking for something; an ultrasound examination of the carotid and vertebral arteries (09/04/2008) revealed small hemodynamically insignificant atherosclerotic plaques; in the brain CT (22.07 .08) small atrophic changes in the temporal lobes were revealed, cholesterol was 187 mg%, blood pressure 170/90, normal neurological status, she was treated due to hypertension and type II diabetes.

10.10

She could not calculate 2 zł from change. She worked in the laundry and in the hotel, had primary education. During the test, modeled on an abbreviated 6 item version Orientation-Memory-Concentration test, she became completely helpless, therefore, further testing was discontinued.

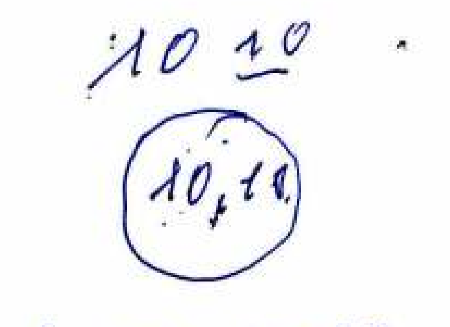
The case of KJ, 320623, 77 year old patient, complaining of constant headaches, painful arms, swollen legs, she is clearly slowed down, she provides a scant report of her ailments; blood pressure 150/90, ultrasound examination of the carotid and vertebral arteries showed massive circular atherosclerotic plaques. She could calculate 3 zł out of the coins with effort, made errors, minor abnormalities in the neurological examination, (lowered precision of arm movements, pronation of the hand; she scored 10 on the 6-item Orientation Memory Concentration test. CT of the brain revealed areas of ischemia up to 12 mm at the frontal horn of the lateral ventricle, hypodensive periventricular white matter indicating chronic encephalopathy, atherosclerotic lesions within the intracranial vasculature.



Case 9. P.R., 31042802806; she has been treated since 1988 because of the symptoms associated with a minor head trauma, back pain, and osteoporosis. She had an accident in 1998, in which she was hit by a car, suffered multiple injuries, the accident became the basis for a long lasting court suit for compensation. She has remained on a disability pension due to her general health condition since 1992. Between 31/07/2008 and 08/11/2008, due to a mild right-side paralysis, a CT examination of the brain was performed, which revealed-cortico-subcortical atrophy, focal hypodensic area on the border of the thalamus and the internal capsule of the left hemisphere with vascular etiology. In 2009, she suffered from frequent falls, however, the hemiparesis disappeared almost completely.

The brain CT performed on 24.09.2009 - showed only cortico-subcortical atrophic lesions.

Upon the request to draw a clock showing 10.10, she originally wrote 10.10, after the repetition of the instruction, she drew a circle and inscribed 10.10 inside it, and then asked whether she should write the date?, no answer being given, she wrote the date of 10/01/2009 below the drawing, and finally asked whether she should sign; then she signed with a name.

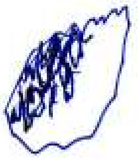


She completed the task very quickly and correctly in the change calculation test. She failed to name the months backwards and to recall the previously given address in the 6-item test.

This case also points to significant diagnostic difficulties - encountered frequently in everyday practice. The initial picture of vascular brain damage, has changed to a more likely diagnosis of transient ischemic attack – in face of the normal results from CT obtained on 09/24/2009. During the administration of the clock test, the features are revealed that can be related to damage to the frontal lobes of the brain (Luria 1976, p. 229; Lhermitte 1983, 1986). At the same time, the patient has been able to plan and complete complex tasks for the last several months: she had a hip operation, is in the process of waiting for cataract surgery in one eye, and is preparing for a second hip surgery - which remains in contrast to the commonly understood damage to the frontal lobes.

M.G., 360422, Parkinson's syndrome, 72-year-old female patient with symptoms of mild Parkinson's syndrome, with hypertension - approximately 160-170-180/90, reported feeling sick, complained that something was happening in her head, she did not know what it was, she suffered tension headaches, episodes of hot flushes, tremor of heart, crunching sounds in her knees, she feared the deterioration of her health, trembling limbs perceived as significant disability; as a result of arguments with her family, she moved from their farm to the city, to his sister, but she did not feel happy, was able to go to church alone, able to go to the doctor, she complied with recommended medication, she believed that she was doing well.

10.02.09



10'0

15.10.09

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Aspekty medyczno psychologiczne zespołów otępiennych

Streszczenie

Zespoły otępienne są zaburzeniami zdrowia występującymi w proporcji do wieku społeczeństw. Żyjąc w starzejącym się społeczeństwie napotykamy coraz częściej ten problem. Istotnym zagadnieniem jest sposób diagnozowania objawów otępiennych. Metody przeznaczone do tego celu winny być efektywne, krótkie i proste w użyciu. Obecnie kryteria te spełniają testy zegara, skala MMSE i testy do niej podobne, test wyliczania kwoty z drobnych pieniędzy.

Słowa kluczowe: otępienie, choroba Alzheimera, otępienie naczyniowe, diagnoza, test zegara

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BORDERLINE PERSONALITY DISORDER IN ADOLESCENCE: A CASE STUDY

Abstract

Both theoretical discussions and empirical studies have recently, been conducted in order to establish the utility of the borderline personality construct in childhood and adolescence. The general purpose of the presented study is to analyse the psychopathological course and manifestations of borderline personality disorder and comorbid psychiatric conditions in children and adolescents. The presented case study, in terms of the diagnostic procedure and the therapeutic process, illustrates the complexity of comorbid psychopathological symptomatology in adolescent patients.

Key words: BPD, comorbidity, psychopathology, adolescence

Introduction

Borderline personality disorder is a pervasive pattern of instability that is evident in the primary areas of normative functioning: interpersonal relationships, self-image, affect as well as control over impulses. As follows from the clinical literature, borderline personality disorder (BPD) is believed to be associated with adverse, traumatic experiences in childhood. However, it seems challenging to differentiate the effects of child maltreatment from other family, environmental as well as genetic risk factors. Moreover, it turns out to be hard to identify which specific aspects of the maltreatment might be relevant to BPD and to determine the characteristic associations with the disorder as opposed to other conditions commonly comorbid with BPD. In adolescents, BPD is usually recognized in a clinical group who, compared with other adolescent psychiatric patients, has experienced high levels of maternal neglect and rejection, grossly inappropriate parental behaviour and a number of parental surrogates, sexual abuse and higher levels of angry and irritable interactions within the family (Hill, 2008; McManus et al., 1984). Pinto et al. (1996) indicate that depressed adolescents with BPD report greatly depreciated self-concept compared with their non – BPD depressed peers; this difference is not an artifact of depressive severity.

Other symptoms of BPD in adolescence include: acting out behaviors, which range from restless, hypochondriasis and difficulty in concentrating at school to antisocial behaviors, drinking, drug abuse, stealing, running away, promiscuity and hippie dress and companions. Affective disturbances include inappropriate affects such as exaggerated, absent, disconnected, or contrived emotions, a strong sense of injustice; a pervasive sense of boredom; excessive anger and intolerance of frustration; depersonalization and sense of emptiness. According to object relations theory, these symptoms stem from a structural deficit in personality due to fixation at early developmental levels (Baker, 1984).

Noteworthy, the fundamental diagnostic criteria could be organized into four areas of psychopathology: affective (inappropriate and intense anger, chronic feelings of emptiness, affective instability), cognitive (paranoid ideation and severe dissociative symptoms, identity disturbance), behavioural (impulsivity, suicidal behaviour or self–mutilation) as well as interpersonal (unrealistic fears of abandonment by loved ones, unstable and intense relationships). Those individuals who exhibit psychopathological symptoms in all four of these areas simultaneously, could be discriminated from the subjects with other personality disorders (Sharp, Romero, 2007; Bleiberg, 1994).

A growing number of theoretical analyses and empirical studies of BPD in the child and adolescent population point to the need for early identification and intervention for the individuals diagnosed with BPD features. However, the accurate detection and recognition of BPD is strongly discouraged during childhood and adolescence as we still do not know whether the phenomenology, correlates, risk factors, and rates of BPD in childhood and adolescence resemble those of adult BPD (Sharp, Romero, 2007). According to Bradley et al. (2005), the prevalence of personality disorders among adolescents in the community sample using adult diagnostic criteria is roughly equivalent to that among adults (approximately 15%), and psychopathological personality symptomatology in adolescents tends to show diagnostic continuity over time, predicting occurrence of personality disorders in young adulthood. Moreover, several studies have suggested that the specific symptoms (such as emotional dysregulation and interpersonal instability) and developmental precursors (such as disrupted attachment and history of childhood sexual abuse) of BPD are similar among adolescents and adults (Bradley, Conklin, Westen, 2005). The longitudinal studies of the adolescents diagnosed as borderline have concluded that a diagnosis of BPD in adolescence does not generally predict a diagnosis of this disorder in adulthood or even later in adolescence (Reich, Zanarini, 2001). Therefore, in spite of significant progress in understanding BPD among adults, important questions related to BPD in the child and adolescent population remain unaddressed.

American and Greek community studies indicate that personality disorders are associated with substance use among adolescents. Results show that adolescents with borderline personality disorders reported more cigarette smoking and heavy alcohol consumption than did those without borderline personality disorder (Serman, Johnson, Geller et al., 2002). On the other hand, Johnson et al. (1995) reported that in a sample of 18- to 19-year-olds, heavy substance users reported significantly greater antisocial, borderline, and overall personality disorder symptomatology than did adolescents who reported little or no substance use.

Walter et al. (2009) reported that the prevalence rates of alcohol use disorder and drug use disorder in BPD at baseline were significantly higher than in other personality disorder (OPD). In addition, this report notes that the BPD patients showed a higher prevalence rate in alcohol and drug dependence than the OPD patients, but not in alcohol and drug abuse, suggesting that substance use disorder in BPD patients is more severe than in OPDs.

Attention-Deficit Hyperactivity Disorder (ADHD) could also be found as a part of other psychiatric disorders, particularly mood disorders, personality disorders as well as mania (Dowson et al., 2004). Young and Gudjonsson (Young, Gudjonsson, 2006) indicated that three core psychopathological symptoms of ADHD (inattention, impulsivity and hyperactivity) might impair the individual's ability to the normative biopsychosocial adaptation and coping with the environment, leading in consequence to frustration, poor planning, poor decision-making, dysfunctional interpersonal relationships as well as antisocial behaviour. Noteworthy, ADHD might be a risk factor for personality psychopathology in more than one domain. One pathway, well recognized in the literature, might emanate from underregulated and erratic symptomatology and reflect in the overlap between ADHD and antisocial behaviour problems, histrionic personality disorder as well as BPD symptomatology. A second pathway, less well recognized, might emanate from the overlap between ADHD and mood problems, leading into Cluster C disorders. Definitely, the hypothesis warrants further investigation from the personality perspective and could hale significant implications for subtyping adults with ADHD (Miller, Nigg, Faraone, 2007; Fossati et al., 2002). To sum up, both disorders, ADHD and BPD, tend to share some clinical features related to mood lability, temper and impulsivity which make the diagnostic process difficult not only in adulthood but especially in childhood and adolescence (Dowson et al., 2004).

The main aim of the presented case study is to indicate specific difficulties in the diagnostic process of the adolescent girl as well as to discuss the issues related to psychotherapy which is believed to be the fundamental treatment for change achievement and maintenance in the day-to-day functioning: normative adaptation and biopsychosocial development.

Case Study – Medical Aspects

Here, we report study the case of the patient (referred to hereinafter by the initials MM), an adolescent girl, diagnosed with the combined subtype of ADHD, BPD psychopathological features, depressive disorder and specific learning disabilities. All psychopathological symptoms exhibited by the patient during the diagnostic procedure are listed in Table 1.

Her personal background was as follows. She was born to the family as the only child (natural delivery, birth weight – 3250 g, birth height – 57 cm, APGAR points – 9, due to the skin colour). The pregnancy, after 10 years of the marriage, was planned and expected. Due to the fact of lactose intolerance, the patient was not on breasted milk. She was hospitalized four times during infancy. The patient's mother worked at home for a brief period of time. Until the patient reached 9 months, her grandmother took care of her. Until she was 12 years old, she was brought up by her mother.

The first presentation of the psychopathological symptomatology, at the age of 13, coincided with the school change. However, when she attended primary school, she was perceived as a fine student without any behavioural problems, not only committed to the sports (she used to attend the swimming class), but also interested in music, drawing and painting as well as in computer science. Despite the fact that she did not attend the kindergarten, adequate social adaptation was observed in the sport school. However, she presented learning difficulties (her writing abilities were affected) and the diagnosis of dyslexia was made. She was also observed to be highly sensitive to noises which made her irritated and led to inability to focus attention. Furthermore, mood changes, from depressive ones to hyperactivity, were also detected.

The direct referral cause was a suicide attempt through intoxication. The patient took Persen tablets after an agreement with her mother. She reported the fact to her therapist in the sociotherapeutic group who, in consequence, made an appointment for her. The patient also confirmed several self-injuries (self-mutilation on the arms, hitting the wall with her fist, excessive exercises). Irritation, dysphoria, mood fluctuations, aggression towards the teachers, inability to focus attention, learning difficulties, difficulties in falling asleep and intermittent sleep, appetite fluctuations, decrease in vitality and psychomotor drive, suicidal thoughts and tendencies as well as “a voice inside the head” heard by the patient and “a man’s face” seen by the patient were reported. An adequate pharmacotherapy was implemented (fluoxetine – 10 mg/day, with the maximum doses of 20 mg/day, subsequently fluvoxamine – 100 mg/day) and a significant improvement was observed (the decrease in the self-harm behaviours, the stabilization of the mood and the sleeping pattern).

Table 1. Symptoms reported by M.M. during diagnosis.

Depressive disorder	ADHD	Borderline personality
was sad lost interest in activities criticized herself felt that others criticize her felt unloved pessimistic hopeless about the future; thought that life is not worth living irritability aggressive behavior. was indecisive had problems concentrating, had a lack energy and motivation; neglected her appearance sleep patterns were disturbed played truancy suicidal thoughts	often fails to give close attention to details (mistakes in schoolwork) often has difficulty sustaining attention in tasks or play activities often does not seem to listen when spoken to directly often does not follow through on instructions and fails to finish schoolwork often has difficulty organizing tasks and activities often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (homework) often loses things is often easily distracted by extraneous stimuli is often forgetful in daily activities feelings of restlessness often blurts out answers before questions have been completed often has difficulty awaiting her turn often interrupts or intrudes on others	frantic efforts to avoid real or imagined abandonment. a pattern of unstable and intense interpersonal relationships characterized by alternating between extremes of idealization and devaluation. identity disturbance: markedly and persistently unstable self-image or sense of self; self-mutilating behavior suicidal thoughts affective instability chronic feelings of emptiness difficulty controlling anger

By that time, she did not manage to achieve the school classification which led her to a suicide attempt through intoxication (teofiline). She was admitted to the Intoxication Unit and then unsuccessfully transferred to the Child and Adolescent Psychiatric Unit. Nevertheless, the patient was successfully admitted to the Outpatient Child and Adolescent Unit. Noteworthy, after 5 months of both individual and group therapy she was transferred to the Inpatient Child and Adolescent Unit. A significant increase in the psychopathological symptomatology was observed, mainly with respect to suicidal thoughts and tendencies. The patient’s stay at the Child and Adolescent Unit was terminated on her parents’ demand, in contradiction with the psychotherapeutic team’s suggestions.

The next outpatient psychiatric appointment coincided with the medication pharmacotherapy discontinuity. The patient reported emotional lability, irritability, dysphoria, mood fluctuations and self-mutilations. Chlorprothixene (90 mg/day) was implemented. However, due to significant side effects (eye aches, oculist diagnostic procedures within the norm range), it was terminated. The patient's parents reported that their daughter abused alcohol, smoked cigarettes, came back home inappropriately late in the evenings or even stayed outside home place in the nights.

By that time, the patient started to attend the school which is a part of the psychiatric unit, where specific psychopathological symptoms were detected (inability to focus attention, talkativeness, inappropriate discussions with the teachers, both verbal and nonverbal aggression towards the classmates, several difficulties with sentence completion, counting and feelings of fatigue in the context of mental activities). The psychological as well as pedagogical diagnostic procedures revealed a normal IQ level, a decreased level of perceptual structuralization (attention, psychomotor control, immediate verbal memory), decreased level of graphomotor abilities, inability to focus attention, difficulties in the recollection of the read story, decreased phoneme hearing, low levels of phonological awareness. The EEG results showed reactive, regular alpha activity (10 c/s, 60 uV) as well as betha activity in the frontal regions. Methylphenidate was implemented (18 mg/day) and significant improvements within impulsivity and ability to focus attention were observed.

After 3 months of pharmacological treatment, the patient reported depressed mood, emotional instability, loneliness. Fluvoxamine was implemented. Hoverer, due to the fact that the medication was hard to obtain in the pharmacies, the patient's parents failed to buy it. Therefore, fluoxetine was implemented (20 mg/day). The patient terminated the prescribed pharmacological treatment. At the age of 15, because of the demoralization, she received the court-appointed curator. By that time, she also reported a significant increase in the arguments with her mother which she associated with the fact that her mother revealed that her daughter was bisexual.

At present, the patient takes hydroxizinum (10 mg/day) and methylphenidate (18 mg/day) and continues psychotherapy. Noteworthy, she has not missed out a single appointment for the last 4 years.

Case study – Psychosocial Aspects

The patient was perceived as an outgoing and surrounded by people. On the other hand, she failed to develop close relationships with others. The relationships tended to be instable, superficial and terminated after the first arguments. Remarkably, at present she is being perceived as a young boy. The first presentation of behavioural problems coincided with the school change, from primary to secondary one, and the need to adjust to the new social group. Noteworthy, by that time the patient's mother started her professional career. The patient presented several behavioural symptoms: deterioration in school work, refusal to go to school, abuse of alcohol, nicotine and other psychoactive substances (drugs, medications), self-injuries (exhibited in school or lonely at home). By the time of the patient's adolescence, the specific change in the relationships within the family were also observed. Before, the patient used to stay in the dyadic relation with her mother, with the father's elimination. The mother tended to be dominant, while the father was believed to be passive and withdrawn. The patient wanted her father to make important decisions within the family and, therefore, she tried to support him. She was also jealous of her father, accusing her mother of being involved in the relationship with her husband, not with her daughter. She was also jealous of her dog, accusing her mother of spending much more time with the dog than with her daughter as well as being permissive and inconsequent towards the dog, not her daughter. The arguments and physical aggression towards her mother (fighting, hitting, kicking, pulling, calling names) had been arising for the next two years. Afterwards, the patient started to present difficulties with distress and anxiety, self-harm and experience suicidal thoughts and tendencies. At the same time, she developed closer relationship with her father which made her mother jealous.

The projective as well as semi-projective methods were used (The Sentence Completion Test, The Enchanted Family) in order to encourage the patient to exhibit her conflicts within the family and to determine how the patient perceived the social-emotional relationships in her family of origin. In The Sentence Completion Test the patient wrote: *"mother – I love her very much, despite the fact that she does not believe me"*; *"I feel good when I am with my parents and when there are not any problems"*. The sentences revealed the need for love, security and feelings of withdrawal. She to described herself negatively. She recognized the problems that she caused, the deficits and the disabilities which made her parents disappointed. She perceived her parents as incapable of supporting her. She believed she could have made her parents happy if she had been different, if she had changed. On the other hand, she worried that her parents might not notice the change, might not believe her as they might need a sick daughter (in The Enchanted Family, the patient told *the story about the family with the disabled daughter whose parents could not afford the medications as well as the specialized treatment and who helped the older man looking for medical care who in turn made their wish come true, the parents wanted their daughter to become healthy and their problems to disappear, surprisingly, the women felt broken by the fact that everything could possibly change*). In consequence, it might make it particularly difficult, if not impossible, to develop positive identity and close, satisfying relationships. Anticipation of rejection might lead to the situation when the patient might break the relation in order to diminish the distress and anxiety connected with rejection. Terminating the therapy for the period of summer holidays might be interpreted in terms of the need for control over the summer break, not adjusting to the therapist's leave of absence.

The relations within the family of origin tended to be based on dependency and hostility. The parents seemed to be disappointed by the change in their daughter's behaviour. They tried to force their daughter to adjust to their expectations and needs. The mother made a threat of emotional withdrawal in order to punish the daughter. According to the information obtained in the course of psychotherapy, the situation was strictly related to her mother's individual emotional problems. She was diagnosed with neurosis. Noteworthy, the patient's mother had not been staying in contact with her family of origin, the patient had never met the family members from her mother's family of origin, she had only heard rumors about her grandfather's alcoholism. The patient's father was brought up by his mother as his father had moved out and abandoned them.

As the main therapeutic goals the patient mentioned: controlling negative emotions and outbursts, stopping self-mutilating as well as working on the relationship with her mother. At the very beginning of the therapy course, she showed engagement and commitment, despite an early hour, as the therapy session started at 7:40 am, she brought her earlier poems and drawings with her, she told about her activities during the past week, she also reported self-injuries as well as mentioned and actively discussed all conflicts and difficulties. She told about the need for intimacy, acceptance and understanding, still, she underlined the fear of being completely absorbed by therapy. She mentioned that she would prefer to stay in the structure of the outpatient unit where she would have the opportunity to meet the psychologist every time she needed to the structured psychotherapeutic place and time. Ambivalence in the context of the therapeutic process was observed as specific difficulties, problems with the beginning of the session, preferences for being asked not taking by herself. Contrary to the discussed issues, she felt angry at the therapist for acting like the patient's mother.

The patient stayed in psychodynamic therapy twice a week for two years. Occasionally, she took medication and she was under psychiatric care for the whole period. M.M. broke the contact with the psychotherapist - using alcohol, have homosexual contacts.

Discussion

Attention-deficit/hyperactivity disorder is a phenotypically heterogeneous, highly heritable syndrome which commonly co-occurs with other psychiatric conditions and/or disorders. The subjects diagnosed with ADHD might experience several psychological problems strongly associated with the deficits in the fundamental autonomic *ego* functions, such as: perception, memory, psychomotor abilities, impulse and affect control, abstract thinking, analysis and synthesis as well as experiences' integration and regulation of both internal and external stimulation (Bellak, 1977). Development of the self as well as internalization of the relation object might be disorganized. The child suffering from neurocognitive deficits might present difficulties with adequate and normative recognition and integration of the mother's emotional signals. The child's responses, failing to meet maternal needs and expectations, might lead to the feelings of anxiety and dissonance put within their interactions. The child's parents might neglect the child and transmit their own disappointment and anxiety within all their further interactions, leading, in consequence, to the disturbances in development of the self and self-esteem in the child and/or adolescent (Abrams, Karslow, 1976; Buchholz, 1987). On the other hand, the parents might become excessively involved and overprotective, decreasing the quantity and quality of their expectations, which makes the child emotionally dependent and the separation-individuation process seems frightening and impossible (Pickar, 1986; Pickar, 2005, Weil, 1978). Attention deficits as well as the dysfunctions of verbal and nonverbal perception might inhibit the development of the object's stability, so that children diagnosed with specific learning difficulties and ADHD might find it difficult to self-calm as they have not had the opportunity to internalize the stable object of soothing mother (Bryan, Sherman, Fisher, 1980).

Psychoanalytic and developmental theories have noted that BPD patients' difficulties with intimacy and dependency resemble the behaviour of children trying to separate from their parents. Two theories have proposed that borderline psychopathology is the direct result of the failure to separate adequately from parents. The psychodynamic core of BPD has been described in terms of withdrawal of "emotional supplies" by the patient's mother. The central problem for BPD patients has also been explained in terms of a failure to develop object constancy, the ability to evoke positive and soothing images of the others in distressing moments. The failure was believed to result from maternal inconsistency and lack of empathic attachment to the child (Reich, Zanarini, 2001; Gaja, Kostecka, 2008)).

Several studies have suggested that in their childhood, adults with BPD might have had difficulties in separating from emotionally significant people and might have showed high mood reactivity. The clinical picture of BPD might arise from interacting processes. BPD patients have been found to present different memories of childhood and adolescent experiences than controls with other personality disorders. A higher number of BPD patients remembered having difficulty tolerating both significant and brief separations which is consistent with earlier psychodynamic hypothesis and theories suggesting that failures in the separation-individuation process might be an important component of BPD. Secondly, a greater proportion of BPD patients reported difficulty tolerating frustration and regulating their mood which supports the hypothesis that certain temperamental factors might contribute to development of BPD. Finally, BPD patients remembered having many more symptoms at an earlier age. According to the data, sucidality, anxiety, self-mutilation, dissociative episodes, feelings of sadness or emotional pain, breaking things or depression before the age of 18 might be especially good predictors of BPD in adulthood, with anxiety more closely associated with adult BPD than is depression (Reich, Zanarini, 2001). For example, the combination of intrusive and inconsistent mother-child interactions associated specifically with BPD might contribute to affect regulation and failure of mentalization. Intrusive parenting is likely to lead to intense negative affect from which the child takes evasive action, hence leading to extremes of high and low emotional intensity, and also to reduced capacity to monitor mental states when highly aroused. Inconsistent mother-child interactions might inhibit the child's ability to read the parent's intentions or states of mind, and hence limit his or her ability to think of others' behaviours in terms of mental state (Hill, 2008).

The presented case study along with the discussed issues points to the need for further research in the field. Both researchers and clinicians should be aware of the specific characteristics in children and adolescents that might be the precursors of BPD. As BPD appears to be polysymptomatic and frequently comorbid with other psychopathological symptoms, identification as well as evaluation of symptomatology in multiple areas, not only the core ones, seems to be essential. Asking about the developmental characteristics mentioned above may aid the clinicians in making the proper diagnosis of BPD in adult populations. Prospective research studies in children found to be at risk for BPD are definitely needed. Furthermore, additional attempts should be made in order to unravel important knowledge on the exact nature of the relationship between BPD and the developmental risk factors in the child and adolescent clinical population. Unquestionably, clarification of the psychopathological symptomatology might be helpful in the exact identification, treatment and drug abuse prevention.

Conclusions

1. The diagnosis of personality disorders in children and adolescents seems to be problematic and inconclusive.
2. The diagnosis of the symptoms of personality disorders highlights the need for complex psychotherapy, not only individual, but also group as well as family one.
3. Psychopathological course and manifestation of the symptoms present in children and/or adolescents could be modified by comorbid borderline personality disorder symptomatology.

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Zaburzenia osobowości *borderline* w okresie dorastania – opis przypadku

Streszczenie

W badaniach teoretycznych oraz empirycznych rozważa się pozycję zaburzeń osobowości typu *borderline* w psychopatologii dzieci i młodzieży. Celem prezentowanej pracy jest analiza obrazu psychopatologicznego zaburzeń osobowości *borderline* oraz współistniejących zaburzeń psychicznych u dzieci i młodzieży. Przedstawione studium przypadku, w aspekcie diagnostycznym oraz terapeutycznym, odzwierciedla złożoność objawów psychopatologicznych oraz zaburzeń współwystępujących u pacjentów w okresie adolescencji.

Słowa kluczowe: BPD, zaburzenia współwystępujące, obraz psychopatologiczny, dorastanie

Chapter 2

Chronic Illness from the Physician's and Psychologist's Perspectives

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CHANGES OF COPING ACTIVITY IN PATIENTS SUFFERING FROM ILLNESSES WITH DIFFERENT COURSES

Abstract

The aim of the study was to explore changes in coping activity in two illnesses obviously differing in their course: diabetes, and cardiac infarction. Participants were 278 diabetics and 232 patients after the first myocardial infarction. They were examined twice at an about 4-week interval. In the diabetic group, immediately on completion of phase 1, the patients were informed about initiation of insulin therapy. In the cardiac group, phase 1 was conducted on the average 5 days after the heart attack. Coping activity components: cognitive appraisal (negative appraisal, positive appraisal and challenge), affect (negative affect and positive affect) and coping strategies (reducing negative emotions, problem solving, avoidance and stimulating positive emotions) were measured using questionnaires. In diabetics, negative appraisal, negative affect, positive affect, the strategies of reducing negative emotions and problem solving increased from phase to phase. In the cardiac group negative appraisal, positive appraisal, the strategies of reducing negative emotions and avoidance decreased, while challenge, positive affect and the strategy of problem solving increased. Type of illness moderated changes in a wide range of coping activity components, cognitive appraisal (negative appraisal and challenge), affect (negative affect) and coping strategies (reducing negative emotions and avoidance). Phase-related changes in coping activity confirmed an increase in stress level in diabetics, while cardiac patients tended to experience the situation as more challenging. Although the type of illness did make a difference in coping activity changes, positive affect as well as problem solving utilization increased from phase to phase in both clinical groups. The results show that changes in experienced stress determine coping activity which becomes more appropriate to the demands of a situation. The data are applicable to clinical practice.

Key words: stress, coping, diabetes, myocardial infarction

Introduction

Chronic Illness as a Source of Stress of Varying Intensity

Chronic illnesses are characterized by variability of symptoms and dynamics, involving not only possible improvement, but also worsening of the patient’s health state, which may require a change of treatment. Such changes are accompanied by changes in stress, experienced by patients. Planning this study, the author tried to find two nosological units exemplifying conditions with different courses, namely, characterized by an increase and decrease in the stress intensity over time. Type 2 diabetes and myocardial infarction (MI) were tentatively selected. Both are important for the epidemiological reasons because of their high morbidity rates (Abramczyk, 2009; Tymińska-Sędek, 2004). They have been intensively studied from the psychological perspective due to their psychosomatic and somatopsychic context (Heszen, 2009).

Diabetes patients are characterized by high levels of depression and anxiety as typical somatopsychic consequences of the disease (Lustman, Griffith, Clouse, 1996), probably resulting from the intense treatment regimen and the high rate of serious complications (e.g. retinopathy and kidney diseases). On the other hand, myocardial infarction is a well-known example of the psychosomatic direction of the mind-body relationships. The importance of the Type A behavior as a risk factor for coronary heart disease has been well-documented in many empirical studies (Wrześniewski, 1993). It was initially assumed that in the former clinical group, the level of experienced stress would increase after introduction of insulin treatment, while in the latter stress should be decreasing with passage of time after the heart attack.

Type 2 diabetes may be a source of only mild to moderate stress for years, as long as it is treated through diet, exercise, and oral medication. However, the situation changes radically as soon as insulin therapy has to be initiated. Insulin injections are generally perceived as a warning sign of a severe health status deterioration involving a risk of further complications. Moreover, this kind of treatment is associated with limitations in patients' life and has psychosocial consequences, interfering with professional career and deteriorating family relationships. The perspective of introduction of insulin therapy is perceived with reluctance by both patients and physicians, and the phenomenon is called psychological insulin resistance (Korytkowski, 2002). In their longitudinal study, Goddijn, Bilo, Feskens et al. (1999) found at the last measurement that the group who switched over to insulin therapy experienced more problems with social functioning and pain than did patients whose therapeutic regimen had not been changed. On the other hand, initiation of insulin treatment is followed by an improvement in medical indices, first of all – better glycaemic control which may relieve some the patient's diabetes-related fears. The study supervised by the author revealed that the patient's evaluation of insulin therapy was diversified. To describe the situation after initiation of a new therapy, all categories of stressful transaction distinguished by Lazarus and Folkman were used, i.e. harm/loss, threat or challenge (Lenartowska-Hałoń, 1993).

The onset of MI is a source of a strong stress resulting not only from the commonly known fact of a high mortality rate, but also from the quite dramatic symptoms evoking a sense of being under threat. Moreover, the patient's activity must be radically limited, which is also stressful. If the course of treatment is uneventful, stress intensity should decrease with time. The risk of death is decreasing and MI patients gradually become able to return to their former activities (Wrześniewski, 2004). On the other hand, there are psychosocial consequences of the illness that are a source of additional stress for the patients recovering from MI. They have to make difficult decisions concerning their future life, such as whether to return to work or retire, or to change old habits in compliance with the doctor's recommendations, e.g. quit smoking. Moreover, the loss of the so-called secondary gains from the life-threatening condition, including emotional support from the family and friends may be difficult to accept.

Generally, the subjectively experienced stress tends to increase in diabetics after they start insulin treatment, and to decrease over time in cardiac patients. However, some aspects of the patient's situation in the two groups act in the direction opposite to this general tendency.

Coping Activity and its Components

In this study coping was investigated in the framework of the transactional stress paradigm proposed by Lazarus and Folkman (1984). This paradigm, well known among stress researches, is widely accepted and continues to set standards in this research area. The paradigm was further developed by Folkman who discovered a common presence of positive affect in the face of stress, even of high-intensity and uncontrollable. There is growing evidence indicating that in a stressful transaction not only negative but also positive affect increases. It was found for example that patients with a chronic or disabling illness experienced more negative but also more positive feelings when compared to healthy adults (Westbrook & Viney, 1982).

Folkman proposed to enrich the classical model of stress transaction by including positive emotions, their sources and consequences (Folkman, 1997, 2008, 2009). Recently, other authors have also argued for broadening the scope of the stress and coping research so as to include positive emotions and cognitions as well as their promotion by coping strategies (e.g. Greenglass, Fiksenbaum, 2009). In the present study, not only negative, but also positive emotions were included, as well as positive appraisal.

In the classical stress and coping paradigm, emotion-oriented coping was defined as aimed at reduction of negative emotions (Lazarus, Folkman, 1984). Folkman's postulate for including positive emotions implies another form of emotion-oriented coping, namely one aimed at positive emotion stimulation. In this study, both forms of emotion-oriented coping were measured.

In the model by Lazarus and Folkman, human activity under stress is construed as a process involving cognitive appraisal of the stressful situation, negative and positive affect, and coping as a sequence of strategies aimed at overcoming stress. These components also have the form of dynamic processes, interrelated and changing in the course of the stressful transaction. Among them, cognitive appraisal plays the key role, influencing both emotions and coping behavior. Coping behavior in turn is crucial to the outcome of the stress transaction. However, all the three processes are so interwound that they are actually difficult to differentiate clearly. This is illustrated by the most popular tools for coping measurement which contain a mixture of items referring to coping behavior, emotions and cognitions (e.g. the Ways of Coping Questionnaire, WCQ, by Folkman, Lazarus, 1988 or the Coping Inventory for Stressful Situations, CISS, by Endler, Parker, 1990). Therefore, in the present study not only coping strategies, but also cognitive appraisals and affect were taken into account under the common heading of coping activity.

Research Problems

Two nosological units were selected that obviously differ in their course and tentatively represent changes towards opposite directions in the level of stress experienced by patients. Namely, the initiation of insulin therapy in diabetics results in worsening of their general life situation, while in the cardiac group, the most essential cause of stress, i.e. death risk, is decreasing over time after the cardiac incident. The following questions were posed:

1) What changes in the coping activity do the two clinical groups exhibit?
2) Does the illness type act as a moderator of these changes?
3) Do these changes generally confirm the increase of experienced stress in diabetic patients and the decrease of the stress level in cardiac patients?

To answer these questions, a combination of interindividual (between-group) and intraindividual (within-group) approaches was necessary. Thus, from the methodological point of view, the study focused on between-group comparisons of intra-group changes.

Method

The study was conducted in natural clinical settings. The procedure was approved by the Committee for Ethics of Empirical Studies with People as Subjects, Warsaw School of Social Psychology. A longitudinal paradigm was used to measure changes in coping activity that accompany changes in the illness-related stress. The participants, patients with either type 2 diabetes or after the first MI, were examined twice at an about 4-week interval. In the diabetic group, immediately on completion of phase 1 of the study (lower stress level), the patient was informed by his/her doctor about initiation of insulin therapy. In the cardiac group, phase 1 (higher stress level) was conducted on the average 5 days after the heart attack. To measure coping activity, questionnaires were applied. In this study, coping had the status of a changing variable (situational coping), determined by individual dispositions, as well as by the context of a stressful situation (Carver, Scheier, 1994)). It was measured in both phases. To ensure contextual measurement, the participants were asked to recall a difficult, illness-related situation which occurred in the past week and then to report their appraisals, affect and behavior.

Participants

The following inclusion criteria were used in the study: age between 20 and 60 years, completed primary education, and no current comorbidity with serious chronic illnesses. Diabetic patients assigned to initiate insulin therapy were enrolled in the study by their doctor in charge. The cardiac group comprised patients admitted for the first uncomplicated myocardial infarction diagnosed on the basis of WHO-refined criteria. The total of 278 patients with diabetes and 232 patients with MI completed both phases of the study (91.1% and 92.1% of those participating in phase 1, respectively). Diabetic patients were in the 20–60 age range (*M* = 50.12, *SD* = 9.59), while MI patients were aged 27-60 years (*M* = 51.6, *SD* = 6.29); the difference in age between the two clinical groups is nonsignificant ($t = 0.97$; $p = .33$). The group of diabetic patients consisted of 143 men (56.9%) and 162 women (53.1%), while that of MI patients - of 182 men and 70 women (72.2 and 27.8%, respectively). The intergroup difference in the gender distribution is significant ($\chi^2 = 25.79$; $p<.001$), and reflected the specificity of the analyzed diseases.

Measures

Cognitive appraisal. Cognitive appraisal was measured with the Situation Appraisal Questionnaire (SAQ), developed in Poland by Wrześniewski and Włodarczyk (2001). The original form of the questionnaire consists of 35 items, representing the types of cognitive appraisal distinguished by Lazarus and Folkman: threat, harm/loss and challenge. Respondents answer using a 4-point Likert scale. Factor analysis performed in this study separately for each clinical group and for each measurement point yielded a repeated structure of three factors, interpreted as negative appraisal (NA, 10 items including both threat and harm/loss e.g. *terrifying or harmful*), challenge (CH, 7 items, e.g. *mobilizing*) and positive appraisal (PA, 5 items, e.g. *promising*). These factors explained 49.98% of variance. Cronbach *α* coefficients were satisfactory and ranged from .72 (MI, phase 1, challenge) to .92 (diabetes, phase 1, negative appraisal).

Affect. The 30-item Positive and Negative Affect Schedule (PANAS, Watson, Clark, Tellegen, 1988) in the Polish adaptation by Brzozowski (1995) was used to measure affect. Exploratory as well as confirmatory factor analyses were conducted to verify factor validity of the questionnaire. The procedure was performed separately for each clinical group and for each measurement point. FA confirmed two factors - negative affect (NAf) and positive affect (PAf). The same structure was obtained in all analyses. From each of the factors one item was excluded due to semantic reasons, and two other items because of their low inter-item correlations. The final version consisted of two 12-item subscales, explaining together 52.63% of the variance. The Cronbach *α* coefficients were very satisfactory, ranging from .88 (MI, phase 1, positive affect) to .96 (diabetes, phase 2, negative affect).

Coping strategies. Two questionnaires were used to measure coping strategies: the Coping Inventory for Stressful Situation (CISS-S, Endler, Kantor, Parker, 1994) and the Coping With Health Injures and Problems Scales (CHIP, Endler, Parker, Summerfeld, 1998), both in a preliminary Polish adaptation by Wrześniewski. Explanatory and confirmatory factor analyses were conducted for the present sample and eigenvalue and scree test criteria were used to determine the number of factors. FA revealed three factors for the CISS-S, problem-oriented (8 items), emotion-oriented (6 items) and avoidance (6 items) coping, explaining 47.34% of the variance, with Cronbach α coefficients ranging from .74 (MI, phase 1, emotion-oriented coping) to .83 (diabetes, phase 1, problem-oriented coping). For the CHIP also three factors were identified, interpreted as instrumental coping (7 items), reduction of negative emotions (9 items) and stimulation of positive emotions (7 items). They explained 35.52% of the variance, with Cronbach α coefficients ranging from .72 (MI, phase 1, reduction of negative emotions) to .86 (diabetes, phase 1, instrumental coping). Second-order FA performed for problem-oriented, emotion-oriented (CISS-S), instrumental, and reduction of negative emotion strategies (CHIP) revealed a two-factor structure explaining 82% of the variance, where the first factor comprised problem-oriented and instrumental strategies, while the second – emotion-oriented and reduction of negative emotions strategies. Finally, the following four indexes of coping strategies were used in the study: reduction of negative emotions (RNE), problem solving (PS), avoidance (A), and stimulation of positive emotions (SPE).

Results

The results were computed using SPSS for Windows Statistics, version 17.0. First, changes in coping activity are described on the grounds of main effects of time, obtained in repeated measures ANOVA for each group separately. Such descriptive data may be valuable from the clinical perspective, as they refer to events typical for two common chronic diseases. Then, differences between the changes in the two groups are presented on the grounds of interaction effects: group x time in repeated measures ANOVA conducted for pooled data.

Coping Activity Changes in Diabetes

Changes in coping activity of the diabetic group are presented in Table 1. As regards cognitive appraisal, the only significant change was an increase in negative appraisal. While the levels of both negative and positive affects increased, the rise was greater in the former. Two coping strategies were more intensely utilized, namely, reduction of negative emotions and problem solving aimed to change the patient's situation. It should be noted that all the significant phase-related differences consisted in a increase in coping activity indexes.

Coping Activity Changes in Cardiac Infarction

The data in Table 2 indicate a change in all types of cognitive appraisal in the MI group. The levels of both negative and positive situational appraisal decreased, while the appraisal of the situation as challenging was higher. Positive affect intensity increased. An increase can also be seen in the use of the problem solving strategy, while the utilization of both reduction of negative emotions and avoidance coping decreased.

Table 1. Changes in coping activity in diabetic patients, $n = 278$.

Coping activity index	Phase 1		Phase 2		$M_2 - M_1$	$F_{(1,277)}$	p
	M_1	SD	M_2	SD			
NA	24.57	7.99	27.63	7.94	3.06	47.75	<.001
CH	20.50	4.54	20.92	4.11	0.42	2,42	ns
PA	11.40	3.71	11.23	3.83	-0.17	0,47	ns
NAf	35.05	12.90	39.74	13.31	4.69	34.78	<.001
PAf	33.98	10.56	35.34	9.85	1.36	6.36	<.05
RNE	22.80	6.22	24.86	5.61	2.06	42.77	<.001
PS	24.30	4.43	25.16	4.06	0.86	15,64	<.001
A	17.63	5.16	17.78	5.08	0.15	0.42	ns
SPE	26.00	5.25	26.26	5.03	0.26	1.25	ns

* $p< .05$; ** $p<.01$; ***$p<.001$. NA – negative appraisal, CH – challenge, PA – positive appraisal; NAf – negative affect, PAf – positive affect; RNE – reducing negative emotions, PS – problem solving, A – avoidance, SPE – stimulating positive emotions.

Table 2. Changes in coping activity in MI patients, $n = 232$.

Coping activity index	Phase 1		Phase 2		$M_2 - M_1$	$F_{(1,231)}$	p
	M_1	SD	M_2	SD			
NA	27.49	6.40	26.15	7.73	-1.34	8.62	<.01
CH	20.70	4.17	22.18	4.19	1.48	26.19	<.001
PA	13.14	3.96	12.47	4.14	-0.67	4.80	<.05
NAf	36.41	12.15	36.12	12.73	-0.29	0.10	ns
PAf	32.77	10.15	34.27	10.32	1.50	4.45	<.05
RNE	25.48	5.89	22.26	6.23	-3.22	61.88	<.001
PS	23.78	4.42	24.85	4.35	1.07	11.95	<.001
A	17.36	5.36	16.19	5.26	-1.17	9.10	<.01
SPE	25.68	5.02	26.10	5,67	0.42	1.59	ns

For abbreviations see Table 1.

Type of Illness as a Moderator of Changes in Coping Activity

The moderating effects of the type of illness on the relationship between phase of the study and cognitive appraisal, affect and coping strategies as components of coping activity are presented in Tables 3 -5.

Table 3. Phase, type of illness and cognitive appraisal

Appraisal	Phase				Illness			
	1		2		Diabetes		MI	
	M	SD	M	SD	M	SD	M	SD
Negative appraisal	25.90	7.44	26.96	7.87	26.10	7.05	26.82	6.20
	$F_{(1,508)} = 7.31$; $p<.01$				$F_{(1,508)} = 1.47$; n.s.			
	Phase x Illness: $F_{(1,508)} = 47.4$; $p<0.001$							
Challenge	20.59	4.37	21.49	4.19	20.71	3.71	21.44	3.55
	$F_{(1,508)} = 23.13$; $p<.001$				$F_{(1,508)} = 5.17$; $p<0.05$			
	Phase x Illness: $F_{(1,508)} = 7.29$; $p<.01$							
Positive appraisal	12.19	3.92	11.80	4.02	11.31	3.18	12.81	3.33
	$F_{(1,508)} = 4.67$; $p<.05$				$F_{(1,508)} = 26.68$; $p<.001$			
	Phase x Illness: $F_{(1,508)} = 1.68$; n.s.							

Tab. 3 shows the results of the statistical analyses referring to the appraisal process. Two significant effects of interaction between the phase of the study and the type of illness where found. The type of illness moderated the phase-related changes in negative appraisal and in challenge. The former increased in diabetics and decreased in the cardiac group (see Tab. 1 and 2). Challenge increased in both groups under study, but this change was significant only in MI patients.

Table 4. Phase, type of illness and affect.

Affect	Phase				Illness			
	1		2		Diabetes		MI	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Negative Affect	35.67	12.57	38.09	13.16	37.40	11.31	36.26	10.16
	$F_{(1,508)} = 12.86$; $p<.001$				$F_{(1,508)} = 1.39$; n.s.			
	Phase x Illness: $F_{(1,508)} = 16.55$; $p<.001$							
Positive Affect	33.43	10.38	34.85	10.07	34.66	9.18	33.52	8.60
	$F_{(1,508)} = 10.62$; $p<.001$				$F_{(1,508)} = 2.0$; n.s.			
	Phase x Illness: $F_{(1,508)} = 0.03$;n.s.							

The moderating effects of the type of illness on the affective changes are presented in Tab. 4. Only negative affect was modified by the type of illness. While the diabetic patient experienced more negative affect in the second phase, comparing to the first, the level of negative affect did not change in the cardiac group (cf. Tab. 1 and 2).

Table 5. Phase, type of illness and coping strategies

Strategies	Phase				Illness			
	1		2		Diabetes		MI	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Reducing negative emotions	24.02	6.21	23.68	6.04	23.87	5.20	23.83	5.31
	$F_{(1,508)} = 5.17$; $p<.05$				$F_{(1,508)} = .01$; n.s.			
	Phase x Illness: $F_{(1,508)} = 107.74$; $p<0.001$							
Problem solving	24.06	4.43	25.02	4.20	24.73	3.84	24.32	3.71
	$F_{(1,508)} = 27.27$; $p<.001$				$F_{(1,508)} = 1.50$ n.s.			
	Phase x Illness: $F_{(1,508)} = 0.31$; n.s.							
Avoidance	17.51	5.25	17.06	5.22	17.70	4.71	16.78	4.41
	$F_{(1,508)} = 5.27$; $p<.05$				$F_{(1,508)} = 5.18$; $p<.05$			
	Phase x Illness: $F_{(1,508)} = 9.00$; $p<.01$							
Stimulating positive emotions	25.86	5.14	26.18	5.33	26.13	4.79	25.89	4.71
	$F_{(1,508)} = 2.94$; n.s.				$F_{(1,508)} = .33$; n.s.			
	Phase x Illness: $F_{(1,508)} = .19$; n.s.							

The influence of the kind of illness on the relationship between the phase and coping strategies is shown in Tab. 5. The moderating role of illness revealed in the cases of the strategy of reducing negative emotions and that of avoidance. The former was used more intensively in the second phase, comparing to the first in the diabetes group, while coping behavior of the MI patients changed in the opposite direction – they applied the strategy of reducing negative emotions less intensively in the second phase. The application of avoidance did not change significantly from phase to phase in the diabetics, while MI patients used this strategy less intensively in the second phase, comparing to the first (cf. Tab.1 and 2.).

The moderating role of illness is depicted in Figures 1- 5. Negative appraisal, negative affect and the strategy of reducing negative emotions changed in the opposite directions in the diabetic and MI groups. All these components of coping activity increased in the former group and decreased in the latter. Two coping components changed significantly only in the cardiac group, namely appraisal of the situation as challenging increased, while the avoidance strategy decreased.

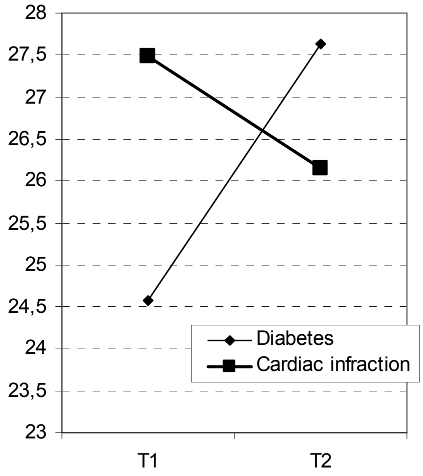

Figure 1. Interaction between illness and time on negative appraisal.

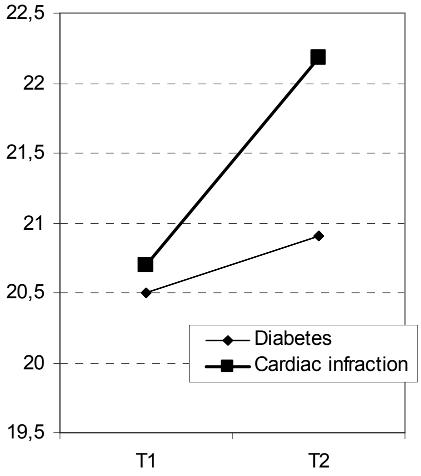

Figure 2. Interaction between illness and time on challenge.

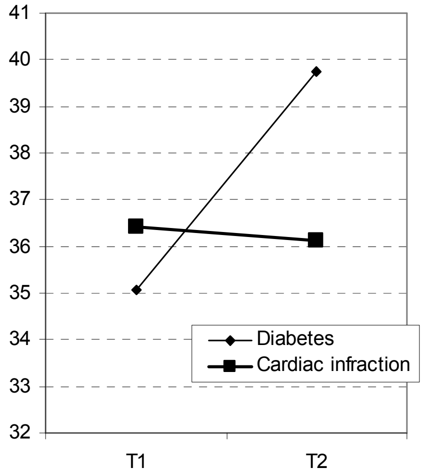

Figure 3. Interaction between illness and time on negative affect.

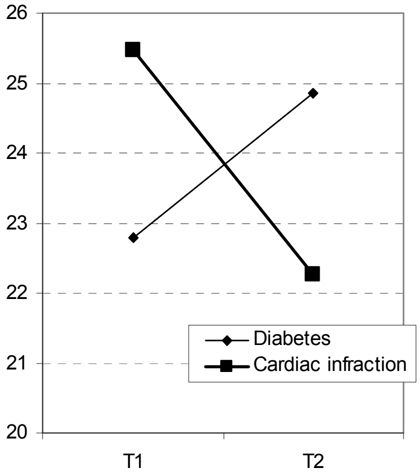

Figure 4. Interaction between illness and time on the strategy of reducing negative emotions.

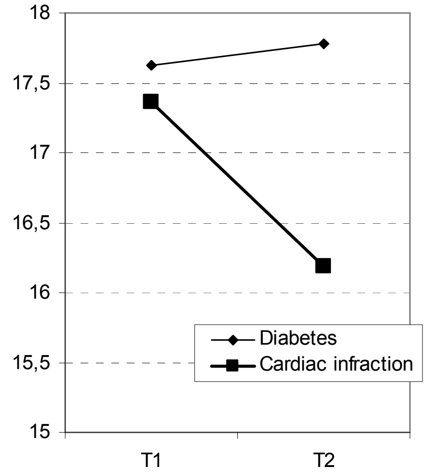

Figure 5. Interaction between illness and time on the strategy of avoidance.

Discussion

In both clinical groups coping activity components changed clearly over time. It was assumed that diabetic patients would perceive their situation as more stressful after the introduction of insulin treatment, while MI patients would feel less stressed five weeks after their heart attack. According to the model proposed by Lazarus and Folkman, assigning a crucial role to cognitive appraisal in coping activity, the increased negative appraisal in the diabetic group confirms the study assumption. More intense efforts aimed at reducing negative emotions may be a consequence of such change in the perception of the situation, as well as an increased negative affect. Taking together both medical and psychosocial consequences of the treatment change, it seems understandable that the other aspects of cognitive appraisal, i.e. positive appraisal and challenge, stayed at the same level as an outcome of some ambivalence. The perception of changes after initiation of the insulin therapy may be recognized as an accurate reflection of a new situation.

The rise in the levels of both types of affect is concordant with the contemporary claims that not only negative but also positive affect increases as a result of stress experience. The increase in coping activity indexes as the only type of phase-related changes, again supports the assumption that stress became more intense after the treatment modification. On the other hand, both the increase in positive affect and more marked utilization of problem solving strategies in diabetic patients may indicate that they appreciated the chances offered by the new treatment. Summing up, coping activity changes in type 2 diabetics after introduction of insulin therapy may be evaluated as successful adaptation to the requirements of the new situation.

The situation of MI patients at four weeks after their heart attack seems to be more complicated, which is reflected in the scope of changes in their cognitive appraisals. They perceived their situation as less threatening, but also less favorable and more challenging. However, the rise in positive affect may indicate prevalence of positive aspects of changes. Coping by negative emotion reduction and utilization of avoidance became less useful, while problem-oriented coping turned out to be more adaptive in recovery from MI. In general, coping activity changes in the cardiac group do not clearly confirm a decrease in stress intensity from phase to phase. Probably the patients appraise their situation first and foremost as challenging. This is an accurate reflection of the reality which demands making difficult decisions as to the future life, changing unhealthy behaviors and returning to previous activities.

The only form of coping activity that did not changed in either of groups, is the strategy of stimulating positive emotions. This strategy was measured by a new scale, identified in factor analysis of our data from the Coping With Health Injures and Problems Scales (CHIP). In the original studies carried out by the authors of the CHIP, four factors were revealed: distraction, palliative, instrumental, and emotional preoccupation coping (Endler, Parker, Summerfeld, 1998). This finding was not replicated in our study where three factors were found, interpreted as instrumental coping, reduction of negative emotions, and stimulation of positive emotions (see above). Although our version of the tool meets high psychometric requirements, the issue needs further studies.

The data describing changes in coping activity after the initiation of insulin treatment in diabetics, as well as the description of changes over time in MI patients, may be useful from the clinical perspective*,* as they refer to the events typical of the two common chronic diseases. An important result of the study is the increase in positive affect and active coping by problem solving, noted in both clinical groups, which can be regarded as a sign of the patients' successful adaptation to chronic stress and a more favorable attitude towards their illness and treatment.

The type of illness moderates a wide range of coping activity components: cognitive appraisal, affect and coping strategies. Three coping components, negative appraisal, negative affect and the strategy of reducing negative emotions changed in the opposite direction in the groups under study. They increased in the diabetics and decreased in the cardiac patients. In addition, only in the latter group did two coping components change significantly, namely appraisal of the situation as challenging increased, while the avoidance strategy decreased. These findings again confirm a tentative conclusion that the results show a rise in the experienced stress in diabetics after the initiation of insulin treatment. The cardiac patients probably perceive their situation as less threatening but at the same time more challenging five weeks after the heart incident.

Conclusions

Two clinical groups under study differed clearly with respect to the changes in coping activity during the course of illness. The type of illness moderated a wide range of coping activity components: cognitive appraisal, affect and coping strategies. The results showed a rise in the experienced stress in diabetics after the initiation of insulin treatment. The cardiac patients perceived their situation as less threatening but more challenging five weeks after the heart incident.

The data describing changes in coping activity in two common diseases obviously differing in their course may be useful from the clinical perspective. An important result is the the finding concerning a rise in positive affect and coping by problem solving in both clinical groups. Our other findings also confirm that changes in the patients' coping activity are an adequate answer to changing demands of the situation. Such effective coping efforts deserve to be appreciated and supported by clinicians.

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Zmiany procesu radzenia sobie u pacjentów cierpiących na choroby o różnym przebiegu

Streszczenie

Celem badań było określenie, jakie zmiany zachodzą w procesie radzenia sobie w przypadku dwóch chorób wyraźnie różniących się przebiegiem, to jest cukrzycy i zawału serca. Osobami badanymi było 278 chorych na cukrzycę I 232 pacjentów po pierwszym zawale mięśnia sercowego. Byli oni badani dwukrotnie w odstępie około 4 tygodni. W grupie chorych na cukrzycę bezpośrednio po zakończeniu pierwszej fazy badań pacjenci byli informowani o włączeniu do leczenia zastrzyków insuliny. W grupie kardiologicznej pierwsza faza badań była wykonywana przeciętnie pięć dni po zawale. Składowe procesu radzenia sobie: ocena poznawcza (negatywna, pozytywna i wyzwanie), afekt (negatywny i pozytywny) oraz strategie radzenia sobie (obniżanie emocji negatywnych, rozwiązywanie problemów, unikanie i wzbudzanie emocji pozytywnych) mierzono przy pomocy kwestionariuszy. W grupie chorych na cukrzycę, w drugiej fazie badań w porównaniu z pierwszą wzrosło nasilenie oceny negatywnej, negatywnego i pozytywnego afektu, strategii obniżania emocji negatywnych i strategii unikania. W grupie pacjentów po zawale zmniejszyło się nasilenie oceny zarówno negatywnej, jak i pozytywnej, a także strategii obniżania emocji negatywnych i strategii unikania, natomiast wzrosło nasilenie oceny w kategorii wyzwania, pozytywnego afektu i strategii rozwiązywania problemów. Rodzaj choroby okazał się moderatorem zmian szerokiego zakresu składowych procesu radzenia sobie: oceny poznawczej (oceny negatywnej i wyzwania), afektu (negatywnego) oraz strategii radzenia sobie (obniżania emocji negatywnych i unikania). Zmiany procesu radzenia sobie, które nastąpiły pomiędzy fazami, potwierdziły wzrost poziomu stresu w drugiej fazie u chorych na cukrzycę, podczas gdy chorzy po zawale serca skłonni byli traktować sytuację jako większe wyzwanie. Ogólny obraz zmian był wyraźnie odmienny w badanych grupach klinicznych, jednakże zarówno u chorych na cukrzycę, jak i w grupie kardiologicznej nastąpił wzrost nasilenie pozytywnego afektu i strategii rozwiązywania problemów. Zależności stwierdzone w badaniach są podstawą wstępnego wniosku, że zmiany nasilenia stresu prowadzą do zmian procesu radzenia sobie w kierunku lepszego dostosowania do wymagań sytuacji. Wyniki badań nadają się do wykorzystania w praktyce klinicznej.

Słowa kluczowe: stres, radzenie sobie, cukrzyca, zawał serca

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PSYCHOLOGICAL FACTORS IN THE ETIOLOGY OF IRRITABLE BOWEL SYNDROME

Abstract

Irritable bowel syndrome (IBS) is a disorder characterized by gastrointestinal pain and dysfunctions (e.g., diarrhea, constipation) with no evidence of organic causes for such dysfunctions. Etiology of IBS remains unclear, however, research results indicate that psychological factors are able to induce functional changes in the gut leading to IBS symptoms. This article reviews recent studies whose findings provide support for the concept of the links between cognitive and emotional processes on the one hand and the functional state of the gut on the other hand.

Key words: irritable bowel syndrome, cognitive factors, emotion, psychosomatics

Introduction

Irritable bowel syndrome (IBS) is a disorder characterized by the occurrence of gastrointestinal pain and dysfunctions (e.g., diarrhea, constipation) while no evidence of organic causes of such dysfunction can be found through different medical examinations. It is widely recognized that psychological factors may play a fundamental role in the etiology of IBS, and the syndrome itself is considered to be a psychosomatic disorder. The objective of this article is to review studies whose findings point to the links between psychological factors and the functional state of the gut, and to systematize current knowledge regarding the role of psychological factors in the etiology of irritable bowel syndrome.

IBS Is a Psychosomatic Disorder with High Prevalence and Unclear Etiology

In several epidemiological studies, the occurrence of IBS was found to be relatively common in the general population. Most studies demonstrated that this disorder affects 10-15% of the population, with the prevalence twice as high in women than in men (Grundmann, Yoon, 2010). It was also observed that IBS usually affects people under 45 years of age, however, the morbidity increases with age. IBS differs from other intestinal disorders by the absence of organic pathological changes in the gut, as detected by various medical examinations (Olbe, 2008).

It was observed that depression and anxiety may contribute to the development of the IBS symptoms (Katsinelos et al., 2009; Palsson, Drossman, 2005). Simultaneously, depression and anxiety are the most common psychiatric disorders comorbid with IBS. It was found that depression affects approximately 30%, and anxiety – approximately 16% of patients with IBS (Palsson, Drossman, 2005). The co-occurrence of anxiety or depression with IBS is also associated with more severe symptoms of IBS (Drossman, Morris, Schneck et al., 2009). It is also recognized that general health status, diet and lifestyle are among major factors responsible for the development of IBS (Cash, Chey, 2004; Palsson, Drossman, 2005).

Treatment depends on the predominant type of IBS symptoms and other co-occurring factors, such as lifestyle, diet or psychiatric disorders (depression, anxiety) (Grundmann, Yoon, 2010). As a part of the therapy, lifestyle changes are usually recommended in the first place, including doing sports and modification of nutritional habits. Different modes of psychotherapy appear to be effective in the treatment of IBS, including hypnotherapy and training of coping with stress, the effectiveness of which was estimated to be 52% and 67%, respectively (Halpert et al., 2005). When the changes introduced into the diet and lifestyle do not bring expected results, medications can also be used in the treatment of IBS. However, particular medications are chosen on the basis of the predominant IBS symptoms rather than causes. Thus, the main purpose of their use is to alleviate the symptoms. As the exact mechanism leading to the development of IBS is not yet fully known, a pharmacological treatment targeted at the cause is still not available (Grundmann, Yoon, 2010).

Cognitive and Emotional Factors Are Linked to the Etiology of IBS

The results of both clinical observations and empirical studies suggest that psychological factors – including emotional and cognitive variables – may be an important etiologic factor of IBS, leading to the development of IBS and modulation of symptoms severity. Tosic-Golubovic et al. (2010) demonstrated that patients with IBS exhibited emotional problems, such as depression and anxiety, and neurotic personality traits more frequently than healthy controls. Fowlie et al. (1992) conducted a 5-year longitudinal study of patients with IBS. The patients whose symptoms did not improve over this period, declared higher levels of anxiety at baseline and after 5 years, compared with the subgroup of patients in whom the IBS symptoms decreased. In the latter patients, a decrease in anxiety levels was also observed after 5 years, in comparison with the baseline level. The authors concluded that anxiety may be an important emotional factor responsible for persistence of the IBS symptoms. In another study, Choudhury et al. (1998) showed that repeated experience of frustration is an emotional background in the etiology of IBS, and experiences of negative emotions has a decisive part in development of this disease.

Negative emotional states were studied in patients with IBS using primarily the conceptual frameworks of stress. Basing on an extensive literature review, Searle (2001) concluded that minor daily stressful events (daily hassles) may be more strongly associated with the severity of IBS symptoms than critical life events (severe stress events). Furthermore, the exacerbation of the symptoms of the disease itself can cause distress in patients, leading to a positive feedback loop and further aggravation of the symptoms.

Rimes and Chalder (2010) proposed that the etiology of IBS may be associated with factors cognitive in nature, i.e. with beliefs about emotions (e.g., beliefs about the acceptability of experiencing or expressing negative emotions). Such beliefs are able to affect the actual processes of emotion regulation, which was documented in patients with various psychosomatic diseases, including IBS. Rimes and Chalder (2010) demonstrated that patients with chronic fatigue syndrome – another psychosomatic disorder other - held significantly stronger beliefs about unacceptability of negative emotions than healthy subjects. Janschewitz (2010) documented that other processes associated with emotion regulation – catastrophising with respect to emotional memories – was associated with the severity of somatization symptoms in patients with IBS.

Some authors proposed a hypothesis that the differences in emotion regulation observed among patients with IBS may be related to differences in the symptomatology of this syndrome. Muscatello et al. (2010) analyzed the profile of symptoms of emotional disturbances in two subtypes of IBS (the IBS subtypes were distinguished due to the predominant type of physiological dysfunction - the subtype with predominant constipation and the subtype with predominant diarrhea). These authors demonstrated that the two subtypes differed significantly with respect to the profile of depressive symptoms, anxiety, anger and quality of life. The patients with the subtype with predominant constipation revealed significantly higher levels of symptoms of emotional disturbances.

Cognitive and Emotional Factors Affect Perception of Pain in Patients with IBS

Bass (2009) suggested that psychological factors such as specific emotional states and thoughts (cognitive factors) mediate the experience of pain severity in patients with IBS. Lackner et al. (2005) showed that cognitive factors - dysfunctional beliefs - were significantly higher in patients with IBS than in standardization samples. Furthermore, it was found that dysfunctional beliefs explained approximately 11% of the variance in the experienced pain while controlling other demographic and clinical variables. It is worth noticing that dysfunctional beliefs were proposed by A. Beck in his cognitive theory of depression as the fundamental cause of depressive mood disorders. In another study, the intensity of intestinal pain in patients with IBS was experimentally demonstrated to depend on another cognitive factor - expectations. In that same study, a very strong placebo effect was shown in reducing this pain in patients with IBS (Vase et al., 2005).

Elsenbruch et al. (2010) found that disturbed emotional processes, as reflected in the symptoms of anxiety and depression, correlated with self-assessment of pain in patients with IBS, suggesting that the perception of visceral sensation in these patients is dependent on emotional factors. Mertz et al. (1995) demonstrated experimentally that a significant proportion of patients with IBS revealed a lower threshold for pain sensation from the viscera, and suggested that visceral hyperalgesia can be a reliable biological marker of IBS. In another studies it was shown, however, that the elevated sensitivity to visceral stimuli is due to the tendency to overestimate pain rather than increased neurosensory sensitivity (Dorn et al., 2007). In a recent review article on the determinants of pain sensation in patients with IBS, Elsenbruch (2011) expressed a belief that it is still unclear which psychological factors are most strongly associated with visceral hyperalgesia in these patients. At the same time this author pointed out that substantial data support the fact that the processes of emotional regulation are by far the most probable etiologic factor of pain sensation in patients with IBS.

Physiological and Genetic Mechanisms Justify the Possibility of the Causative Role of Emotional Factors in Development of IBS Symptoms

Data from the literature indicate that pain sensation and dysfunctions in peripheral organs such as the intestine may be the end result of a sequence of genetic, neural, hormonal and immunological processes initiated at the level of the central nervous system (CNS) (Elsenbruch, 2011). Kanzawa et al (2011) pointed to functional changes at the level of CNS as one of the most important pathomechanisms leading to the development of IBS symptoms. In their study, these authors showed that during a painful bowel examination, patients with IBS revealed higher activity in the anterior part of the cingulate gyrus compared with a healthy control group. This area of the brain may be involved in the production of pain sensations or emotions associated with pain.

Mayer (2001) suggested that the CNS-level changes may ultimately lead to IBS symptoms through increased reactivity of the central systems responsible for regulating the stress response and emotional processes. Physiological effects of physical and psychological stressors may be revealed through the activity of descending autonomic and neuronedocrine pathways. Mayer (2010) noted that patients with IBS showed increased activity of these systems, which lead to changes in the gut motility, immune and secretory functions. Support for these findings was also provided by another study on the relationship between emotional states and autonomic responses in patients with IBS, which demonstrated the presence of elevated sympathetic activation with reduced parasympathetic activation in these patients, and this phenomenon remained relatively independent of the global assessment of emotional adjustment in these patients (Pellissier, 2010).

Lackner et al. (2006) conducted a neuroimaging study (using PET) in patients with IBS before the beginning of the therapy and after its completion. The findings from this study showed that the process of psychotherapy was accompanied by beneficial changes in both somatic (reduction of IBS symptoms and related complaints) and emotional status (reduction of anxiety and worry), and these changes were paralleled by changes in the metabolic activity of specific regions of the brain. These areas involved the parahippocampal gurus, the lower part of the right cingulate gyrus, the pons in the left hemisphere. The authors concluded that these areas are important elements of the limbic-cortical circuits which are responsible for hypersensitivity to stimuli and emotion regulation.

Some authors emphasize that the physiological pathways between the CNS and the intestine are bidirectional. This claim is supported by findings from a study carried out by Hamaguchi et al (2004), who used PET in patients undergoing visceral stimulation during the colonoscopy. Such stimulation was found to lead to increased reactivity of specific brain areas, such as the prefrontal cortex, the anterior part of the cingulated gyrus, the parietal cortex, the insula, the pons and the cerebellum. This indicates that stimulation of the gut led to evoking of such processes as perception and emotion in the CNS.

The results of genetic studies suggest that some genes associated with CNS function may predispose to the development of psychosomatic symptoms, including IBS. Fukudo et al. (2009) suggested that the 5-hydroxytryptamine transporter (5-HTT) gene polymorphism may be associated with emotional regulation processes, in particular with experiencing anxiety by patients with IBS. It was demonstrated that people with the s allele of this gene revealed a stronger activation of the amygdala during stimulation with emotional stimuli. When elaborating on the importance of this gene for the etiology of emotional and psychosomatic disorders, Lesch et al. (2006) suggested that it may be a key gene determining the individual characteristics of emotional regulation.

Among the potential mechanisms explaining the relationship between emotional states, in particular – stress, and the development of IBS symptoms, the role of subclinical inflammation has recently been suggested (Ford and Halley, 2011). Inflammatory processes of mild severity can be induced in the membrane of the intestine in response to emotional changes that arise at the level of CNS, due to a diverse network of neuroendocrine transmitters that are able to pass the proinflammatory signals from the CNS to the gut. One of these transmitters is corticotropin-releasing factor (CRF), which is known to initiate various components of the stress response in the brain, including those leading to visceral changes (Kiank et al. 2010). In animal models of IBS, chronic stress was shown to induce mild inflammation in the intestine of rats, and the process was mediated by mast cell degranulation (Vicario et al. 2010). Some authors underline the this process may significantly depend on pro-inflammatory cytokines (Goral et al. 2010, Barkhordari et al. 2010) and neuropeptides whose release can be modulated by the nervous system, a mechanism similar to that already described in the literature with respect to neurogenic inflammation in the skin (Arc et al., 2010). The cytokines which may be important in the etiology of IBS include: interleukin (IL) -1β, IL-6, tumor necrosis factor-α, IL-8, IL-10 and transforming growth factor-β (Spiller et al. 2006).

Psychotherapy Can Be Effective in the Treatment of IBS

The existence of links between IBS etiology and cognitive and emotional factors justifies an inference that the psychotherapeutic interventions aimed at modification of non-adaptational psychological mechanisms would lead to improvement in the symptoms of IBS. The results of empirical studies carried out so far seem to support this hypothesis. Most reports confirm the effectiveness of cognitive-behavioral psychotherapy in the treatment of IBS, and the presence of the improvement obtained as a result of the psychotherapeutic intervention is usually observed also in long term follow-ups (Blanchard, 2005). It is believed that the therapeutic effect of cognitive-behavioral therapy for IBS is indirect – the changes in cognitive and behavioral patterns cause positive changes in mood and emotional processes, and the latter in turn lead to reduction of IBS symptoms.

In addition to cognitive-behavioral therapy, some other psychosocial intervention techniques were also demonstrated to exert a positive impact on IBS. Kuttner et al. (2006) showed that yoga exercises performed for a period of one month were associated with a reduction of symptoms from the alimentary tract in adolescents with IBS. At the same time a decrease was observed in the frequency of using avoidance strategies of coping with stress. Kraft et al. (2007) described in detail a case of the patient with IBS in whom psychotherapy and hypnotherapy sessions focused on emotional problems, led to complete withdrawal of IBS symptoms.

However, not every type of psychological interventions proved to be effective in reducing symptoms of IBS. For example, a therapeutic "disclosure" in the form of writing about personal experience of psychological trauma, turned out to have no effect on the severity of somatic symptoms of IBS, in spite of the fact that positive effects of such therapy had been documented with respect to the symptoms of some other somatic diseases (Siegel 2004).

Conclusion

The literature review presented above allows for the conclusion that psychological factors are an important etiological factor in IBS and should be a target for psychological interventions undertaken in the treatment of this syndrome. It should be noted that the results of the studies linking emotional and cognitive factors with development and severity of IBS symptoms remain at a relatively general level. Psychological factors in these studies are defining and operationalized in relatively broad terms of stress, anxiety, depressive symptoms or coping with stress. Only a few studies have recently attempted to exert more analytical precision when isolating the particular emotional or cognitive processes implicated in the etiology of IBS, focusing on narrower variables such as catastrophizing (Janschewitz, 2010), beliefs about the acceptability of experiencing or expressing negative emotions (Rimes, Chalder, 2010), or dysfunctional beliefs (Lackner et al., 2005). Meanwhile, the current state of psychological knowledge allows for identification and measurement of a much broader repertoire of important emotional and cognitive processes and their properties. The use of modern diagnostic methods and experimental paradigms in the study of psychosomatic aspects of IBS can significantly contribute to a more precise understanding of the specific etiologic mechanisms in this disease.

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Czynniki psychologiczne w etiologii zespołu jelita drażliwego

Streszczenie

Zespół jelita drażliwego (IBS) to zaburzenie charakteryzujące się bólami brzucha i zaburzeniami funkcjonalnymi układu pokarmowego (np. biegunka, zaparcia) bez dowodów przyczyn organicznych takich dysfunkcji. Etiologia IBS pozostaje niejasna, jednak wyniki badań wskazują, że czynniki psychologiczne są w stanie wywoływać w jelicie zmiany funkcjonalne prowadzące do objawów IBS. W niniejszym artykule dokonano przeglądu ostatnich badań, których wyniki dostarczają poparcia dla koncepcji powiązań między procesami poznawczymi i emocjonalnymi a stanem funkcjonalnym jelita u chorych z IBS.

Słowa kluczowe: zespół jelita drażliwego, czynniki poznawcze, procesy emocjonalne, psychosomatyka

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PSYCHOLOGICAL ASPECTS OF DIABETES IN CHILDREN AND ADOLESCENTS

Abstract

Diabetes mellitus is one of the most common chronic children's diseases that significantly affect not only physical but also psychical and social well-being of patients and their families. The deterioration of health due to diabetes mellitus type 1 (DMt1) is comparable to that seen in children and adolescents suffering from cystic fibrosis or leukemia. The goal of therapy, particularly in chronic diseases such as DM, is to increase the quality of life to make it as satisfying and functional as possible. Children and adolescents with DMt1 are at risk of adaptive problems. Psychological disorders such as depression and fear are common, especially during puberty. Factors associated with higher incidence of depressive symptoms include demographic, diabetes-specific and family functioning variables. Depression prevalence in adolescents with DM is two to three times higher than in general population. Depression has adverse influence on the consequences of diabetes and quality of life. It is associated with increased co-morbidity and an increased mortality risk. The influence of depression on health-related quality of life in diabetic patients younger than 15 years proved to be greater than that of diabetes itself. Whereas children with poor glycemic control, recurrent hypoglycemia or diabetic ketoacidosis were more prone to psychiatric disorders than children with good metabolic control. There is no consensus about screening for depression in diabetic patients. However, special attention must be paid to psychical functioning of youngsters with DMt1 and their families, with close collaboration between diabetologists and psychologists.

Key words: diabetes mellitus, children, adolescents, psychological problems

Introduction

Diabetes mellitus is one of the most common chronic children's diseases that significantly affect not only physical but also psychical and social well-being of patients and their families.

Diabetes mellitus type 1 (DMt1) accounts for more than 90% of children and adolescent diabetes cases and its incidence is on the increase. In addition, diabetes mellitus type 2 is becoming more common, especially in overweight adolescents (ISPAD, 2007).

The goal of therapy, particularly in chronic diseases such as diabetes mellitus, is to improve the quality of life with regard to its physical and psychological aspects as well as to make it as satisfying and functional as possible. The main indicators of quality of pediatric diabetic care are metabolic control and the incidence of acute and chronic complications (Cameron, 2003).

Therapy of DMt1 requires a complex and demanding behavioral regimen, including intensive insulin therapy, diet, physical activity and self-blood-glucose monitoring regime. The acceptance of the diagnosis facilitates education, integration of self- care into patients' lifestyle and everyday duties and a strict metabolic control in order to avoid potential complications. This is a difficult task for both, ill children and their families as well. That is why psychological adjustment plays an important role in diabetes management (ISPAD, 2007).

Diabetes-related emotional distress may influence adherence to self care, metabolic control and occurrence of complications. Insulin treatment and fear of hypoglycemia are the main sources of diabetes-specific emotional distress. Patients with DMt1 are completely dependent on insulin for survival. There is an agreement among experts concerning optimal metabolic control – children should achieve the lowest HbA1c values allowing to avoid prolonged hyperglycemia and severe hypoglycemia (Wild, von Maltzahn, Brohan et al., 2007). The adverse effect of hypoglycemia on brain function raises a special concern. Particularly small children with diabetes (younger than 5 years of age) are at risk of hypoglycemia and neurocognitive deficits. Even mild to moderate hypoglycemia influences negatively quality of life and psychical development. Recurrent severe hypoglycemic episodes may damage permanently child's developing brain. Deterioration in verbal intelligence and memory skills has important implications with regard to education and psychosocial functioning.

Diabetic children and their parents should be educated carefully to be able to keep balance between insulin administration, food intake and physical activity in order to achieve near normoglycemia and avoid hypoglycemic episodes.

Many newly diagnosed diabetics go through the typical stages of mourning. These are: denial, anger, depression and acceptance (Cameron, Northam, Ambler et al., 2007).

Denial – is an attempt to reject the reality of the stressful situation. This can be one of the more dangerous stages of grief process. It may occur only once but many individuals cycle back to this phase several times. The honeymoon phase, associated with early DMt1, may reinforce denial. Denial is correlated with behavioral disengagement and drug abuse. It is one of the passive coping strategies, while acceptance is the active one.

Depression - Mild depressive feelings constitute normal part of grieving and adaptation. As long as they are not pervasive or prolonged, they may not be harmful. However, when they become severe or interfere with diabetic management, therapeutic intervention is necessary.

Acceptance - Individuals achieve different degrees of acceptance and inner peace. Some will need to experience the denial, anger and depression several times during different phases of life and different stages of diabetes. Some people move through chronic disease to a state of much greater self-knowledge.

Adjustment problems after the diagnosis of diabetes are common. Those patients who do not resolve these problems within the first year are at risk of poor adaptation to diabetes and psychosocial difficulties. Moreover, many mothers of the newly diagnosed children are at risk of adaptation problems and it is estimated that approximately one third of them manifest depressive symptoms. Psycho-educational interventions directed at children and their parents in order to promote problem-solving coping strategies and support parents early in the course of the diabetes may improve long-term outcomes. (Wysocki, Harris, Greco et al., 2000)

Coping Strategies

Coping has been defined as a response to stressful life events to diminish the physical, emotional and psychological burden. It means constant involvement of cognitive, behavioral and emotional efforts to manage particular problem (Fisher, Thorpe, Devellis et al., 2007).

Coping process plays a key role in the psychosocial and physiological adjustment to diabetes. Coping strategies are separated into problem-focused (patients try to mobilize their resources to manage the situation caused by the disease) and emotion-focused (patients try to channel their emotions by acting and thinking). Both types of coping strategies may be used simultaneously or alternately.

When chronic illness is associated with controllable factors, patients tend to introduce problem-focused solutions in order to manage their disease. In case of diabetes, this type of coping strategy is useful in managing the therapeutic procedures such as insulin therapy regimen, maintaining healthy diet and exercise, and blood glucose control.

Previous research proved that problem-focused coping strategies are associated with less anxiety, while emotion-focused ones may be less adaptive and are associated with more anxiety (Snoek, Skinner, 2002). The most often used problem-focused coping strategies were acceptance, planning, religion, positive reframing, using instrumental support and emotional support. Instrumental and emotional support means seeking assistance, information or advice to solve a stressful problem. This might stimulate adaptation to the illness process and decrease anxiety. Anxiety was also found to be negatively correlated with self-distraction and venting as emotion-focused coping strategies. Venting enabled not only to release unpleasant feelings but also to get an effective response from others. This observation suggests that health professionals should provide opportunities for expression of patients’ complaints.

Patients with diabetes who wish to cope actively with all highly demanding procedures of diabetes treatment may at the same time blame themselves for not achieving the expected results. It may stimulate active coping on one hand, but may cause the sense of guilt or even depression, on the other hand.

Concluding, the adaptive qualities of various coping strategies must be evaluated in their specific context.

The constant stress of maintaining strict glycemic control can result in two types of psychological distress: subclinical emotional distress and diagnosable psychiatric disorders with affective and anxiety disorders being more often diagnosed than in the general population. Depression and anxiety accounts for about 50% of psychiatric disorders in patients with diabetes. It is important to evaluate mental health of diabetic patients while planning therapy in order to provide optimal treatment and psychosocial service (Cameron, Northam, Ambler et al., 2007).

Depression

Depression is not regarded as a complication of diabetes. However, it should be taken into consideration as a complication of this chronic illness. The rate of depression in diabetics is much higher than in the general population. In cross-sectional studies it was recognized in 10-26% of patients using both self and/or parent report (Hood, Huestis, Maher et al., 2006).

The course of depression in type 1 diabetic youths may be more chronic and severe, while the recurrence rates are higher in female, but not male subjects. Maternal psychopathology constitutes a significant risk factor for the child’s depression.

Depression has adverse effects on metabolic control (Lustman, Anderson, Freedland et al., 2000). Depressed individuals may not have the energy or motivation to maintain good diabetic management. Depression is often associated with unhealthy changes in appetite. The stress of depression itself may also lead to hyperglycemia in diabetics.

Overlapping of symptoms of poor metabolic control (fatigue, weight loss, memory impairment) and depression may delay and complicate the diagnosis. Fluctuations in blood glucose levels (hypo- and hyperglycemia) cause behavior and mood alterations. Screening for depression according to typical symptoms is based on the Diagnostic and Statistical Manual of the American Psychiatric Association, 4th Edition (DSM-4) (American Psychiatric Association, 1994).

1. Depressed mood for most of the day
2. Decreased pleasure in normal activities
3. Problems with sleep or significantly increased need to sleep
4. Weight loss or weight gain
5. Feelings of guilt or worthlessness
6. Low energy level
7. Difficulty in decision making and concentration
8. Suicidal thoughts

Treatment of anxiety and depression may lead to improvement in metabolic control, better medical prognosis as well as better quality of life (Lustman, Anderson, Freedland et al., 2000).

A combination of treatment with antidepressants and psychotherapy is more effective. Cognitive psychotherapy is one of the methods that have demonstrated good results in case of depression. In this type of therapy, the individual identifies thought patterns associated with a depressive, hopeless outlook. These thought patterns are frequently based on erroneous assumptions about oneself and diabetes. The therapist helps the patient to monitor such thoughts and to replace them with more effective, positive ways of thinking. Cognitive therapy can also be helpful in non-depressed individuals who are having trouble with their diabetic management (Rossello, Jimenez-Chafey, 2006).

Stress and Anxiety Disorders

Diabetes can induce serious psychological stress. Patients with DMt1 experience more anxiety than patients with diabetes type 2, because of the highly demanding and challenging regimen associated with absolute insulin dependency. (Cameron, Northam, Ambler et al., 2007).

Anxiety disorders are an exaggerated emotional response to normal fears. Patients with diabetes and their parents often live with higher level of fear than those without diabetes experience. Specific common anxieties include fear of hypoglycemia, long-term complications, and the influence of diabetes on everyday life. Patients having fear of hypoglycemia may present “over-compensatory behaviors” such as diminishing insulin doses or overeating leading to deterioration in metabolic control.

Both, the diagnosis of diabetes and the onset of diabetes-related complications require major psychological adjustment. Studies confirm that greater diabetes-related emotional distress is associated with younger age, female gender, higher HbA1c, lesser adherence to diet, exercise and therapeutic regimen and more frequent blood glucose testing (Cameron, 2003).

Stress negatively affects glycemic control, directly through the action of stress hormones (adrenaline and cortisol mobilize glucose and fatty acids from energy stores) and through deterioration of self-care behaviors. Stress responses present individual variability. Diabetics who were participating in stress management training and relaxation training programs showed significant improvement in blood glucose control (Snoek, Skinner, 2002).

Eating Disorders

Diabetic youths, particularly females, are at increased risk of eating disorders (ED). ED are about twice as common in adolescent females with DMt1 while compared to non diabetics. It is estimated that up to one third of young women with DMt1 have eating disturbances such as full-symptomatic anorexia nervosa, bulimia nervosa or sub-threshold, but clinically relevant, milder eating disturbances with lower frequency or severity of symptoms (Jones, Lawson, Daneman et al., 2000).

The eating disorders examination is based on semi-structured diagnostic interview that quantifies the symptoms, behavior and psychopathology of eating disorders. The diagnosis is established according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), which is currently considered the gold standard for the assessment (American Psychiatric Association, 1994).

Certain personality characteristics, such as neuroticism, perfectionism, and impulsivity, predispose to the development of ED. Neurotic perfectionism tends to set unrealistic standards and rigorous self evaluation which is recognized as a major predisposing factor for the development of ED. A significant number of patients with ED, especially with bulimia nervosa, have borderline personality disorder. It is characterized by poor impulse control, low self-esteem, self-mutilation, self-aggression and emotional liability. Noncompliant diabetic patients, especially those with poorer long-term clinical outcomes, often fulfill the criteria for borderline personality disorder (Pollock-BarZiv, Davis, 2005).

In most cases ED develop after the onset of diabetes, which suggests that the focus on food and rigid dietary regimen may be contributing factors. Moreover, the fluctuation of body weight - weight loss at the disease onset and subsequent weight gain with the initiation of insulin therapy and the tendency towards higher body mass index have been postulated to increase the risk of ED. The most commonly used method of weight reduction, next to dieting, is omission or underdosing of insulin. The availability of this method of weight control may be the reason for low prevalence of other purging behaviors, such as use of laxatives and self-induced vomiting (Goebel-Fabbri, Fikkan, Franko et al., 2008).

Diabetic women with concomitant ED may present less recognized features of eating disturbances such as noncompliance with diabetic therapy, unstable metabolic control, hyperglycemia and recurrent ketoacidosis and an earlier onset of diabetic complications.

Cumulative incidence of eating problems continues to increase through adolescence and is strongly associated with poor metabolic control and subsequent complications of diabetes. Moreover, diabetic patients with ED reveal much more severe psychopathology when compared to diabetics without ED and are at higher risk of morbidity and mortality (Goebel-Fabbri , Fikkan, Franko et al., 2008).

Self-destructive Behaviors

“Self-destructive behaviors” in diabetic patients are the behaviors most commonly observed in adolescents. These include chronic or periodic serious mismanagement of diabetes, resulting in extremely high HbA1c levels, recurrent diabetic ketoacidosis and/or hypoglycemia (Hood, Huestis, 2006).

Psychological Counseling in Problematic Diabetes

Recent studies proved that psychotherapy may relieve emotional distress in patients with diabetes and coexistent depression or anxiety disorders. Individual psychotherapy, family therapy and medical management employed simultaneously should be effective. (Snoek, Skinner, 2002)

A wide range of psychotherapeutical interventions may be introduced in problematic diabetes – cognitive behavioral therapy, behavioral family therapy, improving family communication, problem solving-skills. Family should be included as an integral part of treatment. Family-based behavioral procedures such as goal-setting, self-monitoring, positive reinforcement, supportive parental communications and appropriately shared responsibility for diabetes management improve adherence to the therapeutic regimen and glycemic control requirements. They should enhance self-responsibility and self-care behaviors in patients. Additionally, they may improve the parent-adolescent relationship. Stress management and coping skills trainings reduce diabetes-related anxiety. (Delamater, Jacobson, Anderson, 2001; Wysocki, Harris, Buckloh et al., 2006).

Conclusion

The guidelines established by the International Diabetes Federation and World Health Organization as part of the St. Vincent Declaration Action program (Krans, Porta, Johansen, 1995) state that both, health care professionals and patients, should have access to a psychologist as an integrated team member, because treatment of diabetes is teamwork.

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Psychologiczne aspekty cukrzycy u dzieci i młodzieży

Streszczenie

Cukrzyca jest jedną z najczęstszych chorób przewlekłych wieku dziecięcego, która ma istotny wpływ nie tylko na zdrowie fizyczne, lecz również psychiczne a także funkcjonowanie społeczne pacjentów i ich rodzin. Zaburzenia stanu zdrowia dzieci i młodzieży z cukrzycą typu 1 (DMt1) jest porównywalne do tych, które towarzyszą mukowiscydozie i białaczce. Celem leczenia, szczególnie chorób przewlekłych takich jak cukrzyca, jest podwyższenie jakości życia. W grupie dzieci i młodzież z DMt1 istnieje ryzyko trudności adaptacyjnych. Zaburzenia psychiczne, takie jak depresja i zaburzenia lękowe, są częste, szczególnie w okresie dojrzewania. Wyższa zapadalność na depresję jest uzależniona od czynników demograficznych, problemów związanych z cukrzycą oraz funkcjonowaniem rodziny w sytuacji choroby przewlekłej. Częstość występowania cukrzycy wśród młodzieży z cukrzycą jest dwa do trzech razy większa w stosunku do ogólnej populacji. Depresja wpływa negatywnie na wyrównanie cukrzycy i jakość życia. Kojarzy się ze zwiększoną chorobowością i śmiertelnością. Udowodniono, że negatywne oddziaływanie depresji na jakość życia pacjentów z cukrzycą w wieku poniżej 15 lat było bardziej istotne niż samej cukrzycy. Natomiast pacjenci z niedostateczną kontrolą metaboliczną, nawracającymi stanami hipoglikemii i kwasicy ketonowej byli bardziej predysponowani do zaburzeń psychicznych niż dzieci z cukrzycą dobrze kontrolowaną. Dotychczas nie ustalono wytycznych, dotyczących badań przesiewowych w kierunku depresji u pacjentów z cukrzycą. Należy zwrócić szczególną uwagę na aspekt psychiczny życia młodzieży z cukrzycą typu 1 i ich rodzin oraz konieczność współpracy diabetologa i psychologa.

Słowa kluczowe: cukrzyca, dzieci, młodzież, problemy psychologiczne

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QUALITY OF LIFE IN WOMEN WITH URINARY INCONTINENCE

Abstract

Urinary incontinence (UI) is one of the most common diseases in women. It involves uncontrolled leaking of urine through the urethra. The incidence depends on age, yet in certain age groups it can affect up to 60 per cent of the female population. The symptoms can persist, and due to an embarrassing nature they can lead to a significant deterioration of quality of life and psychological performance. The aim of this study was to assess quality of life of women with UI and to investigate the relationship between quality of life and selected aspects of functioning. Seventy female patients with symptoms of UI attending the Outpatient Clinic of the University Hospital No. 1 in Lublin and Outpatient Clinic in Nałęczów were examined. The study used the following methods: Urinary Incontinence Life Quality Scale by K. Szymona-Pałkowska and J. J. Kraczkowski, Disease-Related Appraisals Scale by K. Janowski and S. Steuden, Coping Inventory for Stressful Situations by Endler and Parker, Disease-Related Social Support Scale by M. Brachowicz, K. Janowski and M. Sadowska as well as Knowledge Appraisal Scale for Urinary Incontinence by K. Szymona and J. J. Kraczkowski. The structure of quality of life in patients with UI was described. Three factors were isolated: psychological well-being, physical and social well-being and independence from symptoms. Women with low quality of life were most likely to perceive their own disease in a negative light as a threat, obstacle, harm and attributed higher overall importance to the disease. A longer duration of UI was associated with worse quality of life. In difficult circumstances, women with low quality of life typically used an emotion-oriented coping style and a task-oriented coping style. A higher level of knowledge about the disease and higher abilities to use support were linked to higher quality of life.

Key words: quality of life, urinary incontinence, perception of one's own disease, support in disease

Introduction

Urinary incontinence (UI) is one of the most common ailments in women. It consists in uncontrolled leakage of urine through the urethra (Radziszewski, Dobroński, 2008; Starczewski et al., 2008). Epidemiological data suggest that these symptoms involve 4 to 10 per cent of women aged 20 and older and up to 60 per cent of women older than 60 worldwide (Starczewski et al., 2008; Tincello et al., 2010). These figures can be higher as many women will not reveal their experience deeming it embarrassing. UI affects also the male population, yet the incidence is lower amounting to 15-20% and affects mainly older men (Miu et al., 2010). Observable gender differences in occurrence and severity of the symptoms are conditioned primarily by the anatomy of the urogenital system as well as their causes. Factors that give rise to the symptoms in women include mainly childbearing, especially those births that damage the nerve and muscular structure in the region of pelvic floor, urogenital surgeries, insufficient or excessive physical activity, radiotherapy, obesity, atrophy of the urogenital system (urethral relaxation). In men the main factor is hypertrophy of the prostate and radiotherapy. Both for males and females, the risk factors that cause and/or exacerbate the symptoms include infections, wrong diet, the use of stimulants, diseases of connective tissue, neuropathies, constipation, diabetes and diseases which increase abdominal pressure. Due to the sheer number of causes of UI, this disease can have different courses.

The Standarization Committee of the International Continence Society distinguishes the following types of UI: stress incontinence, urgency incontinence (hyperactive bladder), mixed UI, other types of UI. This disease is not life threatening, but it leads to numerous complications and greatly limits somatic, social and psychological coping. The symptoms of an uncontrolled passage of urine are particularly unpleasant to the sufferer as her control over them is limited. Urine is a liquid of disagreeable odour, hence the person is embarrassed wishing not to be a nuisance and fearing that others may interpret their condition as lack of personal hygiene.

From the social and subjective perspective, this disorder is embarrassing, therefore the sufferers seek specialist advice late, not complaining about the symptoms mostly due to shame and embarrassment (Eyigor, 2010; Hale et al., 2009; Simeonova et al., 1999), fear of diagnosis, fear of lack of understanding, critical attitudes or rejection. Studies suggest that women delay seeing a specialist trying to cope on their own by experimenting with various medicines, controlling and hiding symptoms (Hale, 2009). The degree of awareness often makes women hide the symptoms because many of them believe UI to be a natural consequence of childbearing and aging and pads conveniently hide the first symptoms, while friends and family members treat such symptoms as natural (Hale et al., 2009; Margalith et al., 2004).

Early recognition of the symptoms makes it possible for the disease to be fully cured in many cases, reduces the symptoms, and inhibits the disease. Ignoring or hiding the first symptoms and failure to start early treatment typically leads to aggravation of one's health (exacerbation of the symptoms and complications such as recurring inflammations of the urinary tract). UI patients often display a lack of self-confidence, limit their social networks to a minimum, and give up their participation in social and professional spheres of life. Poorer health causes discomfort, poorer mental and physical condition, or even depressions. It changes motivation for treatment, causes people to give up work and stay at home (Tincello et al., 2010). At an early stage, personal hygiene, mobility or daily activity do not pose a significant problem. At a later stage, the sensory capability to detect leaked urine is decreased and self-care or personal hygiene is poorer – all leading to the patient leaving an unpleasant odour. Such individuals are subject to malicious remarks, rejection or even social exclusion. Increased symptoms are linked with other medical disorders. This causes stress for caregivers and increases cost of treatment (Miu et al., 2010; Riss, Kargl, 2011). Money spent in this way deteriorates the patient's financial condition, or her family's (including money used to buy pads, medicines or earlier retirement) as well as depletes the State budget (reimbursement of treatment and medication costs, disability benefits). The biggest problem reported, apart from somatic symptoms, is a bad psychical state (anxiety, lowered mood) and significant discomfort and embarrassment (Hale et al., 2009, Tincello et al., 2010).

The aim of this study was to assess quality of life in women with UI. The following research questions were asked:

1. What is the structure of quality of life in women with UI?
2. Is there a relationship between quality of their life and coping in difficult situations?
3. Is there a relationship between quality of their life and subjective perception of their disease?

4. Is there a relationship between quality of their life and social support?
5. Is there a relationship between quality of their life and their knowledge of the disease?

The study results will hopefully extend general knowledge and social awareness of the issue. It should be possible to design prophylactic programmes which will cause incontinence sufferers to report to specialists and help change their attitude to the symptoms thus combating social marginalisation and exclusion of such individuals.

Methodology

Participants

The study was carried in the Lublin Region, Eastern Poland, covering 70 women aged between 32 and 79 with symptoms of UI. Their mean age was 53.4, and about 60% of them were diagnosed with stress UI and 30% with urgency incontinence or the mixed type. These proportions are representative for the incidence of the presented types of incontinence in the population. 54% of the subjects had secondary education, 21% tertiary, 14% vocational and 10% primary. Two groups were isolated, namely those women who have experienced the symptoms from 1 to 3 years, and those whose experience of the symptoms is longer than 3 years. The examined women informed their husbands (43%), their children (37%), other family members (9%), friends (7%). As many as 31% conceal the symptoms of uncontrolled leakage from their closest family, but as few as 4% do not hide the symptoms at all.

Methods

1. Urinary Incontinence Life Quality Scale – developed by K. Szymona-Pałkowska and J. J. Kraczkowski

The scale for measuring quality of life with UI includes 44 statements concerning various difficulties to be encountered by a person who has accompanying thoughts and fears or experiences changes in their personal life and career, or is otherwise limited, forced or controlled. The statements are based on the findings of the first pilot studies run in 2008. The subject assesses her experience on a five-point scale (always, often, sometimes, rarely, never). The total score is a sum of scores gained for the 44 items. If the total score is low it means that the quality of life is low and the person focuses on the symptoms, has a feeling of compulsion and control, and that she has to give up certain things. The general state of the sufferer is worse. A high total score translates as good adaptation, good state, satisfaction, no limitations caused by the disease. The scale was subjected to factor analysis in order to isolate specific areas that refer to quality of life with UI.

Table 1 presents the properties of the factors extracted in factor analysis. The first three main factors explaining 51% of the test variance were accepted as the basis for the subscales. The remaining factors were rejected as they contained too few items, making it impossible to build up a subscale. Factor I consisted of 18 items, with Cronbach’s alpha = 0.967, Factor II included 13 items with Cronbach’s alpha = 0.945, and Factor III had 5 items with Cronbach’s alpha = 0.829.

Factor I was labelled *Psychological Well-Being* and contains 18 statements whose content concerns mainly emotional coping and internal tension that highly-focused sufferers may experience. A high score on Factor I denotes a low level of fear connected with the symptoms, peace and autonomy of decisions. A low score signifies excessive concentration on the symptoms, sense of threat, anxiety, overly concern and lack of security, and often frustration. This results from high significance attributed to the symptoms in the sufferer's mind. Constant worrying is linked to helplessness.

Table 1. Eigenvalues and percent of variance explained by the extracted factors for Urinary Incontinence Life Quality Scale.

Factor	Eigenvalues	% of explained variance	Cumulative % of explained variance
1	10.905	24.234	24.234
2	7.730	17.179	41.413
3	4.359	9.687	51.100
4	3.041	6.757	57.856
5	2.663	5.917	63.774
6	2.022	4.493	68.267
7	1.967	4.371	72.637

Factor II – labelled *Physical and Social Well-Being* – consists of 13 items. It includes mainly statements regarding attractiveness, joy of life, disease-related deterioration of physical ability, smell, sexual performance and social life. A high score on Factor II signifies self-confidence, retained joy of life and satisfaction. A low score denotes a feeling of shame, less agility and lower attractiveness, little joy of life, a lot of renouncement and losses (sense of smell, social life, sexual contacts).

Factor III (*Independence from Symptoms*) consists of 5 statements related to the technical and descriptive aspect of the symptoms. A high score is indicative of low-level symptoms, insignificant changes due to the disease and low limitations in daily life. A low score on the scale suggests occurrence of numerous behavioural changes resulting from the symptoms, such as controlling the bladder, thinking about the bathroom, observed internal control of this sphere and compulsion.

2. Disease-Related Appraisals Scale – developed by Janowski and Steuden (Janowski et al., 2009).

This is a self-report measure of six modes of cognitive appraisals attributable to one's own disease: Threat, Profit, Obstacle/loss, Challenge, Harm, Value. The appraisals are conceptualized as individual meanings the patients can attribute to their disease. The questionnaire also contains one control subscale, Importance, measuring the overall significance of the disease, as perceived by the patient. The scale was originally developed to operationalize the concept of cognitive appraisal of the stressful situation as proposed by Lazarus and Folkman, however, with specificity to disease-related stress. The development study was conducted on the population of patients with various diseases, and since then the scale has been validated in several clinical populations, including patients with psoriasis, systemic sclerosis, cardiovascular disease, infertility, asthma and type I diabetes. The reliability coefficients for particular subscales, evaluated in a validation study in patients with different diseases, ranged from 0.64 to 0.87. The theoretical validity of the questionnaire was confirmed by factor analysis and its scores were shown to be independent of the social desirability variable (Janowski et al., 2009).

3. Coping Inventory for Stressful Situations (CISS, authored by Endler and Parker, Polish adaptation by Szczepaniak, Strelau, Wrześniewski).

The Inventory consists of 48 statements relating to different behaviours that people may exhibit under stressful circumstances. On a five-point scale, the examinee assesses the frequency of undertaken actions in difficult and stressful situations. The results are captured on three scales: Task-Oriented coping style, Emotion-Oriented coping style and Avoidance-Oriented coping style. The latter style can have two subcomponents: Distraction and Social Diversion.

4. Disease-Related Social Support Scale by M. Brachowicz, K. Janowski, M. Sadowska

The instrument consists of 30 self-report items developed to measure perceived levels of social support available of the patient over the period of their being ill in five dimensions distinguished by Sęk and Cieślak (2000): instrumental, informational, material, emotional, and spiritual. The scores can be calculated for the five dimensions of social support and for the total score. Reliability of this instrument was found high: Cronbach's alpha = 0.94 and split-half reliability = 0.92 for the total score. Respondents provided answers to the statements on a 4-grade scale. Higher scores denote higher levels of social support as perceived over the period of being ill.

5. Knowledge Appraisal Scale For Urinary Incontinence by K. Szymona-Pałkowska, J. J. Kraczkowski

This method includes 25 statements concerning UI, its causes, predisposing and symptom-promoting factors, nature of treatment, refunding by the National Health Fund. The statements were formulated on the basis of data in the literature (Radziszewski Dobroński, 2008) and results of pilot studies carried out in the local hospitals of Lublin in 2008-2009. The subject was to assess whether a given statement was true (True, Don't know, False). The scores can range from 0 to 25 with higher values indicating higher levels of knowledge on UI.

Results

Quality of Life and Coping Styles in Women with UI

For the assessment of the relationship between quality of life in women with UI and coping styles Pearson's correlation coefficients were calculated (Table 2). The obtained results showed that a high value of the total score for the Life Quality Scale correlated significantly with Task-Oriented style with r=-0.46 and P<0.05 as well as with Emotion-Oriented style with r=-0.42 and P<0.05. Women with high quality of life use Task-Oriented and Emotion-Oriented styles. They also tend to use Social Diversion (r=0.38, P=0.059).

Table 2. Pearson's correlation coefficients between coping styles and quality of life in women with UI.

	Total score		Psychological Well-Being		Physical and Social Well-Being		Independence from Symptoms	
	r	*P*	*r*	*P*	*r*	*P*	*r*	*P*
Task-Oriented	**-0.46**	0.019	**-0.47**	0.016	-0.30	n.s.	**-0.41**	0.039
Emotion-Oriented	**-0.42**	0.035	**-0.51**	0.008	-0.31	n.s.	-0.08	n.s.
Avoidance-Oriented	0.14	n.s.	0.18	n.s.	0.07	n.s.	0.26	n.s.
Distraction	-0.08	n.s.	-0.08	n.s.	-0.03	n.s.	0.07	n.s.
Social Diversion	0.38	0.059	**0.40**	0.046	0.24	n.s.	**0.45**	0.020

Psychological Well-Being correlated with Emotion-Oriented style (*r*=-0.51 and *P*<0.01), with Task-Oriented style (*r*=-0.47 and *P*<0.05) and Social Diversion (*r*=0.39 and *P*<0.05). The same layout as for the Overall Score for quality of life is observed, but these relations are stronger, which suggests that this trend is particularly relevant for the emotional aspect of life quality. No statistically significant correlations were found between Physical and Social Well-Being and coping styles in difficult circumstances. Independence from Symptoms correlated statistically significantly with Task-Oriented style: *r*=0.45, *P*<0.05.

Quality of Life and Disease-Related Appraisals in Women with UI

Table 3 presents correlation coefficients between the subjective appraisals of UI and quality of life. Quality of life (the total score and scores on factors I, II and III) correlated highly significantly with the perception of one's disease as Threat, Obstacle, Harm and with overall importance attributed to the disease. These correlations were negative which means that low quality of life implies a subjective appraisal of one's own disease as a threat, obstacle, harm and an event of significant importance.

Table 3. Correlation coefficients and statistical significance levels for Disease-Related Appraisal Scale and UI Life Quality Scale.

	Total score		Psychological Well-Being		Physical and Social Well-Being		Independence from Symptoms	
	r	*P*	*r*	*P*	*r*	*P*	*r*	*P*
Threat	**-0.49**	0.000	**-0.52**	0.000	**-0.36**	0.003	**-0.44**	0.000
Profit	-0.13	n.s.	-0.13	n.s.	-0.08	n.s.	-0.20	n.s.
Obstacle	**-0.55**	0.000	**-0.55**	0.000	**-0.49**	0.000	**-0.44**	0.000
Challenge	-0.06	n.s.	-0.15	n.s.	0.09	n.s.	-0.12	n.s.
Harm	**-0.58**	0.000	**-0.54**	0.000	**-0.59**	0.000	**-0.43**	0.000
Value	-0.14	n.s.	-0.18	n.s.	-0.01	n.s.	**-0.25**	0.038
Importance	**-0.33**	0.007	**-0.37**	0.002	**-0.35**	0.005	- 0.08	n.s.

A careful analysis reveals a strong relationship between quality of life in the domain of Psychological Well-Being and the perception of one's disease as Obstacle (*r*=-0.55, *P*=0.001), Harm (*r*=-0.54, *P*<0.001), Threat (*r*=-0.52, *P*<0.001), and a moderate correlation with attributed Importance (*r*=-0.37, *P*<0.01). A poor mental state, concern about oneself and the development of the disease, constant worrying about the symptoms are all related to the perception of the disease in a negative light.

Similar relationships hold true for Physical and Social Well-Being which correlated with the disease perceived as Harm (*r*=-0.59, *P*<0.001), as Obstacle (*r*=-0.49, *P*<0.001), Threat (*r*=-0.36, *P*<0.005) and Importance (*r*=-0.35, *P*<0.005). Independence from Symptoms had the strongest correlations with the disease appraised as Threat (*r*=-0.44, *P*<0.001), Obstacle (*r*=-0.44, *P*<0.001) and Harm (*r*=-0.426, *P*<0.001). It is the only quality of life domain that had a statistically significant correlation with the perception of the disease as Value ($r=-0.25$, $P<0.05$).

Quality of Life and Social Support in Women with UI

The results of the correlation analysis between quality of life and perceived social support are presented in Table 4. The analyses carried out demonstrate a moderate link between quality of life and emotional ($r=0.34$, $P<0.01$), material ($r=0.29$, $P<0.02$) and spiritual support ($r=0.25$, $P<0.05$). Similar relationships were observed between Physical and Social Well-Being and the following types of perceived support: emotional ($r=0.42$, $P<0.001$), spiritual and material ($r=0.34$, $P<0.01$), instrumental ($r=0.32$, $P<0.01$) and the overall index of support ($r=0.28$, $P<0.05$).

Table 4. Pearson's correlation coefficients between social support and quality of life in women with UI.

	Total score		Psychological Well-Being		Physical and Social Well-Being		Independence from Symptoms	
	r	*P*	*r*	*P*	*r*	*P*	*r*	*P*
Spiritual support	**0.25**	0.05	0.20	n.s.	**0.34**	0.006	0.16	n.s.
Instrumental support	0.24	n.s.	0.18	n.s.	**0.32**	0.01	0.16	n.s.
Information support	0.20	n.s.	0.17	n.s.	0.24	n.s.	0.14	n.s.
Material support	**0.29**	0.02	**0.26**	0.04	**0.34**	0.006	**0.24**	0.055
Emotional support	**0.34**	0.008	**0.29**	0.02	**0.42**	0.001	0.18	n.s.
Overall support	0.20	n.s.	0.15	n.s.	**0.28**	0.03	0.18	n.s.

Quality of Life and Knowledge about UI, Disease Duration and Age

The level of knowledge was assessed using Knowledge Appraisal Scale For Urinary Incontinence. The subjects gained scores in the range between 2 and 21 points (out of 25). The average level of knowledge in the studied group is 10.99, which suggests that it is lower than the arithmetical mean. The score was heavily affected by the questions: *Which of the factors listed below have an influence on the creation or worsening of UI symptoms?* 73% of the examinees pointed to hard physical work, 71.5% to relaxation of the urethra, 69% to pregnancy and childbearing, 53% to urinary tract infections, 53% to obesity, 49% to hypertrophy of the prostate (the method is designed for both males and females), 47% to the menopause, 24% to lack of physical activity, 24% to spine diseases, 20% to smoking, 16% to depression, 14% to the diet (coffee, strawberries, cucumbers, etc.), 14% to hypertension, 13% to radiotherapy, 7% to hormone therapy, 6% to intestinal dysfunction, constipation.

Next, correlation coefficients were found for quality of life, knowledge of the disease, age and duration of the symptoms. The correlations are presented in Table 5 below.

Table 5. Correlation coefficients between quality of life and duration of symptoms, knowledge about the disease and age.

	Total score		Psychological Well-Being		Physical and Social Well-Being		Independence from Symptoms	
	r	*P*	*r*	*P*	*r*	*P*	*r*	*P*
Duration of symptoms	**-0.45**	0.000	**-0.35**	0.004	**-0.40**	0.001	**- 0.39**	0.001
Knowledge about UI	**0.40**	0.001	**0.35**	0.004	0.23	n.s.	**0.51**	0.000
Age	-0.15	n.s.	-0.05	n.s.	-0.17	n.s.	**-0.27**	0,030

The age of the patients correlated statistically significantly with Independence from Symptoms (r=-0.68, P<0.05). Also the knowledge of the disease correlated most closely with Independence from Symptoms (r=0.51, P<0.001) A statistically significant correlation was also found between the level of knowledge and Psychological Well-Being (r=0.35, P<0.005). Negative correlations were observed between duration of the disease and quality of life for both the total score and all the quality of life domains.

Discussion

The perception of quality of life is an assessment of the way a human being experiences and evaluates his or her own life. A somatic disease is among the numerous factors that influence quality of life. In this study we made an effort to assess quality of life in women suffering from one of the most common conditions affecting females, yet to a large degree unnoticed and unpopular – UI. Hence the literature on the subject is rather scant. This subject is not a common topic in educational and prevention programmes, and occupies an insignificant position in the mass-media.

An assessment of quality of life in women with UI is a measure of burden that the existing symptoms create, influence of the symptoms on psychological well-being and ability to function independently, limitations and sacrifices due to the presence of the disease, financial burden related to the symptoms and their treatment. There is a lack of research methods in the Polish language which would specifically assess quality of life in patients with UI. As a result of the presented study, a reliable method to assess quality of life in patients with UI was developed and it was presented in more detail in the methodology section.

Disease is always a condition which can alter adaptation abilities of an individual, their resistance to stress and coping strategies in difficult situations. We found that women with UI who are well adapted, complacent and who love life, who do not see difficulty and limitations caused by the disease less often cope with stress by focusing on a task in difficult situations or try to solve the problem. They also react emotionally. They usually present avoidance tendencies in order to seek social contact under difficult circumstances. This observation may follow from the fact that in women who have a high quality of life the symptoms are not significant hence they exhibit a stronger willingness to socialise. Simultaneously, these women are more open to social support, which helps them solve problems and gives them internal strength, joy of life and does not excessively concentrate on the symptoms, hence their quality of life is higher.

Women with UI with low quality of life more frequently use Task-Oriented style, Emotion-Oriented style and Social Diversion. They tend to make efforts to solve a problem through a cognitive transformation or by making attempts to change the situation. The main stress is laid upon the task or planning to solve the problem. In difficult situations such women accept the challenge or react emotionally crying or worrying. The observation that women with a lower quality of life are more likely to use Task-Oriented style can be interpreted as a manifestation of adaptation to the disease. This tendency is largely modified by the duration of the symptoms. When the symptoms intensify, women begin to avoid company (probably embarrassed about the symptoms, hoping that others will not smell the odour of urine), they react with dejection and fear (emotionally) to the existing concerns and they brace themselves for a task – they have to prepare every outing, make plans or do the shopping. Such a tendency is alarming, since it seriously restricts the possibilities of support and concentrates one's attention on the symptoms and makes the emotional state worse (dejection, lowered mood or even depression which is also a factor causing and exacerbating the symptoms of UI).

We also found that Independence from Symptoms was significantly linked with Task-Oriented coping style suggesting that low quality of life was related to perceiving the patient's life a heavily dependent on the symptoms. This observation corroborates earlier findings. She pays attention to how many times she passes water and the fact that she gets up to visit the bathroom at night. Such a woman is highly focused on the task (having pads at hand, being in a place that is close to a bathroom). Simultaneously however, because she is highly focused on herself and the symptoms or because she is embarrassed about the symptoms, she avoids contacts with others. The severity of the symptoms that lower the quality of life is a factor that is conducive to the isolation of such people.

In the literature of the subject one finds increasingly more information on the role played by UI in life satisfaction and, more extensively, perceived quality of life (Okła, Steuden 2006). This is not equivalent to a subjective appraisal of the disease, which is a form of personal cognitive-emotional perception of one's own disease. The latter is a combination of many factors: knowledge of the disease, severity of the symptoms, possibilities of treatment, threat to one's life, the way UI is experienced and what meaning is attributed to it in a given system of values. Finally, it can affect the quality of life of the sufferer.

In this study we also found that low quality of life of women with UI was closely related to the perception of their disease as Threat, Obstacle, Harm and overall importance attributed to the disease. These results indicate that women with a lowered quality of life and worse physical and mental state, lonely, socially withdrawn and likely to think about the symptoms exhibit a stronger tendency to perceive their disease as a threatening event that constitutes difficulty and an obstacle. Such limitations may refer chiefly to the loss of opportunities, plans and hopes. Such women describe their disease as a life event which upsets the present or past balance and security. It disturbs the general life circumstances and interferes with their plans for the future. It causes fear and anxiety about their health and social status (the latter connected with health), arouses fear about the future. Moreover, the disease is perceived in terms of obstacles that it brings to the daily life of the sufferer. Limitations caused by UI affect family and occupational life, interests, physical condition, social networks and personal autonomy. The disease greatly upsets the life balance and seems to be a difficult situation which demands new adaptation mechanisms.

The term 'social support' denotes receiving help from close family members and friends or institutions in the form of emotional backup, practical help, advice and information. Social support has a significant influence on one's health and general condition. It becomes an extremely important factor in personal coping for a person who is ill. The very fact of tangible support builds the sense of security, gives strength and resilience (Sęk, Cieślak, 2005). Each dimension of support helps a sufferer in a different aspect of his or her coping and can have an impact on the perceived quality of life. When setting the study aims, we wished to explore the way the women assess support in a situation in which they experience symptoms that are often associated with shame and embarrassment.

High quality of life depends on emotional stability, self-confidence, ability to gain joy from life, sense of physical and social well-being. It depends on a higher level of support which involves supportive language and gestures that are supposed to dispel disagreeable feelings, fears and anxiety. Women with UI who have a higher quality of life receive greater material and spiritual assistance from others. This correlation does not reveal the direction of the dependency, but it seems that women who exhibit the symptoms of uncontrolled urine leakage are more open to others and talk about their problem easily, having better access to a support group. Their social skills facilitate the use of possible sources of support.

Good physical shape and functional well-being cause a person to have more confidence in people, to talk to them about various problems more often, which gives vent to disagreeable feelings and anxiety. In conversation they receive tips on better problem solving, they seek and find help more easily. As a result, they find a medical professional earlier and end up in a better physical and mental condition. Women who hide their symptoms and isolate themselves are left with their problem, find a specialist too late. They contemplate the symptoms, feeling anxiety and in consequence they have little opportunity to receive support. These women display low quality of life. This observation fits earlier conclusions formulated on the basis of the analysis of coping styles in difficult situations. The effectiveness of rendered support causes that patients regain their ability to cope with deteriorated physical fitness and accumulated losses in various areas of life.

People make different changes in their life (both advantageous and disadvantageous) under the influence of the information concerning their disease. Reliable information on their condition is vital in the process of recovery. In this study we found that the women's knowledge of their disease concerns mainly recognition of the symptoms and possible treatment. Few of the examinees is able to recognize all factors aggravating the symptoms, e.g. impact of the diet, use of stimulants, type of physical activity and other medical conditions that may aggravate the symptoms. In addition, the level of knowledge of the disease was significantly related to Independence from Symptoms, which may suggest that women who have deeper knowledge of the disease are able to change their lifestyle, apply necessary treatment and restrictions so as to minimise the symptoms. Simultaneously, possessed knowledge gives women self-confidence and reduces their concentration on the symptoms, which additionally confirms the observed positive relationship between the knowledge level and Psychological Well-Being. It is interesting to note that the knowledge level is not linked to the experience of loss and sacrifice in the disease. Perhaps, this factor is better explained by social life.

As for the relationship between age and quality of life, it was found that the age of the patients correlated statistically significantly with Independence from Symptoms. It can be concluded that with age the fixation on the symptoms increases, the symptoms are exacerbated and the quality of sufferers' life decreases. It was also found that the quality of life markedly deteriorates in relation to the duration of the disease. Women who suffer from UI longer mention worse physical and mental condition and are more dependent on the symptoms in daily life.

Based on the conducted analyses the following was found:

1) Women with low quality of life perceive their disease in a negative light as a threat and obstacle to their life plans; they feel harmed by life, the disease is a major negative factor that lowers quality of life.
2) The duration of the disease, and consequently the severity of the symptoms, markedly affect the quality of life in incontinent women.
3) In difficult situations, females with a low quality of life are more likely to use an emotion-oriented coping style and, more interestingly, use a task-oriented style more often than women with a high quality of life. This observation indicates that under the influence of the disease they learn to focus on the task and solutions to it.
4) A deeper knowledge of the disease and an ability to use support are related to better quality of life.

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Jakość życia u kobiet z nietrzymaniem moczu

Streszczenie

Nietrzymanie moczu jest jedną z najczęściej występujących chorób u kobiet. Polega na niekontrolowanym wycieku moczu przez cewkę moczową. Rozpowszechnienie zależy od wieku, przy czym w niektórych grupach wiekowych może dotykać nawet do 60% populacji kobiet. Objawy tego zaburzenia mogą być uporczywe, a ze względu na ich wstydliwy charakter mogą wiązać się ze znaczącym pogorszeniem jakości życia i funkcjonowania psychologicznego. Celem badań była ocena jakości życia u kobiet z nietrzymaniem moczu oraz zależności pomiędzy jakością życia a wybranymi aspektami funkcjonowania. Przebadano 70 kobiet pacjentek Poradni Przyszpitalnej I Szpitala Klinicznego w Lublinie oraz ZOZ Nałęczów z objawami nietrzymania moczu. W badaniach zastosowano metody: Skala Jakości Życia z nietrzymaniem moczu – autorstwa K. Szymona–Pałkowska,, J. Kraczkowski, Skalę Oceny Własnej Choroby – Janowski i

Steuden; Kwestionariusz CISS Endlera i Parkera; Skalę Wsparcia w Chorobie - Brachowicz, Janowski, Sadowska oraz Skalę Oceny Wiedzy na temat nietrzymania moczu, autorstwa K. Szymona–Pałkowska, J. J. Kraczkowski. Opisano strukturę jakości życia chorych z nietrzymaniem moczu. Wyodrębniono trzy czynniki: Dobrostan Psychiczny, Dobrostan fizyczny i społeczny, Niezależność od objawów. Na podstawie przeprowadzonych analiz stwierdzono: Kobiety z niską jakością życia spostrzegają najczęściej własną chorobę w negatywnym świetle jako Zagrożenie, Przeszkoda, Krzywda, Znaczenie. Dłuższy czas trwania choroby łączy się z gorszą jakością życia. Kobiety z niską jakością życia w sytuacjach trudnych częściej stosują: Styl radzenia sobie skoncentrowany na emocjach oraz Styl radzenia skoncentrowany na zadaniu. Wyższy poziom wiedzy na temat choroby oraz umiejętności korzystania ze wsparcia wiążą się z lepszą jakością życia.

Słowa kluczowe: jakość życia, nietrzymanie moczu, percepcja własnej choroby, wsparcie w chorobie.

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CORRELATES OF QUALITY OF LIFE IN PATIENTS WITH AN IMPLANTABLE CARDIOVERTER DEFIBRILLATOR

Abstract

Implantable cardioverter defibrillators (ICDs) proved to be the most successful method in preventing sudden cardiac death in patients prone to malignant ventricular arrhythmias. The remaining problem is the acceptance of the device and patients' quality of life (QOL). The aim of research presented in this paper was the analysis of selected medical and psychological correlates QOL in patients with an ICD. In our study, we applied an interview and the FPAS questionnaire adapted by A. Kochańska. We surveyed 80 patients at the Department of Cardiology, Medical University of Gdańsk (17 women, 63 men), aged between 18 and 78, who had lived with the implanted device for at least 2 months. The results reveal significant relationships between the patients' QOL and age, physical activity and selected medical and psychological factors.

Keywords: quality of life, implantable cardioverter defibrillator

Introduction

The development of electrotherapy and electrophysiology, accompanied by new achievements in invasive cardiology regarding the treatment of acute coronary syndrome, has contributed to a significant improvement of prognosis in patients with cardiovascular diseases in selected high-risk groups. One of the greatest achievements is the introduction of implantable cardioverter defibrillators (ICD) to clinical practice. The first automatic defibrillator was implanted in 1980 at John Hopkins Hospital in Baltimore (Mirowski, Reid, Mover et al., 1980). Cardioverters used to be implanted in the abdominal wall, and epicardial electrodes applied at that time required thoracotomy. The first operation of this kind in Poland was carried out in 1989 at the Clinic of Cardiology, Medical University of Silesia in Katowice, whereas the first ICD with endocavitary electrodes was implanted in 1995 in Gdańsk, at the Second Department of Cardiology, Medical University of Gdańsk (Giec, Trusz-Gluza, 1992; Świątecka, Lubiński, Wilczek et al., 1996). As cardioverters defibrillators are more effective in the reduction of mortality in the selected patient groups at risk from sudden cardiac death than anti-arrhythmics, indications for the device implantation are being continuously extended. Exploring major problems experienced by patients after the implantation of ICD and investigating factors critical for quality of their life may contribute to an increase in therapy efficacy.

Cardioverter Defibrillator in Patients with Malignant Ventricular Arrhythmias

The task of the cardioverter defibrillator is to prevent the so called sudden cardiac death (SCD). According to the commonly accepted definition by Braunwald, SCD is a natural death due to cardiac problems, happening within an hour after the occurrence of acute disease symptoms and preceded by the loss of consciousness (Myerburg, Castellanos, 1997). SCD is most often the result of malignant rhythm disorders, such as: ventricular fibrillation, unstable hemodynamic mono- and polymorphic ventricular tachycardia (approximately 80% of reasons for SCD) and bradycardia (approximately 20% of reasons for SCD). These types of arrhythmia may occur in individuals without a diagnosed disease and it is difficult to prevent them from happening in that case. However, many heart diseases may cause malignant arrhythmias, e.g. myocardial ischemia, the states after myocardial infarction in particular, accompanied by a significantly damaged myocardial function, heart failure caused by hypertension, diabetes mellitus, alcohol abuse, post myocarditis, heart defect or by genetic factors. A separate group of diseases which may cause SCD are cardiomyopathies and channelopathies, i.e. congenital genetic syndromes leading to dangerous arrhythmias (Zipes, Camm, Borggrefe et al., 2006; Wall, Freedman, 2002; Zaręba, Moss, Daubert et al., 2003). The ICD is aimed at continuous automatic monitoring of heart rhythm, accurate arrhythmia diagnosis and its immediate terminating by means of the intra-cardiac intervention, i.e. anti-tachycardia pacing or electric shock delivery. ICD implantation is offered only to the patients who are at the greatest risk.

Nowadays there are two categories of indications for ICD implantation in preventing sudden cardiac death: (1) secondary prevention—in patients who survived heart arrest owing to the effective and immediate reanimation; (2) primary prevention—in patients with heart defect which is extremely likely to cause malignant ventricular arrhythmias.

Quality of Life in Patients with an ICD

The notion of quality of life (QOL) appeared in the sixties of the twentieth century within economic sciences. It was referred to such categories as: life standard or material wealth (Dziurowicz-Kozłowska, 2002). There were parallel attempts at describing and operationalizing the psychological aspects of QOL (Campbell, Converse, Rodgers, 1976). As for medicine, Shipper (Shipper, Clinch, Olweny, 1996) was the first to introduce the notion of QOL conditioned by the state of health to medicine. This notion served as a description of the impact of the disease and recovery process on the functioning and general satisfaction with life, perceived by the patient. In medicine, the measurement of QOL is carried out in the groups separated on the grounds of specific disease and it reflects the perceived advantages and losses related to the medical intervention.

The evaluation of QOL in patients with an ICD focuses on assessing unpleasant and unexpected electric shocks and symptoms of end-stage underlying diseases (Wathen, DeGroot, Sweeney et al., 2004; Chevalier, Verrier, Kirkorian et al., 1996).

The first data on QOL in patients with an ICD come from the works by Lüderitz et al. (1993). It suggests that the level of QOL increases in patients after ICD implantation. The studies pursued later on, in particular in 1993–2004, failed to provide equally consistent and unequivocal results. The nature of the majority of the studies was observational and they were based on small samples, often consisting of a few individuals (Francis, Johnson, Niehaus, 2006).

There are also results of studies carried out on randomized clinical samples within the secondary (AVID, 1997; Connolly, Gent, Roberts et al., 2000) and primary prevention of sudden cardiac death (Namerow, Firth, Heywood et al., 1999; Strickberger, Hummel, Bartlet et al., 2003; Wathen, DeGroot, Sweeney et al., 2004). Authors of two studies reported higher QOL after ICD implementation, a lower one was observed in one study and two studies failed to indicate any correlation. After the elimination of patients with no ICD shocks from the analysis, the authors observed a different correlation pattern: QOL increased after the ICD implantation in one research, decreased in three studies and in one—remained at the same level. This data suggests that low QOL may be correlated with the experience of ICD shocks.

Research Problem

The aim of the presented research was the analysis of selected correlates of QOL in patients with an ICD. The research conducted so far suggests that socio-economic, medical and psychological factors contribute to the overall QOL in patients with an ICD. However, the results reported by various researchers are inconsistent (cf. Francis, Johnson, Niehaus, 2006; Kochańska, Lewicka-Nowak, Zarzycka, 2006; Kochańska, Zarzycka, Świątecka et al., 2008).

Within the group of socio-economic factors, important QOL indicators seem to be age, professional activity, resuming social roles and returning to self-reliance in life. There are inconsistencies regarding the evaluation of the relations of these characteristics with QOL in patients with an ICD. The studies suggest that some patients resume their professional activity after ICD implantation. In the sample of 18 patients investigated by Dubin, Batsford, Lewis et al. (1996) 10 individuals came back to professional life. However, it was impossible to trace back the relationships of professional activity and the level of education with QOL. The data regarding the relationships between age and quality of life are somewhat equivocal. There are works which indicate greater adaptation problems and lower QOL in patients under 50 years of age, in particular in children and youth (Duru, Büchi, Klaghofer et al., 2001). Some researchers, however, noted lower QOL in patients who were advanced in age (Hamilton, Carroll, 2004). There are also studies whose authors reported no relationships between these variables (Newall, Lever, Prasad et al., 2007).

In the group of medical factors, electric ICD shocks display a significant relationship with QOL. They are a reaction to the reentries of ventricular arrhythmias. Their intervention may be inadequate, i.e. unrelated to ventricular arrhythmia, e.g. be the result of inappropriate programming of the device, damage to the generator or to electrodes, or the effect of control disorders. The results of the research regarding the relationships between ICD shocks and QOL in patients are inconsistent. Some authors claim that even single shock deliveries decrease QOL (AVID, 1997), others—that it is more than 5 shock deliveries (Connolly, Gent, Roberts et al., 2000) or an electric storm (3 or more ventricular tachyarrhythmia episodes within 24 hours) that causes a decrease in QOL (Sears, Conti, 2003). It seems that QOL in this group of patients may also be influenced by the past cardiac-surgical and cardiac invasive procedures, periprocedural complications (e.g. local haematoma, infections, electrode or ICD generator dislocations) and losses of consciousness (Stewart, Greenfield, Hays et al., 1989). At the present stage, the authors of this paper do not know about any works related to the relationships of these factors with QOL.

The researchers have stressed the influence o psychological factors on QOL in patients with an ICD since the introduction of this method to the clinical practice. They highlighted in particular the importance of such factors as: the patient's opinion regarding the treatment, the patients conviction of the effectiveness of the actions taken and the awareness of the need to live with the device (Duru, Büchi, Klaghofer et al., 2001). Moreover, they stressed the increase in the feeling of fear and concern after ICD implantation, and the presence of anxiety and depression disorders (Sears, Conti, 2003; Sears, Todaro, Saia et al. 1999). However, they did not analyze the direct relationship between the psychological variables and QOL in this group of patients.

In reference to the data present in the literature, we planned to investigate the following correlates of QOL in patients with an ICD:

1. socio-economic factors (age, education level, professional activity);
2. medical factors (ICD shocks, electric storms, periprocedural complications, past cardiac-surgical procedures, invasive investigations, losses of consciousness before and after ICD implantation);
3. psychological factors (fears and concerns, self-reliance, the need for psychological support, taking psychoactive drugs).

The study aimed at establishing the strength and direction of the relationships between these variables and QOL in patents with implantable cardioverter defibrillator.

Methodology

Research Sample

We carried out the study in 2001–2007. At that time, we examined 80 patients at the Department of Cardiology and Electrotherapy, Medical University of Gdańsk, Poland, who were admitted to the clinic and who were monitored in the out-patient cardiac clinic affiliated to the Department. Seventeen women and 63 men were examined. The proportions between women and men reflect the general trend in the population of patients with an ICD. The examined patients were aged between 18 and 78 (M=56.26, SD=14.77). They represented all educational levels: primary (N=14), secondary (N=28), vocational (N=26) and higher education (N=12). Disability pension receivers (N=36) and pensioners (N=26) constituted the largest group, only 11 individuals were active professionally, 5 were unemployed and 2—at school.

The examined patients had lived for 2 months to over 5 years with an ICD. Patients with a coronary disease (N=46) and with the non-ischaemic dilated cardiomyopathy (N=12) were a majority. Following reasons for arrhythmia were diagnosed in other patients: hypertrophic cardiomyopathy (N=6), long QT syndrome (N=4), heart defects (N=4), arrhythmogenic right ventricular cardiomyopathy (N=3) and the metabolic syndrome (N=1), and the idiopathic ventricular tachycardia was observed in 4 patients.

Methods

We applied an interview and the Florida Patient Acceptance Survey (FPAS).

The interview had a form of a questionnaire filled out by the participants. The questions were grouped into 3 categories. The first one encompassed socio-economic data, the second one—questions which referred to the selected medical variables: the presence of ICD shocks, electric storms and periprocedural complications, past cardiac-surgical procedures, invasive investigations, and losses of consciousness before and after ICD implantation. The third category referred to the questions about the selected psychological variables, such as: fears and concerns regarding heart disease, ICD shocks, battery dysfunction and run-down, self-reliance, the need for psychological support and taking psychoactive drugs. We verified all the information gathered in the interview against the medical documentation.

The Florida Patient Acceptance Survey (FPAS) by Burns, Serben, Keim and Sears (2005) was used for the measurement of QOL in patients with an ICD, in the Polish adaptation by Kochańska (2008). The patient acceptance is defined as understanding life advantages and difficulties related to the implantable device, the patient's positive attitude expressed by others' conviction about the rightfulness of the decision regarding the device implantation and by the patient's conviction about the positive influence of the implantable device on their health. The patient acceptance is the element of QOL, specifically dependent on the implanted device (Burns, Serben, Keim et al., 2005).

The FPAS consists of 15 items which constitute 4 subscales: Return to Life, Device-Related Distress, Positive Appraisal and Body Image Concerns. The Return to Life subscale measures the extent to which a patient returns to physical and social activity and the level of the patient's own conviction about the ability to take up professional activity and participate in the family life. The Device-Related Distress subscale refers to restrictions and negative effects of the implantable device in following dimensions: physical, psychological and social one. Positive Appraisal makes the measurement of the motivation and of the positive attitude toward and ICD possible, and also enables us to measure the extent to which the patient is convinced about the need, safety and advantages resulting from such medical treatment. The Body Image Concerns subscale measures the level of fear related to the body damage, loss of attractiveness, and the feeling of low professional and social value, and of being dependent on others. The total score is a sum of results in the subscales, it is the measure of the implantable device acceptance and also a QOL indicator.

The answers are given on a 5-point Likert scale, from 1 (it doesn't apply to me at all) to 5 (it applies to me fully). Researchers apply the FPAS in QOL studies on patients with an implantable cardioverter defibrillator due to ventricular arrhythmias (ICD), cardioverter defibrillator with atrial tachycardia function (ICD-AT) and the cardiac pacemaker (PM) (Burns, Sears, Sottile et al., 2004; Burns, Serben, Keim et al., 2005; Groeneveld, Matta, Suh et al., 2007; Newall, Lever, Prasad et al., 2007). The method enables us to measure QOL specifically related to the implanted device. Next, it is more sensitive and adequate in recognizing subtle changes in QOL in patients after ICD implantation, compared to other devices, such as e.g. SF-36 questionnaire for the general assessment of the health-dependent QOL (Burns, Serben, Keim et al., 2005).

The Polish FPAS version shows satisfactory psychometric indicators. We observed following values regarding the method reliability (Cronbach's α), for particular subscales: Return to Life—0.52, Device-Related Distress—0.67, Positive Appraisal—0.77, Body Image Concerns—0.19, and the total score—0.70. The test-retest stability, with the interval of 2 weeks, amounted to: Return to Life—0.72, Device-Related Distress—0.84, Positive Appraisal—0.30, Body Image Concerns—0.74, and the total score—0.76. The validity, carried out by means of the factor analysis, internal consistency and correlation with the Cantril Ladder, confirmed the conformity of the method with the theoretical construct (Kochańska, 2008).

Results

Descriptive Statistics

We presented descriptive statistics for the total score and the FPAS subscales in Table 1. The mean result for the general FPAS result amounted to 3.73 in the analyzed sample. We noted the highest result in the Positive Appraisal subscale, and the lowest—in the Body Image Concerns subscale.

Table 1. Descriptive statistics for FPAS.

FPAS	Return	Distress	Positive	Concerns	Total
M	3.04	2.44	4.51	2.30	3.73
SD	0.95	1.09	0.76	1.08	0.62

Return = Return to Life; Positive = Positive Appraisal; Concerns = Body Image Concerns; Total = total score.

Socio-Economic Correlates of QOL

In order to determine the associations between the socio-economic variables (age, education, professional activity) and the FPAS scales, we calculated correlation coefficients (Pearson's r) and Kruskal-Wallis test.

Age correlated statistically significantly and negatively with the following subscales: Return to Life (r=-0.26, P<0.05) and Body Image Concerns (r=-0.25, P<0.05). The level of education did not differentiate QOL but professional activity did, in terms of the general QOL (P<0.05) and Return to Life (P<0.001)—individuals who are active professionally scored higher than disability pension recipients and pensioners. We also noted a strong trend in the Distress subscale (P=0.07)—disability pension recipients and pensioners scored higher than those active professionally (Table 2).

Table 2. Correlations between FPAS and selected socio-economic variables.

		Variable	Return	Distress	Positive	Concerns	Total
Education	Range	Primary	45.96	41.39	44.79	38.15	41.38
		Vocational	37.60	32.56	39.92	41.52	40.85
		Secondary	36.10	43.06	35.50	38.63	32.19
		Higher	36.79	40.83	34.83	29.42	38.38
	Kruskal-Wallis test	χ^2	2.04	3.19	2.35	2.61	2.59
		df	3	3	3	3	3
		P	0.564	0.364	0.503	0.456	0.459
Professional activity	Range	Active	53.90	22.15	37.90	36.90	49.50
		Disab.p.recip.	27.49	38.43	32.93	35.06	29.32
		Pensioner	39.36	38.04	38.14	34.16	35.34
	Kruskal-Wallis test	χ^2	14.67	5.28	1.30	0.14	8.09
		df	3	3	3	3	3
		P	0.001	0.071	0.522	0.933	0.018

Return = Return to Life; Positive = Positive Appraisal; Concerns = Body Image Concerns; Total = total score.

Medical Correlates of QOL

We analyzed the associations between the medical variables and the FPAS scales by means of Pearson's r correlation coefficients and t-test.

The level of QOL in patients with an ICD varied according to the presence of multiple shocks, periprocedural complications, additional invasive cardiac-surgical and invasive cardiac procedures, and also according to whether the experienced shocks were adequate or not (Table 3). The features of the experienced ICD shocks and heart failure also correlated significantly with QOL in the examined sample (Table 4).

We observed no significant differences in the FPAS between patients with an ICD implanted because of the coronary disease arrhythmia and other groups. Individuals who experienced an 'electric storm' had also a lower total score in the FPAS (P<0.05) and in the Return to Life subscale (P<0.01), and a lower result in the Body Image Concerns (P<0.05). Similarly, patients with inadequate shocks scored lower in the Return to Life subscale (P<0.05) and revealed the trend to score lower in the general sense of QOL in the FPAS (P=0.09) (Table 3). Eighteen patients had periprocedural complications. These individuals signalized a significantly lower level of QOL (P<0.05) and higher Distress ($P<0.01$). The majority of the examined patients (N=54) underwent other procedures and invasive examinations in the area of cardiology and cardiac surgery. These individuals showed a significantly lower FPAS total score ($P<0.001$), higher Distress ($P<0.001$) and lower Return to Life ($P<0.01$). We observed also a trend of lower results in the Positive Appraisal subscale in these patients ($P=0.08$) (Table 3).

Table 3. Comparison in groups separated by the selected mediacal variables (presence of 'electric shock', adequate and inadequate shocks, complications, other invasive cardiac-surgical and surgical procedures) within FPAS.

Variable		Statistics	Return	Distress	Positive	Concerns	Total
Underlying disease	Coronary disease	M	14.95	12.97	18.54	4.50	61.17
		SD	2.84	5.36	2.37	1.96	8.63
	Lack of coronary disease	M	16.03	11.25	17.51	4.87	62.25
		SD	2.88	5.64	3.78	2.37	10.17
	t-test	*t*	-1.59	1.34	1.42	-0.73	-0.48
		P	0.11	0.18	0.15	0.46	0.62
No shocks — 'electric storm'	Nothing	M	16.63	10.86	18.06	3.90	64.93
		SD	2.88	5.25	2.86	2.02	8.85
	'Storm'	M	13.8	12.86	16.8	5.42	57.14
		SD	2.67	5.09	4.90	2.40	9.89
	t-test	*t*	3.18	-1.21	1.09	-2.19	2.61
		P	0.003	0.231	0.279	0.034	0.012
Adequate—inadequate shocks	Inadequate	M	13.94	14.41	17.11	5.06	56.46
		SD	2.81	6.23	4.68	2.40	11.75
	Adequate	M	16.14	12.42	18.00	3.92	62.78
		SD	2.24	6.28	2.82	2.20	7.26
	t-test	*t*	-2.36	0.87	-0.61	1.32	-1.72
		P	0.025	0.387	0.542	0.196	0.096
Complications	present	M	14.64	15.64	17.47	4.82	56.64
		SD	3.01	4.80	3.04	2.24	8.03
	lack	M	15.6	11.29	18.23	4.54	63.08
		SD	2.91	5.32	3.04	2.15	9.40
	t-test	*t*	-1.18	3.04	-0.91	0.47	-2.55
		P	0.242	0.003	0.365	0.64	0.013
Other procedures	present	M	13.95	15.59	17.09	4.90	55.54
		SD	2.08	5.81	4.34	2.50	10.3
	lack	M	16.00	10.94	18.45	4.46	64.19
		SD	3.1	4.88	2.30	2.05	8.04
	t-test	*t*	-2.83	3.55	-1.77	0.80	-3.86
		P	0.006	0.001	0.081	0.425	0.001

Return = Return to Life; Positive = Positive Appraisal; Concerns = Body Image Concerns; Total = total score.

Half of the patients in the examined sample (47%) experienced ICD shocks as very unpleasant. The average shock intensity on the 10-point scale (0 = I handle shocks excellently, they are not unpleasant to me, 10 = shocks are very painful, unbearable) amounted to 6.12. Over 10% of patients chose the maximum value. Over 20% of individuals expressed shock intensity as lower than 3. They were most of all patients without shocks of high intensity, who experienced only painless anti-tachycardia pacing or so called phantom shocks, i.e. sense of shocks, without a real ICD activity. The greater time passed since the device implantation, the fewer patients without ICD shocks there were.

The correlation analysis between FPAS and shock features revealed significant negative relationships of the general QOL with shock intensity (*r*=-0.25, *P*<0.05) and frequency (*r*=-0.32, *P*<0.01), and positive relationships with the time that passed since the last shock (*r*=0.24, *P*<0.05). We noted similar dependencies in the Return to Life subscale—negative correlations with shock intensity (*r*=-0.28, *P*<0.05) and frequency (*r*=-0.38, *P*<0.01), and positive correlations with the time that passed since the last shock (*r*=0.31, *P*<0.01). The Body Image Concerns subscale correlated positively with shock intensity (*r*=0.23, *P*<0.05) and frequency (*r*=0.29, *P*<0.05). The Distress and Positive Appraisal subscales correlated with none of the shock features significantly (Table 4).

Table 4. Correlations between FPAS and shock features (intensity, time interval, frequency) and heart failure, frequency of losses of consciousness before and after ICD implantation.

	Return	Distress	Positive	Concerns	Total
Intensity	-0.28*	0.19	0.03	0.23*	-0.25*
Time interval	0.31**	-0.16	-0.08	-0.18	0.24*
Frequency	-0.38**	0.18	-0.04	0.29*	-0.32**
Heart failure	-0.21*	0.07	0.10	0.11	-0.13
Loss of consciousness before ICD implantation	-0.19	0.01	0.01	0.04	0.05
Loss of consciousness after ICD implantation	-0.29*	0.14	0.02	0.13	-0.22

Return = Return to Life; Positive = Positive Appraisal; Concerns = Body Image Concerns; Total = total score, * *P*<0.05, ** *P*<0.001

Heart failure correlated negatively only with Return to Life (*r*=-0.21, *P*< 0.05). Patients experienced losses of consciousness of various intensity—from pre-syncope states to total losses of consciousness requiring reanimation. Before ICD implantation, 50 individuals had been reanimated, 9 had experienced short losses of consciousness, 10—collapses, 4 individuals had signaled pre-syncope states, and 7—no collapses. These proportions changed after ICD implantation: 3 individuals had been reanimated, 11 had experienced short losses of consciousness, 8—collapses, 20 individuals had signaled pre-syncope states, and 38—no collapses. We observed that QOL was related significantly to the loss of consciousness only in patients after ICD implantation: the less intensive the losses of consciousness were, the higher Return to Life subscale result was (*r*=-0.29, *P*<0.05) (Table 4).

Psychological Correlates of QOL

Over 80% of patients reported an increase in the sense of security after ICD implantation. For 11%, negative implantation results related to the local distress, shocks and limitations (e.g. not being allowed to work) dominated over the expected advantages. However, only 4 patients would not agree to have an ICD implanted again.

As a basic source of fear, patients indicated heart disease (27%), shocks (22%), ICD dysfunctions (12%) and battery run-down (17%). Patients who were afraid of the heart disease progress, scored statistically significantly lower in the Return to Life subscale ($P<0.05$) and tendency toward experiencing a greater Distress ($P=0.065$). Compared to the individuals without the fear of an ICD running down, those who were afraid of it, scored higher in Distress ($P=0.052$) and had a lower general sense of QOL ($P=0.079$). Among the examined patients, 42 individuals took psychoactive drugs (sedatives, anxiety relieving drugs, sleeping pills or neuroleptics). These patients differed significantly from those who did not take such drugs—their general sense of QOL was lower ($P<0.001$), they also scored lower in the Return to Life subscale ($P<0.001$) and higher in the Distress subscale ($P<0.001$) (Table 5).

Table 5. Comparisons in groups separated by the selected psychological variables (fear of the progress in the disease and battery running down, taking psychoactive drugs) within FPAS.

Variable		Statistics	Return	Distress	Positive	Concerns	Total
Fear—disease progress	present	M	14.44	12.62	18.74	4.80	60.96
		SD	2.91	5.46	1.78	1.89	9.50
	lack	M	15.90	12.03	17.70	4.50	61.97
		SD	2.86	5.54	3.50	2.29	9.51
	t-test	*t*	-2.11	0.45	1.44	0.58	-0.44
		P	0.038	0.065	0.154	0.559	0.660
Fear—battery	Present	M	14.62	14.00	18.08	4.56	58.83
		SD	2.87	6.21	2.37	2.18	9.43
	Lack	M	15.73	11.41	18.05	4.62	62.94
		SD	2.94	4.96	3.32	2.17	9.27
	t-test	*t*	-1.54	1.97	0.035	-0.12	-1.78
		P	0.126	0.052	0.972	0.899	0.079
Psychoactive drugs	takes	M	14.29	14.09	17.68	4.74	58.15
		SD	2.65	5.73	3.60	2.26	10.29
	doesn't take	M	16.63	10.18	18.5	4.45	65.38
		SD	2.78	4.43	2.22	2.06	6.80
	t-test	*t*	-3.77	3.33	-1.17	0.57	-3.56
		P	0.000	0.000	0.243	0.570	0.000

Return = Return to Life; Positive = Positive Appraisal; Concerns = Body Image Concerns; Total= total score.

We also assessed the relationships of QOL with self-reliance and need for psychological support in ICD patients. In the examined sample, 37 individuals declared full self-reliance and ability to move and travel individually, 30 patients declared self-reliance within their place of living, and 13 individuals declared they needed continuous support. We noted a significant positive relationship of self-reliance with the general QOL ($r=0.29$, $P<0.05$) and Return to Life ($r=0.29$, $P<0.05$), and a negative one with Distress ($r=-0.34$, $P<0.01$) (Table 6).

There were 38 patients who declared the need for psychological support in the situation of struggling with disease and ICD implantation, 29 individuals reported no need for psychological support. The need for support correlated negatively with the general FPAS result (*r*=-0.30, *P*<0.01) and positively with Distress (*r*=0.23, *P*<0.05) and Body Image Concerns (*r*=-0.25, *P*<0.05).

Table 6. Correlations between FPAS and the selected psychological variables (self-reliance, support).

	Return	Distress	Positive	Concerns	Total
Self-reliance	0.29*	-0.34**	0.04	0.04	0.29*
Support	-0.16	0.23*	-0.12	0.25*	-0.30**

Return = Return to Life; Positive = Positive Appraisal; Concerns = Body Image Concerns; Total = total score; Support= need for psychological support. * *P*<0.05, ** *P*<0.001.

Discussion

The implementation of the automatic cardioverter defibrillator belongs to standard procedures in the prevention of sudden cardiac death in patients at high risk, with multiple malignant ventricular arrhythmias and their high occurrence risk. Despite high ICD effectiveness in securing patients against sudden cardiac death, their QOL remains to be an unsolved problem. The results of the studies carried out so far are not unequivocal (Francis, Johnson, Niehaus, 2006). The study presented in this paper was an attempt at verification of some discrepancies and at the analysis of some, not yet considered, socio-economic, medical and psychological QOL correlates in this group of patients.

The mean FPAS score in the Polish sample is lower than the scores of the American population (Burns, Serben, Keim, 2005; Groeneveld, Matta, Suh et al. 2007), which might suggest their lower QOL. However, patients with maximum 3-month experience with an ICD participated in the studies carried out by Burns, Serben, Keim et al. (2005) which means the majority had experienced no shocks yet. In the sample examined by Groeneveld, Matta, Suh et al. (2007), over 45% of patients noted no ICD shocks whereas there were only 38% of patients with no ICD shocks in our sample, and 20% Polish patients experienced so called ‘electric storm’. Therefore, the number of shocks may be a factor which lowers QOL in Polish patients.

Age, Education Level, Professional Activity vs. QOL in Patients with an ICD

Some researchers observed in their research that patients under 50 years of age report lower QOL (cf. Duru, Büchi, Klaghofer et al. 2001; Dubin, Batsford, Lewis et al., 1996). Others, however, noted lower QOL in elderly patients, mostly due to the higher level of fear, less physical activity and lower satisfaction with life (Hamilton, Carroll, 2004). There are also works which indicate that age did not correlate significantly with QOL in this group of patients (Newall, Lever, Prasad et al., 2007). In our study, age did not correlate significantly with QOL as measured by the total FPAS score but elderly patients signaled higher Distress, lower Return to Life and less Body Image Concerns. Younger patients reported more often that they resumed ordinary activities but they experienced more Body Image Concerns.

The level of education failed to differentiate QOL in the examined sample. Professional activity, however, proved to be a factor that is correlated positively with QOL, in particular with Return to Life. Disability pension recipients’ total score was the lowest, and so was their result in the Return to Life subscale; they also had the highest result in the Distress subscale. It is worth of note that the percentage of patients who resume their professional activity is significantly higher in English-speaking countries than in Poland and it amounts to 70% (Heller, Ormont, Lidagoster et al., 1998).

The Underlying Disease, ICD Shocks, Losses of Consciousness, Periprocedural Complications, Other Cardiac-Surgical Procedures vs. QOL in Patients with an ICD

Heart disease as a reason for arrhythmia, influences patients' daily life by imposing various limitations. Some of them are a result of the arrhythmia itself, others stem from accompanying ailments, reduced exercise tolerance caused by heart failure and secondary multiple organ failure. Further limitations are conditioned by the drug therapy applied—its side effects accumulate with organic disorder symptoms (cf. Kochańska, Zarzycka, Świątecka, 2006).

As regards arrhythmia etiology, the examined sample was very diversified. It included patients with severe heart failure, and also without organic features of heart failure with idiopatic arrhythmia. Due to a small sample size of patients representing some diseases (hypertrophic cadiomyopathy, arrhythmogenic right ventricular cardiomyopathy, long QT syndrome etc.), we analyzed only two biggest subgroups: with coronary disease diagnosis (54% of patients) and with heart failure (the LVEF in 53,7% of patients was under 40%). However, we noted no significant difference regarding QOL between patients with an ICD implanted due to arrhythmia caused by coronary disease and other patients. Next, we did not observe the relationship between QOL and heart failure. We noted only a negative relationship between heart failure and Return to Life. While some researchers proved that the past myocardial infarction and recurrent angina, even mild ones, reduced QOL in patients, but their studies referred to the patients without an ICD (cf. McBurneey, Eagle, 2002).

ICD shocks proved to be a factor strongly correlated with QOL in patients with an ICD. This finding supports opinions held by numerous researchers who suggest that ICD shocks, their accumulation in particular, reduce QOL (AVID, 1997; Connolly, Gent, Roberts et al., 2000; Sears, Conti, 2003). Not only did the fact of ICD shocks correlate with QOL, but their frequency and intensity as well as the time that passed since the last shock were also significant. ICD shocks that were distant in time coexisted with higher QOL, similarly to shocks that occurred more rarely were reported as easier to handle and as less intensive. Next, lower shock intensity was related to higher QOL. These observations seem to be congruent with other data in literature which indicate a long-lasting negative influence of multiple electric shocks on the patients' behavior and their way of thinking as well as the development of psychopatology disorders (Sears, Todaro, Saia et al., 1999). Multiple ICD shocks, in particular the experience of 'electric shock', coexisted with lower QOL, lower Return to Life and higher Body Image Concerns subscale (cf. Kochańska, Zarzycka, 2010).

As we compared QOL in patients with adequate and inadequate ICD shocks (without the accompanying ventricular arrhythmia), we observed a lower QOL in the group with inadequate shocks. We may assume that the trust in cardioverter defibrillator is being weakened by the occurrence of so called 'unnecessary' shocks. The findings by Chevalier, Verrier, Kirkorian et al. (1996) and Lüderitz, Jung, Deister et al. (1993), and they indicated that one of the most important factors in device acceptance is that the shocks are adequate and effective in stopping malignant arrhythmia. The negative function of inadequate ICD shocks which occur often during sinus tachycardia, supraventricular arrhythmia, regular sinus rhythm in the event of arrhythmia detection disorders and electrode damage is strengthened by the fact that these are usually not single but multiple high-energy shock interventions.

The etiology of losses of consciousness after ICD implantation may be complex, sometimes unrelated to heart disease. In the presented research, we assumed that the losses of consciousness after ICD implantation may reduce the sense of safety and weaken the belief that the safety guaranteed by an ICD is never-failing. Almost 63% of patients experienced cardiac arrest and reanimation before ICD implantation. A considerable amount of individuals in this group had stayed at intensive care units in a serious condition. However, we noted no difference in QOL between patients with an ICD implanted in the secondary prevention of sudden cardiac death and patients with an ICD implanted in the primary prevention (cf. Groeneveld, Matta, Suh et al., 2007). Only losses of consciousness after device implantation were significant in this respect. In the whole sample, almost 4% were reanimated and almost 14% experienced short losses of consciousness after ICD implantation. It is losses of consciousness after device implantation that correlated negatively with the Return to Life subscale.

The following important factors may be related to QOL after ICD implantation: general state of health, passed procedures, hospitalizations, complications, persistent accompanying diseases, e.g. joint diseases, spinal diseases, neoplasms, eye diseases, diabetes mellitus, kidney failure etc. (cf. Stewart, Greenfield, Hays et al., 1989). As these disorders are abundant, the assessment regarding the relationship of each of them with QOL on a sample of 80 patients with an ICD would be extremely difficult. Therefore, we compared individuals, who, apart from ICD implantation, did not undergo any invasive cardiac and cardiac-surgical procedures (e.g. percutaneous transluminar coronary angioplasty, electrophysiology study, pacemaker implantation, cardiac surgery) with individuals who had such experience. Compared with patients with no additional procedures, individuals with additional invasive procedures had lower QOL. Apart from the Body Image Concerns indicator, all the FPAS scales differentiated these two groups. We assessed also the relationship between periprocedural complications which appeared directly during the ICD implantation and QOL. All complications related to the implantable device coexisted with a lower general FPAS result and a higher Distress indicator.

Fears, Psychological Support, Psychoactive Medication vs. QOL in Patients with an ICD

In the life-threatening condition, all human needs are less important than the need to preserve life. This situation is true for patients with a life-threatening arrhythmia. They may die every day and what will actually happen to them depends to a great extent on the effective work of the implanted device. It seems that the better informed the patient is and the better psychological status and emotional support the patient receives, the better ICD acceptance is and the easier it is for the patient to handle shocks.

ICD implantation coexisted with the rise in the sense of safety in the majority of patients. Some researchers stress importance of ICD acceptance and positive attitude toward the device in preserving higher QOL after ICD implantation (Groeneveld, Matta, Suh et al., 2007; Burns, Serben, Keim et al., 2005; Sears, Serber, Lewis et al., 2004). Some works give evidence to a worse reaction toward ICD implantation in patients with emotional difficulties that preceded the occurrence of heart disease (Sears, Conti, 2003). The results we obtained in the present research are consistent with the data in the literature—individuals with emotional difficulties, taking psychoactive drugs, had a significantly lower result in QOL and Return to Life, and a higher result in the Distress subscale.

There are also some studies which indicate the need for social (Fitchet, Doherty, Bundy et al., 2003; Sears, Lewis, Kuhl et al., 2005) and psychological support (Kohn, Petrucci, Baessler et al., 2000) in those patients on the one hand, and the negative relationship between the overprotective attitudes of the family members and QOL on the other hand (Sneed, Finch, Michel, 1997). Psychological support before implantation and in the first year after the implantation procedure are of the greatest importance (Fitchet, Doherty, Bundy et al., 2003). It reduced the levels of anxiety, depression and other psychological difficulties. Patients with multiple ICD shocks benefited the most from the psychological support (Pedersen, Broek, Sears, 2007). The present research results are only partially consistent with these findings. However, we noted higher results in the Return to Life subscale in the patients who received emotional support from their family members, and also lower results in the Return to Life and higher results in Distress in patients who experienced a considerable limitation on their self-reliance because of overprotective families. Nevertheless, the patients examined in our sample were lukewarm about psychological support. Almost half of them declared they do not need such support. Others—the lower the quality of their life was, the stronger need for psychological support they expressed.

The most frequent source of concerns in the examined sample was heart disease, ICD shocks, battery run-down and ICD damage. In patients with the dominance of the concern regarding heart disease, Return to Life was significantly lower and their Distress was higher.

The research presented in this paper indicates abundant psychological difficulties of patients with an ICD. It seems that even in patients with an integrated personality the adaptation to life with an ICD may be difficult, and even more so for individuals with emotional problems, treated due to depression and anxiety disorders. Psychological difficulties may have a negative impact on the acceptance of the implanted device, also long after the implantation procedure (Hauer, Aliot, Block et al., 2001).

The results of the presented research shed a new light on the issue of QOL in patients with an ICD. Based on the findings, we may assume that there is a need for educating health care professionals regarding the steps to be taken in the event of an electric storm and the ways to shorten it, developing and improving the techniques of stopping arrhythmia by means of lower energy values. Next to medical factors, psychological interactions are also important: psychological-educational classes and information support on the healthcare professionals' side, physicians in particular, regarding the disease, ICD work, securing life, what to do after ICD intervention—actions to be taken to develop a positive attitude toward the device and reduce fear of death. According to Sears and many other authors (Sears, Sowell, Kuhl et al., 2007; Wallace, Sears, Lewis et al., 2002; Lűderitz, Jung, Deister et al., 1996), psychological variables may be stronger factors in predicting QOL than many other clinical factors. Professional multidisciplinary support in this group of patients, including medical and psychological help, could yield measurable benefits and improve their QOL considerably.

Conclusions

1. In the category of socio-economic statistics in patients with an ICD, we noted a statistically significant and negative relationship between QOL and age. QOL was significantly higher in those active professionally, compared to disability pension recipients and pensioners.
2. In the category of medical factors, the sample was differentiated statistically significantly by ICD shocks, periprocedural complications, presence of other cardiac-surgical and invasive cardiac procedures. QOL was lower in patients who experienced complications during the device implantation and underwent additional invasive procedures related to heart disease. QOL decreased with the increase in the intensity and frequency of ICD shocks, and it increased in proportion to the period of time that had passed since the last shock.

3. Patients with emotional problems who take psychoactive drugs find it more difficult to accept the device and they are characterized by a lower QOL in comparison to the group without psychological problems. The concern regarding the heart disease and ICD battery run-down differentiated QOL in patients—QOL in individuals with a higher Distress level was lower.

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Korelaty jakości życia pacjentów z implantowanym kardiowerterem-defibrylatorem serca

Streszczenie

Implantowane kardiowertery-defibrylatory serca u pacjentów zagrożonych złośliwymi komorowymi zaburzeniami rytmu okazały się najskuteczniejszą metodą zapobiegania nagłej śmierci sercowej. Problemem pozostaje akceptacja urządzenia oraz jakość życia pacjentów. Celem prezentowanych badań jest analiza wybranych medycznych i psychologicznych korelatów jakości życia pacjentów z implantowanym kardiowerterem-defibrylatorem serca. W badaniach zastosowano wywiad oraz Kwestionariusz FPAS w polskiej adaptacji A. Kochańskiej. Przebadano 80 pacjentów II Kliniki Chorób Serca AMG (17 kobiet, 63 mężczyzn) w wieku od 18 do 78 lat, którzy przeżyli z urządzeniem przynajmniej 2 miesiące. Rezultaty badań wskazują na istotne związki jakości życia tych pacjentów z wiekiem, aktywnością zawodową oraz wybranymi czynnikami medycznymi i psychologicznymi.

Słowa kluczowe: jakość życia, implantowany kardiowerter-defibrylator serca, ICD

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PSYCHOLOGICAL CORRELATES OF THE DISEASE-RELATED APPRAISALS IN PATIENTS WITH VITILIGO

Abstract

Background. Vitiligo is a skin disease leading to local or generalized depigmentation of the skin. Social stigma associated with this disease can exert a significant impact on the functioning of the afflicted person. Even small skin lesions can cause painful personal experience. As such, the disease becomes a source of stress for the patient and recognition of the meanings that the patient attributes to the disease is a key factor determining coping strategies and adjustment. The aim of this study was to investigate psychological correlates of disease-related appraisals in patients with vitiligo. Methodology. Twenty patients with vitiligo took part in the study. They completed a battery of self-report psychological questionnaires, including *Disease-Related Appraisals Scale*, *Loneliness Scale*, *NEO-Five Factor Inventory* and *Sense of Security and personal Resilience Questionnaire*. Results. Appraising one's own disease in terms of threat, obstacle/loss and attributive higher overall significance to the disease was related to higher levels of loneliness, and lower levels of sense of security and lower personal resilience. Higher appraisals of the disease in terms of threat and obstacle/loss were associated with higher neuroticism. Extroversion was negatively linked to appraising one's own disease as obstacle/loss. Conclusions. The meanings attributed to their disease by vitiligo patients are related to the quality of social relationships and are also determined by certain basic personality traits.

Key words: vitiligo, disease-related appraisals, loneliness, personality, personal resilience

Introduction

The skin plays an important role in many areas of human functioning. From the psychological point of view, it fulfils the following functions: it separates the individual from the environment, it is an interface for the contact between the individual and the external world, it is a means of social communication, it mirrors internal emotional states of the individual and largely determines the perception of the person by society (Czubalski, 1983). In this respect, a claim made by Szepietowski and Pacan (2001, p. 25) appears as particularly true, according to which all skin lesions are visible to the environment, it is impossible to hide them, thus they become not only a problem for the patient, but also the social environment. Skin diseases are associated with the physical discomfort of the patient, however, they are also reflected in the cognitive (perception of oneself and others), social (avoidance of or lack of relationships) and emotional (experiencing depression, anger, embarrassment, hostility, fear and other negative emotions) dimensions (Steuden, Janowski, 2000, 2002; Janowski, 2006). Patients often evaluate their skin disease as more burdensome than other somatic diseases such as diabetes, asthma or coronary heart disease, which is a significant threat to the life (Kowalczuk-Zieleniec et al., 1999).

Vitiligo is a skin disease, belonging to the category of skin pigmentation disorders. The latter are relatively common skin conditions, leading to the local or generalized hyperpigmentation or depigmentation. They may be congenital or acquired. They are usually mild, which does not mean that they do not cause psychological problems and difficulties in coping with them (Jabłońska, Chorzelski, 1997). The clinical manifestations of vitiligo include patches of depigmented skin areas that may be of various shapes and sizes. Their location is varied and extremely important given the impact that the disease may have on the patient's subjective quality of life. The diagnosis of vitiligo is made on the basis of the occurrence of the following symptoms: the presence of depigmented skin patches surrounded by hyperpigmented edges, which show no signs of inflammation, the lesions are usually numerous. The disease consists in the depigmentation of skin due to damage, loss or selective destruction of melanocytes. The depigmented areas usually include: face (especially around the mouth and eyes), neck, backs of hands, upright surface of the limbs, axillary pits, protruded bones and genitals. Practically, however, the lesions may be placed over the entire surface of the skin. Depigmentation usually occurs bilaterally and the patches are localized symmetrically (Kovacs, Missouri, 1998).

The duration of the disease is long-term, however, the lesions often persist throughout life. In some patients the disease is stable, which means that the lesions do not spread or change localization over years, however, in other patients the lesions can spread rapidly and depigmentation patches can appear in new locations. Repigmentation is also often observed, occurring due to spontaneous recovery of the damaged melanocyte population. Vitiligo usually begins in childhood or adolescence, usually between 10 and 20 years of age. According to epidemiological data, the incidence is approximately 1-2% of the population and decreases with age. The rates of incidence are similar among women and men, although a seemingly erroneous conclusion can be drawn that women are affected more often than men, based on statistics for medical visits related to seeking treatment for vitiligo, which are higher for women. (Kovacs, Missouri, 1998).

Genetic factors can play an important role in development and formation of depigmentation, however, it is assumed that specific conditions are required for the disease to manifest, and the inheritance pattern is dependent on multiple genes (Wąsik et al., 1995). Epidemiological-genetic studies provide ambiguous data concerning the inheritance rates. different indicators. The data reported by Lip et al. (1995) showed that vitiligo occurs in about 20% of close family members (however, it was found that only 5% of the offspring and 7% of siblings have the disease), and Ambroziak et al. (1999) reported that 30% of close family members were also affected by vitiligo.

As for the etiopathogenesis, a definite cause of the occurrence of vitiligo has not been established yet. Three main hypotheses are usually investigated in studies: autocytotoxic, autoimmune and neuronal. In the opinion of many physicians, vitiligo is often triggered by psychological trauma – this claim finds confirmation in the results of many studies conducted in this area. The data obtained by Sheridan and Radmacher (1998) showed that vitiligo occurs as a result of experience of strong emotions and stress in approximately 33% of patients. This is confirmed by the results of studies by Manolache and Bene (2007) and Papadopoulos et al. (1998) which showed that patients with vitiligo had experienced significantly more stressful life events than individuals with other skin diseases. In their study, Firooz et al (2004) found that a majority of patients (62.5%) with vitiligo were convinced of the important role of stress in precipitation and exacerbation of the disease.

Social stigma associated with skin disease can exert a significant impact on the functioning of the afflicted person (Steuden, Janowski, 2002; Janowski, Steuden, 2008). Based on the appearance of the skin, the person can be perceived as threatening to others, which can consequently lead to experiences of rejection and social isolation (Janowski, 2006; Steuden et al., 2007). People diagnosed with vitiligo experience difficulties in establishing interpersonal relationships with other people, starting a family or finding a life partner (Czubalski, 1983). The patients, especially women, also report sexual problems that often arise from the embarrassment associated with the appearance (Sukan, Manera, 2007).

The conclusions of the study by Porter et al. (1990) are an illustration of the problems described above. These authors described how vitiligo lesions can influence social and sexual relationships of the patients. As reported by people with vitiligo, the main problem related to the disease was anxiety and embarrassment experienced when making new acquaintances. Most patients were convinced that they would become victims of malicious comments and would attract others' attention. In the opinion of Austin (2004) the disease concerns the surface of the skin disease, however, emotionally it disturbs the patient much deeper.

Physical appearance also exerts a considerable impact on the formation of self-concept, hence the skin disease is a particular problem for young people (Czubalski, 1983; Steuden, Janowski, 2000). It should be added that in the modern world in which good looks play a significant role in many areas of social functioning, skin disease is a painful experience for both women and men. Self-depreciation, low self-esteem and low quality of life are frequantly related to vitiligo (Porter et al., 1990; Kent, Al-Abadie, 1996). This is reflected in co-occurring depressive symptoms and feelings of stigma (Behl, 1994). This is particularly true if the depigmentation patches occur on visible uncovered body areas. The location of lesions is of key importance, in this respect the lesions on the face, hands or genitals (regardless of size) are most burdensome in the opinion of patients (Kowalczuk-Zieleniec et al., 1999). Thus, even small lesions can cause painful personal experience, and their underestimation or neglect is a serious error in medical practice. The disease becomes a source of stress for the patient and recognition of the meanings that the patient attributes to the disease is a key factor in help aimed at maintaining good quality of life.

Cognitive appraisal of the disease plays an important role in the response to disease-related stress (Lazarus, 1993), which is undoubtedly experienced by patients with vitiligo. Lazarus (1991, cf. Włodarczyk, 1999) distinguishes between two types of cognitive activity: knowledge and cognitive appraisal. Knowledge consists of general beliefs about oneself, events, and the surrounding world. Cognitive appraisal refers to the meaning of the situation for the well-being of the individual and generates the appropriate emotional responses and behavior.

Knowledge and beliefs about the disease can be labeled as cognitive representation of illness (Baumann et al., 1989). According to Meyer et al. (1985) such representation consists of items such as identification of the disease, its causes, effects, course, and predictability and controllability (cf. Heszen-Niejodek, 2000).

According to Lazarus and Folkman (1984, cf. Folkman, Lazarus, 1988) cognitive appraisal concerns the evaluation of the situation with respect to the meaning and importance of events rather than the knowledge and beliefs of the individual on the subject. Appraisal evokes emotions and influences the coping process, which changes the relationship between the subject and the stressor. The situation is then cognitively re-appraised, which modifies the intensity and quality of experienced emotions.

Cognitive appraisal is dependent on both subjective and situational factors (Folkman, 1984; Folkman, Lazarus, 1988). Factors associated with the person include the values, beliefs, problem-solving skills, while those related to the environment involve the character, ambiguity and duration of stress, the availability of coping resources, including perceived social support, material and institutional resources (Brachowicz, 2009; Sadowska, 2009).

Dolińska-Zygmunt (1996) identified two main groups of factors that shape the process of attributing meanings to the disease:

- External factors: the patient's life situation, time and place of occurrence of the disease in the course of life, the area of activity that is affected by the disease, the availability of medical services and the attitudes of social environment toward the patient
- Internal factors associated with the characteristics of the person: personality traits, hierarchy of values and the system beliefs about oneself and the world, the style of coping with stress, past experiences, and acquired and internalized stereotypes.

Cognitive appraisal is therefore subjective, though based on objective information obtained from the environment. For a given person, however, such information carries specific meanings. Therefore, the same situation may be appraised differently by different people, as well as the same person may appraise differently various situations (Steuden, 2002; Steuden, Okła, 2007). People often largely ignore characteristics of the situation and their appraisal is determined instead by stable personality predispositions (Włodarczyk, 1999) or beliefs and the degree of commitment, which reveals what is important and significant for a given person (Folkman, 1984).

The relationship between the subject and stressors can be appraised as harm, benefit, threat or challenge (Folkman, Lazarus 1988). On the other hand, Lipowski (1970) listed more cognitive categories that relate to the subjective meaning of the disease: the challenge, enemy, punishment, weakness, relief, strategy (benefit), loss, and value. Steuden and Janowski (2006) identified the following categories of appraising one's own disease: threat, harm, challenge, loss, benefit, obstacle/loss, and value. Studies conducted so far by means of a questionnaire developed by these authors – Disease-Related Appraisals Scale – demonstrated that the different categories of the disease appraisals, even seemingly contradictory, may coexist (Janowski, 2006; Kuryłowicz, 2006; Sadowska, 2008). This points to the complexity and the multiple facets of the disease appraisal.

The process of attributing meanings to one's own disease may be more or less conscious. Nevertheless, it does not change the fact that such appraisal affects the way of coping with the situation of the disease.

Methodology

The aim of the study was to investigate psychological correlates of the experience of one's own disease in patients with vitiligo. The variables analyzed in this study included disease-related appraisals and its hypothesized correlates: sense of loneliness, sense of security, personal resilience, and basic personality traits.

The study was conducted in 20 people (13 women and 7 men) diagnosed with vitiligo who sought treatment in an out-patient clinic. The mean age for the whole sample was 27.3 years. Duration of illness ranged from 1 year to 10 years. Most patients (13 patients) had lesions on exposed parts of the body, i.e. face, neck and hands.

Four psychological questionnaires were used in the study along with a sociodemographic and clinical data form.

Disease-Related Appraisals Scale (DRAS) developed by Janowski and Steuden (2009) consists of 47 items encompassing the following categories of cognitive appraisal of the disease: Threat, Benefit, Obstacle / loss, Challenge, Harm, and Value. The scale has one control scale – Importance – measuring overall significance attributed to the disease by the patient. The scale has good psychometric characteristics (cf. Janowski, 2006; Kuryłowicz 2006).

The Loneliness Scale – developed by de Jong Gierveld and Kamphuis (1985), in the Polish adaptation of Rembowski (1992), consists of 30 statements building up five factors: deprivation of social contact; situational sense of social rejection, loss of sense of social belonging, sense of connection with the group; sense of meaningful relationships with people.

Sense of Security and Personal Resilience Questionnaire – developed by Uchnast (1997, 1998) was used to measure the level of generalized level of sense of security, and five factors: Closeness, Stability, Self-Confidence, Ego Resilience, and Personal Resilience.

NEO-Five Factor Inventory (NEO-FFI) developed by Costa and McCrae in the Polish adaptation of Zawadzki et al. (1998). The method contains 60 items, which measure five basic factors of personality: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Results

Disease-Related Appraisals and Sense of Loneliness

The scores obtained on the Disease-Related Appraisals Scale (DRAS) and the Loneliness Scale were analyzed calculate the correlations between these variables. The resulting correlation matrix is shown in Table 1.

Table 1. Statistically significant Pearson's *r* correlation coefficients between disease-related appraisals and sense of loneliness.

Disease-related appraisals	Deprivation of the need for social contacts	Sense of loss of social contacts	Sense of loss of meaningful relationships with others
Threat	-	0.48*	0.48*
Obstacle/loss	0.45*	0.55*	0.59**
Importance	-	-	0.45*

* $P \leq 0.05$; ** $P \leq 0.01$; ***$P \leq 0.001$

The data contained in Table 1 show that a sense of loss of meaningful relationships with others was positively associated with attribution of high importance to one's own disease. Appraisals of the disease made by the patients in terms of a threat and an obstacle/loss were statistically significantly associated both with a sense of loss of a social group, and a sense of loss of meaningful relationships with others. Additionally, appraising one's own disease in terms of an obstacle was found to be significantly related to higher deprivation of the need for social contacts.

Disease-Related Appraisals, and Sense of Security and Personal Resilience

In order to analyze the associations between the appraisals of one's own disease, and sense of security and personal resilience, correlation coefficients were calculated for the relevant variables. The obtained matrix of statistically significant correlations is shown in Table 2.

Table 2. Statistically significant Pearson's *r* correlation coefficients between disease-related appraisals and sense of security and personal resilience.

Disease-related appraisals	Closeness	Self-confidence	Sense of security	Personal resilience
Threat	-0.56*	-0.72***	-0.59**	-0.71***
Obstacle/loss	-0.59**	-0.79***	-0.60**	-0.77***
Importance	-0.59**	-	-	-0.53*

* $P \leq 0.05$; ** $P \leq 0.01$; ***$P \leq 0.001$

The generalized sense of security was not significantly related to the overall importance attributed to vitiligo. Higher importance attributed to the disease was, however, significantly related to lower closeness of the relationships with others and lower personal resilience. Appraisals of vitiligo in terms of a threat and obstacle/loss were significantly correlated with lower closeness in relationships with others, lower self-confidence, lower sense of security and lower personal resilience.

Disease-Related Appraisals and Basic Personality Traits

The scores obtained by the patients with vitiligo on the NEO-Five Factor Personality Inventory and Disease-Related Appraisal Scale were correlated to determine the strength of the relationship between the variables measured by these instruments. The resulting matrix of statistically significant correlations is shown in Table 3.

Table 3. Statistically significant Pearson's r correlation coefficients disease-related appraisals and basic personality traits.

Disease-related appraisals	Neuroticism	Extroversion
Threat	0.56*	-
Obstacle/loss	0.62**	-0.55*

* $P \leq 0.05$; ** $P \leq 0.01$; ***$P \leq 0.001$

Two personality traits were found to be statistically significantly related to appraisals of vitiligo. Higher neuroticism was significantly associated with higher appraisals of the disease in terms of a threat a obstacle/loss. Extroversion was found to be negatively linked to the appraisal of vitiligo in terms of an obstacle/loss.

Discussion

Our analyses demonstrated that subjective perception of the disease in patients with vitiligo was significantly related to aspects of loneliness, sense of security, personal resilience and personality traits.

We found that one aspect of loneliness – the sense of loss of meaningful relationships with others was associated with higher overall importance attributed to vitiligo. Two specific disease-related appraisals – threat and obstacle/loss – were associated with loneliness, more specifically with deprivation of social needs and loss of social contacts and meaningful relationships. It can be assumed that, given the importance people attribute to relationships with others, painfully experienced loss or deprivation of social contacts may be interpreted by the patient as a consequence of the disease. In such case, the disease can be perceived in terms of a threat to and an obstacle in maintaining interpersonal contacts and relationships with others. According to Obuchowska (1999) subjective appraisal of the disease is dependent on social context. If patients positively evaluate their relationships with other people, the disease does not have to be perceived as a threat to them, although it still can remain a significant event in their lives.

The relationship observed in this study between perceiving vitiligo in terms of a threat and obstacle/loss on the one hand, and dimensions of loneliness on the other hand, seems to emphasize the importance of social contacts and meaningful relationships with others to individual responses to illness. From the medical point of view, vitiligo does not pose any serious health hazard and is usually treated as a cosmetic defect rather than a disease. The subjective appraisals attributed to vitiligo by the patients seem to overestimate the threat and burden associated with the disease if their social contacts and meaningful relationships with others are broken.

This conclusion is further supported by the findings from the analysis of the associations between disease-related appraisals, and sense of security and personal resilience. A significant link was found between the overall importance attributed to the disease and the closeness of the patient's social relationships – lower closeness was associated with greater importance attributed by the patient to vitiligo. Readiness to share one's worries with other people makes the burden associated with the disease seem smaller. On the other hand, being closed to contacts with other people is associated with the experience of frustration of the needs for belonging and love which are satisfied in closeness to others.

As demonstrated by the statistical analysis, it is the sense of closeness that is one of the most important determinants of meanings attributed to the disease in patients with vitiligo. According to Dodziuk (2005) closeness is always a characteristic of the relationship, it does not exist in isolation from the other person. It indicates the degree of personal attachment to those from the person's proximal social environment, the degree of commitment into relationships, and openness to direct contacts with others. Closeness to others is a manifestation of the individual generalized attitude towards the surrounding world and determines the individual's place in it. Depigmentation patches on the skin can be an obstacle in achievement of physical intimacy, which may in turn hinder the psychological closeness. A similar claim was expressed by other authors dealing with psychodermatological disorders (Janowski, 2006; Steuden et al., 2007; Janowski, Steuden, 2008).

According to Detig (cf. Januszewski, 2001) there are some typical areas of conflict in skin diseases. One of them involves the manner of understanding the closeness – distance differences, impaired intimacy of contacts, affection and emotional ties. Specific properties of the skin make it the organ mediating various signals of experienced difficulties, and it can become the manifesting place for a conflict. The author concludes that patients with skin disorders suffer from problems in establishing interpersonal contacts, and skin symptoms then come to the aid, acting as a defense before making contacts, which is originally induced by the fear of the environment. Sheridan and Radmacher (1998, p. 443) express a similar position according to which ".... A person who has difficulty making contact with others, may suffer from a skin disease, while the disease may protect the person from the risks associated with initiating and maintaining these contacts. The skin, as a substitute for the protective psychiological shield, takes over the function of regulating closeness and distance with others."

As evidenced in Table 2, personal resilience was found to be negatively correlated with the overall importance attributed to the disease. The lower the patient's courage and ego-strength in taking responsibility for their lives, the more importance it attributed to the illness. Concentration on the symptoms of skin disease may be so absorbing that it limits the dynamics of the person, reduces his/her courage and willingness to take risks. Perception of the disease in terms of a threat and an obstacle was also negatively associated with personal resilience and the generalized sense of security, which consists of closeness and self-confidence. This points to a conclusion that lower self-confidence, lower trust in one's own abilities, talents and potentials in the execution of important life tasks, and lower closeness with others, the greater the threats and obstacles perceived as coming from the disease. This introduces a constant sense of anxiety and danger, lowers mood, and also causes difficulties in interpersonal relations. The person fearing the effects of their illness, which is seen as a serious problem, is afraid to share their worries with others, getting closer to people, fears rejection on the one hand, on the other hand wants to avoid burdening others with his/her own difficulties. The disease appears then as a source of constraints and difficulties in family, professional and social life. Januszewski (2001) states that it is in the skin that basic experiences are rooted enabling the person to develop full trust in oneself and others. These experiences are formed in the early stages of human development. When there is no proper demarcation of the world of the child and the world of the mother, the "transition region" cannot develop underlying the development of potential intrapsychic space, which can lay foundations for future problems in clearly separating oneself from others, and a lack of a stable sense of self-identity, their place in world, and personal resilience.

Two basic personality traits – neuroticism and extroversion – were found to be associated with disease-related appraisals. The higher the severity of neurotic traits a person exhibits, the more the disease is associated with a sense of threat and fear. Emotions experienced by the patient which are generated by personality traits, affect the experience of illness, may destabilize the current functioning of the patient and influence the plans for his future. Even a disease such as vitiligo that does not involve a threat to life or physical functioning, may introduce tension and fear. Neuroticism also correlated positively with the appraisal of the disease in terms of an obstacle. Interpreting this finding, it can be said that neuroticism typically consist of anxiety, depressiveness, impulsivity, excessive sensitivity (McCrae, Costa, 2005), which predispose the person to experiencing negative emotions (cf. Zawadzki et al., 1998). In addition, people with high levels of this characteristic generally have inefficient mechanisms of dealing with stress, rarely resort to problem-oriented strategies and social support (Costa, McCrae, 1992; Costa et al., 1996). Emotions experienced by the person (to which the structure of personality predisposes), often with negative overtones, aggravate the burden of the difficulties and limitations resulting from the disease.

In contrast to neuroticism, higher levels of extroversion in people with vitiligo co-occurred with lower tendency to appraise the disease in terms an obstacle. Extroversion is associated with sociability, activity, and a predominance of positive emotional reactions (McCrae, Costa, 2005). It is also accompanied by more active, social and optimistic ways of coping with stress (Costa et al., 1996). Research in patients with other skin disorders, e.g. patients with atopic dermatitis and alopecia areata, fund that elevated neuroticism may be a characteristic feature of these patients (Steuden, Janowski, 2002). Januszewska (2001) points out that in questions relating to specific personality traits of the patient, particular attention should be paid to the cause and effect relationship, namely, whether certain personality traits predispose to the onset of a particular disorder, or whether the presence of a disorder leads over time to specific changes in personal functioning.

Conclusions

1. The sense of meaningful relationships with others is positively associated with attribution of overall importance to vitiligo. Perception of one's own illness as a threat is associated with a sense of loss of a social group, and a sense of loss of meaningful relationships with other people.
2. Lower closeness to others in the patients' social relationships, lower courage and ego-strength in taking responsibility for one's own life, and weaker sense of security and self-confidence, are related to the tendency to perceive more threats and difficulties related to vitiligo. If patients experience the deprivation of the needs of belonging, love and intimacy with other people, and at the same time are characterized by lowered sense of personal resilience, the more importance they attribute to the disease.

3. Patients with higher levels of neuroticism perceive their own illness in terms of threats and obstacles. Subjects with lower level of extraversion tend to treat the symptoms of the disease as an obstacle to the different areas of functioning.

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Psychologiczne korelaty oceny własnej choroby u pacjentów z bielactwem nabytym

Streszczenie

Wprowadzenie. Bielactwo nabyte jest chorobą skóry, która prowadzi do miejscowej lub uogólnionej depigmentacji skóry. Społeczne piętno związane z tą chorobą może wywierać znaczący wpływ na funkcjonowanie chorych na nią osób. Nawet niewielkie zmiany na skórze mogą powodować bolesne doświadczenie osobiste. Jako taka, choroba stać się może źródłem stresu dla pacjenta, a nadawanie przez pacjenta subiektywnych znaczeń chorobie może być kluczowym czynnikiem decydującym o strategiach radzenia sobie i przystosowaniu do życia z chorobą. Celem tej pracy było zbadanie psychologicznych korelatów subiektywnych znaczeń nadawanych chorobie przez pacjentów z bielactwem. Metodologia. W badaniu udział wzięło dwudziestu pacjentów z bielactwem nabytym. Wypełnili oni baterię samoopoisowych kwestionariuszy psychologicznych, w tym Skalę Oceny Własnej Choroby, Skalę Poczucia Samotności, NEO-FFI oraz Kwestionariusz Poczucia Bezpieczeństwa i Prężności Osobowej. Wyniki. Ocena własnej choroby w kategoriach zagrożenia, przeszkody/straty i nadawanie wyższego ogólnego znaczenie chorobie było związane z wyższym poziomem samotności oraz obniżeniem poczucia bezpieczeństwa i niższą prężnością osobową. Wyższe oceny choroby w kategoriach zagrożenia i przeszkody/straty były związane z wyższym neurotyzmem. Ekstrawersja była ujemnie skorelowana z oceną własnej choroby jako przeszkody/straty. Wnioski. Znaczenia przypisywane chorobie przez pacjentów z bielactwem nabytym związane są z jakością relacji interpersonalnych, jak również są wyznaczane przez niektóre podstawowe cechy osobowości.

Słowa kluczowe: bielactwo, ocena własnej choroby, samotność, osobowość, prężność osobowa

Chapter 3

Psychological and Medical Aspects of the Therapeutic Relationship

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SELECTED FACTORS INFLUENCING THE RELATIONSHIP BETWEEN THE PHYSICIAN AND THE PATIENT WITH CHRONIC PAIN

Abstract

The mutual interaction between physical pain and one's view of the world has been observed for millennia by philosophers. The systematic medical analyses of the phenomenon of pain are relatively recent. Medical authors in the 19th century noted the importance of such phenomena as pain, insomnia, weight loss, sweating, dizziness and cardiac and respiratory disorders in depressive states. In 1973, the International Association for the Study of Pain recognized chronic pain as a complex of disease syndromes or even a disease in its own right. Various studies have proven that chronic pain influences somatic, psychosocial and socioeconomic determinants of human life. The aim of this paper is to present the interdisciplinary outlook on the relationship between a physician and a patient with chronic pain. The paper is a result of cooperation between a physician - specialist in anaesthesiology and intensive care, a psychologist, a social anthropologist/sociologist and a philosopher. Discussed problems: diagnostics of patients with chronic pain, co-occurrence of depressive symptoms, ability to cope with chronic pain ranging from mental defeat to psychological flexibility, communication between doctor and patient with chronic pain.

Key words: chronic pain, depression, mental defeat, psychological flexibility, doctor patient communication.

Introduction

The mutual interaction between physical pain and one's view of the world has been observed by philosophers for millennia. Hippocrates, a prominent precursor of contemporary medicine stated around 2500 years ago that "an hour of pain is as long as a day of pleasure." However, a systematic analysis of the phenomenon of pain from the perspective of medical science is a relatively recent occurrence. Gottfried Wilhelm Leibniz, the 17th century philosopher, perceived pain as a type of evil which cannot play a positive role. He claimed that evil can take different forms understood as something bad, imperfect, uncomfortable, difficult, troublesome, pinching, painful, and scary, etc. Evil is what destroys the harmony of the world, causes pain and suffering. Leibniz distinguished the following categories of evil: moral evil (*malum morale*), physical evil (*malum physicum*) and metaphysical evil (*malum metaphysicum*) (Marquard, 2001). Today the notion of metaphysical evil can be defined as something that lowers the quality of human life, decreases comfort, adds problems, makes our activity more difficult, hurts our sense of justice and decreases the feeling of safety. Medical authors in the 19th century noticed the importance of such phenomena as pain, insomnia, weight loss, sweating, dizziness, and cardiac and respiratory complaints in depressive states. Depression was regarded as a spectrum of disorders with mental and somatic aspects. Co-occurrence of those disorders assumes different proportions depending on one's individual predisposition. Over 70 years ago, it was indicated that physical complaints were an integral part of the depressive syndrome. Then, in 1973, the International Association for the Study of Pain recognized chronic pain as a complex of disease syndromes or even a disease in its own right in individual cases. Since then the systematic evaluation of patients with acute, recurrent and chronic pain states has revealed co-occurrence of pain with anxiety, anger, cognitive impairment, abnormal personality traits, frequently with depression symptoms (Burton, 2001). Moreover, that evaluation has revealed that chronic pain influences significantly various psychosocial and socioeconomic determinants of a human life.

Such a complex and multidimensional issue needs a multidisciplinary diagnostic and therapeutic approach and, especially, it needs entering into a proper relation between a doctor and a patient. Communication with a patient suffering pain is particularly difficult while it is the essence of both a proper diagnosis and choosing the right therapy. However, it is still not appreciated enough. This needs an individual approach to a patient, learning not only about their ailments but also about their family and social background and even about their inner dilemmas.

Hence, even though being primarily the area of interest of medical doctors, this issue also interests specialists from various fields of study, including philosophers, sociologists and psychologists dealing with the psychology of health.

Preventing alteration of acute pain into chronic pain appears to be of great importance. This paper is the effect of cooperation of a physician specializing in anaesthesiology and intensive care, a clinical psychologist, a social anthropologist/ sociologist and a philosopher. The aim of this paper is to present an interdisciplinary outlook on selected factors influencing the relation between a physician and a patient with chronic pain.

Chronic Pain - Diagnostic Problems

The Classical Medical Approach

From a clinical point of view, chronic pain is a complex of multifactorial processes which depend on constitutional, somatic, psychological and environmental factors. Therefore, the classical medical approach which deals mainly with somatic factors should include the psycho-sociological background of a patient's ailments (Koleck, Mazaux, Rascle, Bruchon-Schweitzer, 2006). As medical practice shows, frequently, a patient's view of the disease differs considerably from a physician's outlook. A physician bases his view of a specific disease syndrome on the information obtained from a patient, a physical examination of a patient, test results, medical knowledge as well as a physician's own interpretation of all of these data. On the other hand, a patient's own view of the disease is created by a patient's own observation of the symptoms and their reasons, his or her ideas and suppositions about the reasons of the symptoms as well as common-sense knowledge about diseases. Often, a patient's own perception of the disease is not consistent with a physician's view. It may be distorted, exaggerated or minimized. When a patient considers his ailments to be too severe and the pain accompanying them inseparable and impossible to control, negative emotional states are likely to appear, as a result of which the intensity of ailments may increase (Plessner, 2004; Spaemann, 2006).

The Aspects of the Doctor-Patient Relationship as the Factors Influencing the Patient's Diagnosis and Therapy

Research findings confirm the high prevalence of chronic pain in primary care patients. Simultaneously, they show the importance of such sociological factors as gender and social background of a patient (Smith, 2004). It would seem that doctor's awareness and taking into consideration of these issues may be conducive to early recognition of chronic pain and beginning a suitable therapy. However, it is not always the case. In our view, the reason for this lies in a particular aspects of doctor-patient relationship. That relationship consists in casual place- and time-limited contacts between a patient and a doctor. It seems that proper communication between these parties is critical for the accuracy of both a diagnosis and pain management. Generally, several vital aspects of treatment and healthcare provision depend on doctor-patient communication. Previous findings indicate that communication influences not only the accuracy of the diagnosis, but also the degree of a patient's compliance with the doctor's recommendations, understanding the reasonableness of ordered therapy and the level of a patient's satisfaction related to the course and effects of treatment (Korsch, Harding, 1999; Dzierżak, 2009). Effective communication helps in lowering the risk of frustration that may arise from interaction. It may also help in avoiding the notorious "*Oh, by the way, Doctor" interview syndrome* often occurring at the end of an interview when a patient suddenly asks a doctor questions or provides the information which can be fundamental in the process of healing and which sometimes invalidates the conclusions from the performed anamnesis. This phenomenon is widely known by doctors around the world. In the United States it is sometimes called "*a doorknob question",* in reference to questions asked by a patient at the door, while leaving the consultation room. According to some authors, doctors tend to hold patients responsible for such frustrating behavior. However, there are indications that this problem results rather from the improperly directed communication by the doctor with a patient (Baker, O'Connell, Platt, 2005; White, Levinson, Roter, 1994; Hines, Moss, Badzek, 1994). It is only one step away from accepting by a patient the disadvantageous attitude of helplessness and resignation from looking for an effective exchange of information. When facing barriers in communication, patients become passive.

Individual traits of the parties and the structural factors in diagnosis. The aspects which are usually considered in doctor-patient communication can be divided into the ones that are connected with individual traits of the parties involved in the act of communication (i.e. a doctor and a patient) and structural factors that result from the interaction between the parties in the context of an institution such as a healthcare centre. The research on the individual traits of the parties in the act of communication have revealed the significance of the following social and cultural characteristics of a patient: age, education, social and ethnic background, and, in some cases, also religion. It is worth mentioning that the results of communication between a doctor and a patient are rarely attributed to social and cultural features of a doctor (Strong, Unruh, Wright et al., 2001). A far as the structural factors of communication between a doctor and a patient are concerned, they include the time and place of interaction, and location of a doctor and a patient in the context of a healthcare institution as well as in the context of the act of communication alone. It must be stressed that time and spatial restrictions constitute the common problem of health care that can be poorly controlled by doctors.

In communication between a doctor and a patient, a doctor usually oscillates between authoritative attitude and behaviour of a seemingly neutral individual applying tools and medical expertise. The patients, in turn, are usually passive recipients of medical knowledge. In most cases, their activity in the context of communication between a doctor and a patient is limited to answering the questions posed to them (Domański, 2008; Rapley et al., 2006). A certain "ceremonial" order is obligatory in the context of a health care institution and in the context of doctor-patient interaction. Within this order a doctor usually has priority and initiative. Besides, doctors often assume that what was "provided" (said) by them is equivalent with what a patient "received" (understood) (Peerbhoy, 1998).

Ritualization and theatralization in a doctor-patient approach. On the other hand, from the patients' point of view, the main fault of doctors is either lack of attention or the absence of understanding of a patient's problems (Baker, O'Connell, Platt, 2005; Domański, ibid.). This is a sign of ritualization and theatralization of a professional life. Ritualization is a kind of a social game that appears in the unnatural and excessively formalized social arrangements. As any game, it requires from all the players their obedience and following stiff rules (Tarnopolski, 2002). There are some vital reasons why theatralization of doctors'professional life has become a habit in their job. Firstly, one can assume that the reason lies in the excess of difficult situations which a doctor faces in his profession. The preliminary results of the research on the above were presented in the paper *Communication with a Patient at the Pain Treatment Outpatient Clinic: Anxieties and Hopes* (Ortenburger, Ortenburger, 2007; Ortenburger, 2008). The aim of the research was to receive feedback on expectations and barriers existing in communication between a patient and a doctor during a medical interview at the pain treatment clinic. The study was performed on a group of patients at the Pain Treatment Outpatient Clinic /*n*=118/ and among the doctors – specialists in pain treatment /*n*=67/ with the use of a semi-structured interview method. The results revealed differences between what the doctors and patients involved in pain treatment care thought about the sources of their mutual misunderstandings. The patients stressed the importance of the emotional side of a contact for a suffering person. What they considered to be an important barrier was the fact that doctors were perceived by them as the individuals who could not be talked to about the feelings connected with an illness and experiencing pain. Expectations for doctors and other specialists covered two most important matters: firstly, that a doctor should be scrupulous at work, secondly, that a doctor should give a patient a chance to express their feelings and emotions which co-occur with ailments. Secondly, in the doctors' opinion, too little respect and consideration for their authority on the part of the patient was an irritable aspect of patient-doctor contact. However, the common thing was that both parties wished to be approached with respect.

Theatralization of professional life is a defense mechanism. A game on which ritualization is based does not require being equipped with proper communication qualifications (social competences in the field of communication) but it triggers different substitute mechanisms which are not to be verified and which live their own lives. One of such substitute mechanisms is the notion of substantial distancing. It is wrongly understood professionalism based on the conviction that externally controllable mechanisms are more effective and durable than the internally controllable ones. It encourages manipulation, the consequence of which is advanced conformism and a game of deception (Witkowski, 2000).

Psychological aspects of a diagnosis. Pain is not only the problem of body disability. Research literature indicates that the way of experiencing pain and the conviction that chronic pain is connected with worsening the quality of one's life can secondarily increase the patient's fear and a sense of threat. Some studies put emphasis on sociological factors, showing that job dissatisfaction, low income and permanent tiredness are associated with high levels of chronic pain (Koleck et al., 2006). The following additional after-effects are among commonly known consequences of chronic pain: fear disorders, depression, difficulty in performing one's work, limitation of one's possibilities of social functioning, including effective communication as regards emission and reception of information (Saint-Maurice, Mulle, Meynadier, 1998; Dobrogowski, Wordliczek, 2004). The severity of pain interferes with a patient's activity and quality of life. Many a time the problem of dependency on medication, an increase in dependency on the family, on caregivers, difficulty or inability to pursue one's career as well as social isolation appear. The above factors can also secondarily deepen the patient's sense of withdrawal, anxiety, fear, bitterness and frustration (Heszen, Sęk, 2007).

It is widely understood that experiencing chronic pain and its impact are determined to some extent by psychological processes. Basing on the interaction of cognition processes and environmental contingencies patients can develop certain kinds of adaptation mechanisms. This phenomenon enables chronic pain patients to reorientate their long term goals and set different values in life, making functioning in these new conditions possible. A combination of processes mentioned above overlaps chronic pain and constitutes what is called *psychological flexibility* (McCracken, Vellema, 2010; Hayes et al., 2006). Tang and co-authors (Tang et al., 2007, 2009, 2010) deal with a phenomenon called *mental defeat* observed in patients suffering persistently from pain. Mental defeat is a construct that has recently been applied to the experience of chronic pain as a way of characterizing the impact of pain on self-concept. It can be conceptualized as a type of self-processing where persistent pain results in a linked set of negative beliefs about the self in relation to pain. It may represent the type of catastrophizing where the feared future consequences of pain primarily concern the person's sense of identity, agency and self. Accordingly, the pain patients may develop specific catastrophic beliefs about the physical consequences of pain (e.g. "The pain is so bad that I'll soon end up in a wheelchair") and more self-related sense of mental defeat (e.g. "The pain will destroy me as a person/partner/parent"). The sense of mental defeat in patients with chronic pain is comparable to that observed among those with chronic depression and posttraumatic stress disorders. Mental defeat differentiated treatment seeking from non-treatment seeking individuals matched not only in terms of their demographics and pain intensity but also mood disturbance.

The findings of Tang et al. (2007, 2009, 2010) appear to suggest that psychological factors such as mental defeat may play an important role in explaining individual differences in patient's functional status. Accordingly, the authors specifically differentiate catastrophizing from mental defeat. They proposed that mental defeat can be conceptualized as a type of catastrophizing that focuses not on physical meanings of the pain experience, but rather on the effects of pain on the person's identity. Mental defeat and catastrophizing are inter-related but distinct variables. The first can be described as a state of mind marked by a sense of a loss of autonomy, agency and human integrity, closely linked to disability and distress in chronic pain (Haythournthwaite, 2008; Tang et al., 2007; Tang et al., 2009; Tang et al., 2010).

Depression in chronic pain and chronic pain in depression. In several patients, the symptoms of pain and depression develop simultaneously. Understanding the constellation of relations between chronic pain and depression can sometimes be very difficult due to multidimensionality of these phenomena. Therefore, among vegetative and somatic symptoms of depressive disorders, pain ranks second only to insomnia. In some cases, pain-related suffering dominates in the clinical picture so much that the underlying depressive disease is not recognized for months or even years. However, among patients with chronic pain depression occurs more commonly than it is found in primary health care examination. The reason for this is the deficiency of suitable examination skills among clinicians. Hence, during the examination of a patient with chronic pain who also shows any vague depressive symptoms a further clinical examination should lead towards recognition or exclusion of depression. In the clinical context, the question whether chronic pain precedes depression or depression leads to chronic pain cannot be solved easily.

An explanation of the co-occurrence of chronic pain and depression seems to lie in the features of biochemical metabolism common to both disorders. These include, among others, similar disorders of serotonergic and noradrenergic systems. They are the disorders that consist in centrally produced erroneous neurotransmitters, which results in incorrect sensory interpretations. In the clinical context, patients with severe chronic pain experience distinct psychopathological sequels comparable with those which are found in hereditary, metabolically determined depression (formerly called "endogenous depression"). Such patients typically show symptoms of irritability, dysphoric mood, narrowing of interests and reduced capacity for experience, known as the “algogenic psychosyndrome”. Patients with severe depressive symptoms present anhedonia, early morning awakening, indecisiveness, suicidal tendencies and existential despair while, in some cases, psychotic features are the most prominent. An algogenic psychosyndrome manifesting itself by the presence of a long-standing, distinct somatic source of pain in combination with the psychopathological picture leads to a clinical conclusion that pain is the cause and depression the result. Our observations provide evidence that depressed patients with chronic pain tend to be perceived as less active compared to non-depressed ones. Besides, depression syndromes reduce the likelihood of a patient’s response to pain management and increase the utilization of medical services by patients with pain. One should remember that the presence of chronic pain in addition to depression codetermines not only course but also the outcome of a treated patient. It is worth reminding that in case of patients copying with pain ailments, the nature of their contacts with others is strongly influenced by fear. People experiencing fear more frequently tend to stammer; they cannot find proper words, repeat words, make pauses more often and have problems with communication (Grzesiuk, Korpolewska, 1988; Nęcki, 1996).

The Significance of the Language of Communication between a Physician and a Patient

Considering the problems encountered in diagnostics and management of patients with chronic pain, the efficiency of doctor-patient communication becomes essential. It is worth emphasizing that the language of communication is a dominating issue in this case.

The majority of the fields of science have an elaborated specialist language used for the examination and description of the phenomena. Due to its complex terminology, the language frequently tends to be comprehensible only to the specialists in a given field and largely unclear to outsiders. It concerns natural sciences, in particular, including medicine. A conversation between a doctor and a patient should be characterized by reliability and properly formulated truth. By choosing the language of communication a doctor should consider a patient’s ability as regards understanding the message because at a certain level of argumentation a patient may fail to understand the discussed problem. In our view, understanding information by the subjects (i.e. a patient) in all basic meanings of the notion “understand” is considerably determined by their personality traits and cognitive competences (Kosztołowicz, Szerla, Domański, 2008; Barr, 2004).

There are studies showing the correlation between personality and the degree of difficulties in communication. However, the literature of the subject reveals that recognition in which there is a space for the realization of an appointment at the subjective plane is still more a postulate than a fact. Patients' reports included in the books of characteristic titles e.g. "*An aware patient. How to speak to be listened by a doctor" ["Świadomy pacjent. Jak mówić aby lekarz cię słuchał"]* (Korsch, Harding, 1999) say much about it. The reports concern a common doctor-patient interaction problem based on a mutual impression that one's words fall upon deaf ears. Simultaneously, a problem arises as to what should be done so the sides involved understand each other (Korsch, Harding, 1999).

Giddens (2002) refers to this type of interpersonal relations as "kind inattention," defining it as follows: *"Kind inattention means that, in the conditions of modernity, the participants of the public situations draw up a contract about a mutual recognition and protection"*. It means incorporating into the structure of such a relation a conscious and acceptable level of the deficiency of knowledge about another person as well as a tolerance based on professional but significantly indifferent attitude towards others.

Bauman believes that in a world of "kind inattention" one has to master the skill of a "quasi-meeting." This skill can become the basic means of expression in an interpersonal contact. The skill allows moving the people who are physically close to us (hence not *strangers*) to the sphere of an unimportant background (hence not *intimates*). According to Bauman, the skill of a "quasi-meeting" is based on different techniques that include kind indifference, avoiding eye contact etc. (Bauman, 1996). The consequence of such an attitude is a contact that is perforce indifferent and even if kind, it often results from calculation. Such a contact is fixed into the mechanisms of externally controllable behaviour and manifests itself in a considerable theatralization of a professional life, individual and institutional rituals hindering, due to its fixations, good communication.

An emphatic approach, the opposite to the one described above, is appreciated by people suffering from chronic pain (Myerscough, Ford, 2002; Strong et al., 2001). Taking into consideration a patient, doctors should always keep in mind that they are dealing with a specific individual (a concrete subject), not just a category. Only assuming the subjectivity of a patient guarantees communicational success in a doctor's relation with a patient (Szerla, Kosztołowicz, 2009).

In the practical area of communication, the psychology of individual differences helps physicians. It exposes not only the nomothetic approach and its tendency to describe what is common, what recurs, what can constitute the basis for formulating general laws or rules (describing man "in general" or different aspects of functioning of man "in general"), but first of all it concentrates on what is individual and unique. In relations between human beings and, especially, in doctor-patient relations, the important issues are not only the ones that refer to general regularities but also the ones that are not subject to the regularities, but are essential to the way a particular person is functioning. Such an approach is called idiographic recognition (Szerla, 2006; Gałdowa, 1999).

An emphatic approach to a person with chronic pain creates the space for the appearance of subjective communication. In such a communication, one should be extremely attentive and sensitive to a patient's depressive thinking and to their own evaluation of quality of life.

Conclusion

Chronic pain is still difficult to manage and it significantly lowers a patient's living standard. Health related quality of life is not only physical and psychical but also social well-being. A satisfactory quality of life also includes a patient's satisfaction with their functioning in every area of life as well as their control of the disease and the symptoms accompanying applied therapy. It should be a common goal for both a patient and everybody else involved in the process of treatment to strive for bringing nearer their quality of life to the state from before the disease (Heszen, 2009). Thus, communication oriented on a patient's individual features can influence the way a patient copes with pain and, as a result, it influences the outcome of ordered therapy.

Therefore, it is recommended that pain management have an individualized and multidisciplinary character. In justified cases, psychotherapy can be necessary and very helpful.

All things considered, not only medical but also psychological and sociological aspects should be taken into account in diagnostics and management of a patient with chronic pain.

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Wybrane czynniki wpływające na relacje pomiędzy lekarzem a pacjentem z bólem przewlekłym

Streszczenie

Przez tysiąclecia filozofowie obserwowali wzajemne interakcje pomiędzy bólem fizycznym a sposobem postrzegania świata. Medyczna systematyczna analiza zjawiska bólu pojawiła się stosunkowo niedawno. W XIX wieku medycy dostrzegali wagę związku zjawisk takich jak ból, bezsenność, utrata ciężaru ciała, pocenie się, zawroty głowy oraz zaburzenia pracy serca i układu oddechowego w stanie depresyjnym. W 1973 roku Międzynarodowe Stowarzyszenie Badania Bólu określiło przewlekły ból jako zespół objawów chorobowych a nawet jako odrębną jednostkę chorobową. Badania dowiodły, że przetrwały ból wpływa na somatyczne oraz psychosocjologiczne i socjoekonomiczne determinanty życia człowieka. Celem pracy jest przedstawienie interdyscyplinarnego poglądu na relację lekarz - pacjent z bólem przewlekłym. Niniejsze opracowanie jest owocem współpracy lekarza anestezjologa, psychologa, antropologa społecznego oraz filozofa. Poruszane problemy: diagnostyka chorych z bólem przewlekłym, współwystępowanie objawów depresyjnych, możliwości radzenia sobie od porażki/katastrofy mentalnej do psychologicznej elastyczności, komunikacja w relacji lekarz - pacjent z przewlekłym bólem.

Słowa kluczowe: przewlekły ból, depresja, mentalna porażka, elastyczność psychologiczna, komunikacja lekarz-pacjent

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WHO IS THOUGHT TO BE A RELIABLE DENTIST? SELECTED ASPECTS OF THE CORRECT DENTIST – PATIENT COOPERATION AS A GUARANTEE OF HIGH QUALITY OF LIFE

Abstract

One of the most important elements of the treatment process is the ability to communicate with the patient in such a way that both parties, the patient and the doctor, understand the meanings of the communicated messages. The doctor, for whom it is a professional duty to establish the mutual understanding, should be able to detect the information signaled by the patient correctly. This particular ability develops both during the process of gaining life experience, education, and interactions with specific people. It also depends on the doctor's. emotional sensitivity and personality traits. The aim of this work is to present selected aspects of the dentist-patient relationship and, in general, cooperation of the medical staff with the dental patient. The specificity of the dentists' profession and their relationship with the patient, and difficulties arising during the treatment process often have decisive influence on the quality of life for both the doctor and the patient.

Key words: patient – doctor relationship, dentistry, medical ethics, quality of life

Communication Skills of the Medical Staff

The ability to communicate with the patient in such a way that both parties, the patient and the doctor, understand the meanings of the communicated messages is one of the most important elements of the treatment process. The communication process usually commences with an appointment. Language is a tool which allows the patient to express subjective perceptions and interpretations of symptoms of his/her illness (Tobiasz-Adamczyk, 2002). For the doctor, who has the professional duty of establishing the mutual understanding with the patient, the first requirement in the communication process is to be able to read out the patient's affective states. This particular ability is related to the doctor's emotional sensitivity and certain personality traits. It can develop during the process of gaining life experience, education, and during interactions with other people. It enables the observation of patients' fear, grief or impatience. In most cases, the perception of these states takes place through nonverbal contact. The next stage of the doctor's work includes the internalization of the patient's feelings through learning and understanding of his/her affective condition. During this stage of establishing the doctor-patient relationship, the most significant role is played by the acknowledged value systems and previous experience. The last and highest level of the communication skills is the ability to respond actively to the patient's emotional needs. Development of modern medicine, modern and seemingly reliable research techniques leading to results unburdened with mistakes resulting from the imperfections of human memory, irrelevant observations or understatements, caused an undeserved depreciation of the methods of verbal and nonverbal communication between the doctor and the patient (Tobiasz-Adamczyk, 2002). An experienced doctor takes note of the language used by the patient - the word selection, syntax or the paralinguistic characteristics of the speech. The ability to listen intently to the patient is a very valuable diagnostic tool. The advantage of the symbolic world of language over the real one manifests itself in the possibility of manipulating reality. The doctor may influence the patient and his/her perception of the world through conversation and explicit communication. This has a key meaning in the process of therapy, especially in terminal stages.

Language is commonly understood to be a system of symbols substituting objects, relations and events, both real and those existing only in human imagination; it does not limit itself to the real and universally shared image of the world. Language may be used in many different ways. It allows creating representations of external reality, but one has to remember that it also reveals the speaker's internal world. The logics of conversation is not always a straightforward issue. Sometimes, something that is of the utmost importance is spoken out too late or even not at all, sometimes we cannot hear it. One has to distinguish what patients say from what they have in mind; from their interpretation. Sometimes patients do not have coherent views about certain events or diseases, about health, doctors and the healthcare system - they express contradictory opinions. One should not, however, accuse the patient of lying, misleading or being self-contradictory. It is much better to take advantage of the situation in order to get to know this person's views and feelings better. The group of skills concerning the processing of data related to emotions plays a considerable role in the proper and thorough understanding of the patient. These skills are described as emotional intelligence and can be measured with the use of scales based on abilities (ability-based scale). In their contact with patients, doctors should offer politeness, warmth, empathy, confidence, but at the same time maintain a professional distance. For example, one has to be aware of the fact that a patient who is lying to the doctor during an examination treats the latter in an institutional, not personal, way. Therefore, the lie told in such circumstances has a different meaning and brand new value, it becomes information which can be used by the doctor to help the patient. Fear of the doctor and institution may actually represent the fear of illness, of one's own body and of painful treatment (Cassell, 1985). The abilities to notice, to express and to manage one's own emotions constitute the components of emotional intelligence. Emotionally intelligent people are aware of themselves. They do not allow dysfunctional depression, fear or anger to guide their emotions. Empathy enables them to read the emotions of others and leads to adequate reaction, apt recognition and effective treatment. Emotional intelligence includes three components: emotional perception, understanding emotions and regulation of emotions, which are all evaluated with the use of the Multifactorial Emotional Intelligence Scale (Collet, 1969).

Dilemmas – the Patient's Aesthetic Expectations

In connection with natural differences of views concerning beauty and the subjectiveness of aesthetics, signs of conflict or at least a wide range of misunderstandings may occur with regard to aesthetic corrections in dentistry. This fact may lead to a necessity of dealing with moral dilemmas, and quite often to legal ambiguities (Tanasiewicz, Bednarski, Gałązka, 2005). Aesthetic treatment of anterior teeth might be seen as an example of this kind of abuse, as well as simultaneous consent to the extraction of posterior teeth due to the patient's financial shortages or his/her incomprehension of the need of having posterior teeth in the parts of the dental art not easily visible and preparation of very expensive prosthetics works attached on unstable cores. Such behavior, sometimes seemingly more attractive for financial reasons, however, totally unacceptable by ethical standards, can be avoided with the help of a hierarchy of the dentist's professional principles. The latter was developed on the basis of numerous results of pool research, postulating the necessity of conduct in accordance with the values such as: the patient's life and health, his/her autonomy, the doctor's preferred methods and procedures, aesthetics, the effectiveness of the use of resources (Collet, 1969). The above-mentioned points help the doctor make a decision and help to solve moral conflicts. However, this hierarchy cannot always be applied, and using a lie in order to stick to this hierarchy is also unethical. Each problem should be treated individually and, if any legitimate doubts arise, actions that might endanger the general health of the patient must be ceased (KEL – Code of Doctors' Ethics /in Poland/ - art. 6, 7).

The existing stereotypes have a significant influence on the course of satisfactory dental treatment and on the level of contacts between the medical staff and the patient (the date of publication of the source document for the data presented below – the year 1969 - is worth mentioning; it's also worth estimating whether the popular approach has changed significantly since then). On the basis of pool research (6000 people had been subjected to this pool research, among which there were patients seeing the doctor on a regular basis as well as people who had declared the necessity of making an appointment with the dentist and were in the course of searching for a right one) it was found that: 90% of respondents considered visiting the dentist regularly desirable, however, only half of them were motivated to put this intention into effect, 25% of adults had incomplete dentition, 17% of adults suffered from periodontal diseases and about 50% of adults of ages 65 to 74 had lost their teeth completely. Almost 50% of patients had changed their dentists over the previous 5 years, among which, 43% for irrelevant reasons and 57% due to unsatisfactory doctor-patient relationships, and interestingly, those were the patients to whom the dental practice was recommended by an acquaintance. The first visit was usually the last. The reason for this was rarely discontent with the results of the dentist's work – and if so, it happened when the prognosis was unfavorable and the planned treatment was too burdensome compared to what the patient had imagined, also due to unfriendly behavior of the medical staff and unreasonably high prices (Collet, 1969; Tanasiewicz, Bednarski, Gałązka, 2005).

The patients who were expressing their discontent, emphasized mainly the surplus of additional procedures (x-rays, laboratory investigations) without the doctor's justification of their necessity. These respondents thought that their sole purpose was to raise their bills since they had not been informed that a more exact diagnosis would help achieve better treatment results. Almost 60% of the patients who were being prepared for prosthetic treatment, first turned for advice to their acquaintances and families (either due to lack of confidence, embarrassment or lack of information on surgery). Eighty percent of respondents did not have any idea about the costs and effort required to become the dentist (Tanasiewicz, Bednarski, Gałązka, 2005).

Dentists' Satisfaction with Their Profession

The questionnaires were completed by 1880 dentists. Results showed that the majority of respondents were satisfied with their profession (only 10% would not recommend their children to continue the family tradition in this profession). They also indicated that an important motif leading to this choice was the possibility of achieving independence in terms of deciding about oneself. Forty-nine percent of dentists (the younger group) reported that their loss of patients had been caused by difficulties in interpersonal relationships and not by the quality of work performed (Rada, Johnson-Leong, 2004).

One can often notice differences in the approach to the profession and differences in the level of professional success being achieved by doctors working within academic structures who combine scientific work or teaching with running a surgery. Spectacular scientific achievements do not always correlate with a successfully functioning practice. A sharp dissonance sometimes occurs. Academic intelligence (valid questionnaires are a tool serving the purpose of examination of intelligence as well as academic abilities) and rational knowledge may sometimes create a very clear dissonance and may suppress signals coming from the source defined as social intelligence – the knowledge enabling understanding of social situations and giving the ability to control one's own behavior in such circumstances. Everyone knows people who had passed entrance exams to medical faculties exceptionally well but who hurt themselves (*There is nothing as difficult as not cheating oneself* - Ludwig Wittgenstein) due to a lack of social sensitivity and an ability to evaluate the situation (Nucles, Barnett, 1991; Chańska, 2002).

The stage of development of medical disciplines that has been recognized since the beginning of the 60's, described sometimes as a rational stage, has been the period of continuous changes. The positive aspects of a rational approach are linked to focusing on pro-health actions and on medical prevention as well as to the change of the nature of medicine from a discipline dealing exclusively with therapy to one that proclaims the necessity of prevention and promotion of health.

The negative aspects described in the sociological theory of mcdonaldisation, developed by *Ritzer,* are that the greatest perceived values are: effectiveness, calculativeness, predictability, possibility of manipulation, which are present in all aspects of life. Medicine has failed to avoid them, as well. The dissemination of out-patient surgical interventions, in order to avoid longer stays in hospital, may be an example of rationalization. Another dangerous symptom is overtaking the management of health care institutions by professionals, educated health care managers and not by doctors. Another one is turning practices, hospitals, clinics into independent enterprises functioning on a free market basis, aiming only at a maximum limitation of costs. The latter is mainly achieved through control of doctors' instructions and limitation of time devoted to the patient in order to maximize the number of patients seen daily and starting a system of incentives, conditioning the doctors' salary based on their "performance". Doctors see themselves more and more often as participants of a free market. This leads to rejection of many of the traditional doctors' duties and creates reluctance towards reception of voluntary obligations having their foundations in an agreement with the patient.

In contrast to duty, obligation is a great value due to its voluntariness and to the fact that it may be accepted and terminated at any moment by either party. Such a relation ensures the patient's wide autonomy, including the choice of the treatment method, making him/her an expert with regard to his/her own good, and putting the doctor in the position of a consultant. Indispensable from the point of view of medicine, the most dangerous thing for the patient-doctor contacts is making this relationship more formal by creating consecutive versions of Charters of Patients' Rights (in Poland, the last version was announced to the public by the Health and Social Care Department on the 11th of December 1998). They play the role of a tool serving to raise the standards of medical services. However, paradoxically, they push interpersonal contact into the background, being a perfect example of a rationalization determinant, described as predictability. It happens nowadays that the relationship between the medical staff and the patient/client resembles an exchange of goods and services, "providing health care as well as providing food consists a part of economy". Social changes in perception of the role of medicine in human life slowly eliminate the notion of altruism and depreciate the understanding of the duty of charity. Medical care is seen as a legitimate claim of individuals with respect to society and to groups providing medical services. ”The contract-like model of medicine” can, however, destroy the extraordinary relationship between the patient and the doctor which is based on confidence, described in the literature as a fiduciary relationship (Thomasma, 1996). Particularly, in the United States many conflicts exist along the line running from the patients' welfare, through national business, to the health care system. The patient’s welfare, however, should be itself be the ultimate goal, not just the means to an end.

Freedom of the Patients with Opposition to the Responsibility of the Medical Staff

On the one hand profitable, on the other hand shaking with traditional values, we are witnessing a twilight of paternalism in medicine - people have realized that doctors are not omnipotent magicians, they want to be better informed about the course of treatment, they demand to take part in decision making, they want autonomy. This freedom of choice is very often given to patients (including the possibility of doing harm to oneself) if it does not bring any harm to others. The Hypocrite’s oath could not predict all the changes that occurred in the society’s manners, neither the new phenomena nor new technology. However, it is still an expression of convent between the doctor and the patient, and as such, it is still more efficient and more true from a moral point of view than a contract resembling business or commercial relations. It is more true than an exchange of services where the patient is the service receiver and the doctor - the service provider, concluded with financial gratification (Thomasma, 1996). Traditional values such as direct patient – doctor relationships, in which the patient’s welfare is a priority, have been replaced or at least supplemented with particular needs of the system - profit, the survival of the institution and the welfare of corporate management (Collet, 1985; Bayntun, 2004). At the same time, one can observe a tendency towards an exaggerated demonization of the medical board of management without even taking into account the necessity of their functioning within the present social structure. Further development of managerial superstructures and the equipment base impedes the patient’s access to the doctor as a human being, however, it does increase the efficiency of medical procedures (dehumanization) (Bayntun, 2004).

The crucial elements of the recent crisis of healthcare at the level of ethical, socioeconomic and political conflict are based on the one hand on the appalling rise in the costs of medical procedures and, paradoxically, their concurrent availability for larger groups of receivers (the awareness of possibilities that health care offers), and on the other hand, on the rapidly increasing number of their potential receivers coming from an aging society (several dozens years ago the majority of people would die at home, nowadays more than 80% of society die at hospitals and almost 40% of the budget is spent on securing medical care for the last three months of life of medical patients).

However, there appear voices raising the need of reforms, recommending actions at the socioeconomic and political budget levels. Financial resources may be moved to actions supporting education and prophylaxis among young people, to support the policy of unaided building financial backup for each insured patient with the purpose of their late age needs. However, despite their obvious shortcomings, there are no proposals concerning the elimination of managerial superstructures.

The schemes aiming at the reforms at the social level proclaim the necessity of changing the way of thinking. Dependency, meaning confidence in the doctor and the medical staff that if not exaggerated is good in human relationships (love to another independent being, relations with parents). In a similar way, our dependence on healthcare should be seen as environmental dependence to which we voluntarily submit, being however aware of the imperfections of the system. In the newly proposed system the patient ought to be informed that the faith in the infallibility of healthcare, which has been built throughout these years, is rather fragile. The hospital, traditionally a magical and fear-arousing place, is an element of the market and should bring profits. On the one hand, patients receive information about medical mistakes, embezzlements that happen in medical circles, and on the other hand they are flooded with information about the successful overcoming of illnesses that have until now been considered fatal (Bayntun, 2004). This causes chaos.

It is necessary to set rules to make sure the needy are not rejected and to secure guarantees so that no one is left outside the margin of the institutional medical care. This assurance has its foundations not in mercy and altruism but in the need of securing a sense of safety for oneself. The patients' expectations towards their doctors and dentists influence the efficiency of the therapy which they are undergoing. Satisfaction occurs when their desires and expectations are recognized and fulfilled. Patients who are satisfied with the form of care they are receiving are more agreeable and compliant with the doctor's instructions (Lahti, Tuutti, Hausen at all., 1992).

One of the rare studies regarding patients' interactions with dental teams consisted in determining the characteristics of the perfect dentist in the patients' opinions and the perfect patient in the eyes of the doctors. The most important conclusion was that these visions were divergent and that expectations were very seldom fully met, only in 23-25% of the cases. This phenomenon is described as a gap in communication and is often the reason of frustration which arises during this complicated interaction. The traits and characteristics of a perfect dentist fit into some categories put in order according to the level of their significance. The patients recognized as most important those linked with communication, such as: solid and accessible form of informing about minor operations and the way they are conducted, noticeable interest in the personal life problems of a patient and his/her issues with the acceptance of the necessary treatment. Attention has also been paid to the consistency of doctors and their ability to enforce their will, although their gentleness and understanding were also significant – the capability of saving from pain and discomfort, refraining from embarrassing the patients, and finally - the doctors' professional manners (Lahti, Tuutti, Hausen at al., 1992; Lahti, Tuutti, Hausen at al., 1992). According to the dentists' expectations, the perfect patient should be motivated and submissive – showing interest, confidence, following instructions, carrying out instructions, he/she should also be punctual and active. The patient should not behave in a manner that would disturb the comfort of work (Rutter, Herzberg, Paice, 2002). The specific situation of dentists seems to be worth pointing out. Their theoretical knowledge, manual skills and the imagination they should posses seem indisputable. From the psychological point of view, a significant role, besides predispositions to create satisfying interpersonal relationships, is played by the ability to read and respond to various emotional states and the capability of keeping a professional distance towards a patient - all these abilities prove the doctor's proficiency. The independence of decision making (work in a patient-doctor or patient – doctor with assistance system), the efficiency of taking control of emotions, self-confidence and confidence regarding the legitimacy of their own independent decisions has a huge impact - which combined with the necessity of independent running of administrative and economic aspects of the practice means almost autarky (Rutter, Herzberg, Paice, 2002). One should not forget about the financial aspect of our work. Fair salary increases our self-esteem whereas frequent misunderstandings concerning the necessity of spending extra money in return for flawless work may cause discontent, a source of frustration for both sides.

Conclusion

Changes should be introduced early - at the stage of educating medical personnel. Medical faculty is a normative and comparative reference group for the student, and it provides evaluation criteria for one's own situation. It is a source of norms, values and attitudes. At the moment of taking up the first job, the acquired model of the doctor's role is confronted with the compulsory model at work (the firm) which seldom happens without any conflicts (Tobiasz-Adamczyk, 2002). In 1998 in Great Britain, medical ethics, philosophy, and other subjects familiarizing students with the basics of the medical code were introduced. The program transformations were motivated by the constantly changing character and constantly appearing new aspects of the doctor's work that demand solid foundations and knowledge of ethics and philosophy. The education program included twelve points concerning issues such as: informed consent to treatment, communication between patient and doctor, professional confidentiality, questions arising from the development of genetics and embryology, and issues regarding quality of life, dignity of dying and the duties that a doctor has towards society.

It is currently known and emphasized that skills acquired during the didactic process of medical studies embrace several fields. The first discipline is an intellectual area consisting of medical knowledge concerning the basic disciplines, both pre-clinical and clinical. The second discipline embraces the basics, the motivations to learn about both one's own and the patient's emotional problems, recognition of the psychological needs and expectations of patients, and development of sensitivity. The third discipline is an area of practical skills. What is interesting, some authors claim that dental studies teach social aspects of the profession, interaction with the patient and cooperation with other specialists to a smaller extent than general medical specializations (Tobiasz-Adamczyk, 2002).

However, we can only hope that none of these aspects is more important than the others, and only the combination of all of them allows the creation of fully worthy medics.

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Jakimi cechami powinien dysponować lekarz dentysta?
Wybrane aspekty prawidłowej współpracy lekarza dentysty z pacjentem w kontekście zagwarantowania jakości życia

Streszczenie

Jednym z najważniejszych elementów w procesie leczenia jest możliwość komunikowania się z pacjentem w taki sposób, aby obie strony, pacjent i lekarz, prawidłowo odebrały sens przekazywanych komunikatów. Dla lekarza, na którym spoczywa zawodowy obowiązek nawiązania wzajemnego porozumienia, istotna jest umiejętność prawidłowego odczytywania informacji przekazywanych przez pacjenta. Umiejętność ta zależna jest nie tylko od nabywanego w miarę upływu czasu doświadczenia zawodowego ale również zależy od jego wrażliwości emocjonalnej i niezbędnych cech osobowości. Celem pracy jest przedstawienie wybranych aspektów współpracy lekarza dentysty i personelu medycznego z pacjentem poddawanym leczeniu stomatologicznemu. Specyfika zawodu lekarzy dentystów i ich relacji z pacjentem, a także problemy wynikające w trakcie leczenia, często mają decydujący wpływ na jakość życia, zarówno lekarza jak i pacjenta.

Słowa kluczowe: współpraca lekarza z pacjentem, stomatologia, etyka medyczna, jakość życia

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DEPRESSIVE SYMPTOMS AND SUBSTANCE ABUSE AMONG ADOLESCENT CLIENTS OF SOCIAL CARE SERVICES

Abstract

Depression and harmful use of psychoactive substances are both common serious medical problems in the adolescent population. Their co-occurrence is a well-known issue for many authors, however, in many cases research on this topic hardly produced consistent outcomes and therefore this area needs further exploration. Our study demonstrated the correlation between the age of substance use initiation and the level of depressiveness in an adolescent group with high risk of depressive disorder due to the lack of parental care. An older self-reported age of substance initiation was related to lower levels of self-reported depressiveness.

Key words: depression, adolescence, substance abuse

Introduction

Data from clinical practice have clearly shown in recent years a growing number of adolescents who need medical treatment due to specific mental disturbances, i.e. depressive disorders and drug addiction.

Child depression became the subject of close scientific investigation no sooner than in the middle of the 20th century. It has been explored thoroughly by many developmental psychologists, psychiatrists and psychoanalysts over this relatively short period of time, nevertheless there are few to claim that the issue has been properly recognized since then (Zorraquino, 2009).

In recent years there has been a significant increase in the number of children suffering from depression. Depression is a widespread disturbance in the adult population, as well as in the population of children and adolescents. Its estimate is 10% of the general population (Zorraquino, 2009). There has also been a dramatic growth of suicides among adolescents. Depression is often considered as an almost insignificant disturbance in children, however, research proves that in puberty 0.4 – 8.3% of adolescents (10% amongst females) reveals some symptoms of depressive disorder (Namysłowska, Bronowska, 2000; Radziwiłowicz et al., 2006).

By the end of the 80's, the prevalence of depression in the population of 13-year-olds was 28.1%, and among 17-year-olds the percentage was 19.3% (Bomba et al., 1985). However, among psychiatric patients the index of depressive disorder ranged from 3.3% in children aged 5-14 years to 14.2% in adolescents. Dysthymic disorder was found to be the core symptom of depression both among prepubertal patients and adolescents, its prevalence was estimated to be as high as 60.5% and 43.7%, respectively (Rabe-Jabłońska, 1991, Witkowska-Ulatowska, 2000).

Recently, the proportion of depressed individual was estimated as 54.1% within the population of adolescents who do not receive any medical treatment, but detailed analysis reveals that 25.8% within this group suffers from severe depression, 26.2% - moderate depression, and 48% of this group exhibits mild severity of the disturbance (Jaklewicz et al., 2003; Radziwiłłowicz et al., 2006).

Depression is nowadays explained by the multidimensional theoretical model with a prevalent role of genetic susceptibility and family care circumstances (Różalska-Kowal, Izydorczyk, 2000; Kendall, 2004; Greszta, 2006; Zorraquino, 2009). Within the latter group of factors it is the role of inherited disposition for mental illness (especially in mothers) potentially disturbing the mother-child relationship which is regarded as most significant. Other factors include, among others, parenting styles and the atmosphere of the family as an indicator of the quality of the relationships between family members (Sander, McCarty, 2005). The causal relationship between dysfunctional parenting and depression is apparently comprised of the interaction between diverse factors such as genetic, cognitive, emotional, interpersonal and family system related tendencies (Greszta, 2006).

Even though their importance is rarely questioned,constitutional factors and the biological background in the pathogenesis of depression in children and adolescents seem to give place to the factors related to malevolent family interactions, i.e. destructive marital relationship, parental attitudes and methods, personality and high neuroticism in the mother or both parents (Greszta, 2006; Radziwiłłowicz et al., 2006). Essau (2004) points out that there is a strong relationship between the occurrence of depression and the lack of consistency within the family, problems in parenting (problematic parental attitudes) and the family break-up resulting in exposing the children to traumatic social experiences (Essau, 2004). Such parental attitudes, in general, mould the processes of individuation, the identity formation and acquiring social skills. Another possible scenario is the depressive resolution of the developmental crisis in puberty.

Bowlby's attachment theory holds that any behavior aimed at stimulating the close mother-child bond simultaneously renders the security and the normal course of development in the child. The interaction with the mother, therefore, involves an internal model of the caregiver who is conceived as a source of protection and emotional support. Adults are the very part and at the same time the necessary link with the child's environment, and, as such, they facilitate the adaptation process to the this environment, only gradually explored directly by the child. Environmental factors might, therefore, indirectly impair the child's development, drawing it either to the psychopathological path or the path of good mental health formation. The distortion of the protective relationship between the child and a caregiver, e.g. the physical or mental abuse, partly mirrors the deviation of the caregiver's (parent's) relationship with his/her environment, and, as a result, deteriorates the normal development of the child. Hence, the child's experience of the relationship with the parent, when marked mostly by the deprivation of the need for safety, stability and predictability triggers inevitably the relentless anxiety and activates the stress axis, the excessive stimulation of which can lead to depressive disorders.

Levendosky (2002) points out the significant role of early experience of the child, more specifically – the role of the relationships and the attachment style for personality development and, in some cases, depressive symptoms formation. He considers secure attachment with both parents to be the healthy relationship with regards to what is,and what is not adaptational for the family as a whole. Hence, the avoidant and ambivalent attachment patterns do not comply with it. The attachment pattern in the child's relationship to his peers is influenced by the patterns of attachment represented by his/her parents, and, in consequence, shapes mental functioning during the adolescence period.

According to ecological theory, factors external to the family system might both induce stress or provide support to the family, thus influencing its functioning. The family system functioning depends on the factors related to employment, socioeconomic climate and the social group context. Studies have shown the association between the general level of violence in society and the levels of depression, anxiety, aggression and the occurrence of post-traumatic stress disorder. Violence as an actual social experience of the particular family member represents itself in the instability of the individual's family system, and may facilitate the animosity and conflict tendencies within the family. Lynch and Cicchetti (2002) reported that children exposed to violence in the social context perceived the relationship with their mothers in a more negative way than children relatively free of such experiences. Furthermore, the level of affectionate feelings in their relationships with caregivers proved lower, along with lower satisfaction with close relationships as such and higher level of separation anxiety.

Grant et al. (2006) carried out an analysis of mediating factors in the stress-psychopathology link in children and adolescents. With regards to stressful life events, Grant assumes those related to poverty of the family to influence the occurrence of emotional disturbances in children. The possible dynamics of this phenomena, according to Grant, leads from poverty, through parent depression, and, in consequence, marital conflict and the deterioration of parents' performance (less support, increased hostility) to, ultimately, the adolescent's distress. Along with poverty, Grant stresses out the mediating role of the neighborhood conflict, the lack of activities outside the family system, depression on the part of the mother and the presence of corporal punishment. The mediating impact of the parental divorce in the etiology of depressive disorder depends, however, on such aspects as: rejection of the child by the parents, hostility towards the child, the extent to which their relationship worsened. Exposure to violence proved to be the mediating factor in depressive and anxiety disorder etiology.

The five major disturbances building up depression are as follows:

1. emotional disturbance; e.g. feelings of sadness, lowered mood, feelings of isolation, deprivation, anxiety, lack of interest and the life urge in adults, whereas in children the depressive mood may be replaced by feelings of irritation (e.g. aggression, outbursts of rage, frustration, discontent and anger).
2. cognitive disturbance; e.g. lowered self-esteem, difficulty planning and performing even relatively simple tasks, pessimistic outlook, excessive attention paid to one's internal states, excessive guilt, negative body image (especially in female adolescent).
3. somatic symptoms, i.e. fatigue, insomnia and the changes of appetite (loss of or increased appetite).
4. motivational disturbance; i.e. inhibition of action, loss of satisfaction, impaired motor functioning, lack of interest in one's own appearance.
5. behavioral disturbances; i.e. changes in behavior, outburst of anger, explosiveness, belligerence leading to interpersonal problems, along with decreased self-esteem and feelings of helplessness that may trigger suicidal attempts (Rola, 2001, 2005, Malhi, Bridges, 2001, Greszta, 2006, Radziwiłłowicz et al., 2006, Kołodziejek, 2008, Zorraquino, 2009).

Table 1 presents the list of depressive symptoms found in adolescence.

Table 1. Symptomatology of depression in puberty (cf. Sumiła, 2007).

Clinical features of depression		
National Institute of Mental Health (1999)	Rabe – Jabłońska (2004)	Bomba (2004)
Persistent sadness or irritability Loss of interest or pleasure in activities and hobbies that were once enjoyed Significant change in appetite and/or body mass Sleep disorders or excessive sleeping Physical slowdown (retardation) or agitation Loss of energy Feeling of worthlessness or inadequate feelings of guilt Difficulty concentrating attention Recurrent thoughts of death or suicide	Multiple nonspecific somatic complaints, e.g. headaches, muscle aches and cramps, fatigue Multiple absences in school Worsening school performance The presence of emotional outbursts, complaints The occurrence of unexplainable irritation or cry Effort avoidance Boredom Lack of interest in peer activities Alcohol and drug abuse Social isolation, worsening communication with others Fear of death Excessive vulnerability for being rejected Increased irritability, anger and hostility Difficulty relating with others Hazardous behavior (impaired foreseeing consequences of one's action)	Mood disorder: most often lowered or changeable mood and dysphoria Increased anxiety Cognitive difficulties: learning disability, poor school performance, difficulty concentrating Feeling of worthlessness Conviction of inefficiency of one's beliefs and inevitability of failures Feeling bored Inability to seek satisfaction The decrease in the activity level concealed by dyspforic feelings and behavior disturbance Difficulty initiating action Increased fatigability Difficulty waking-up Sleeping late Improvement of functioning in evenings The neglect of one's appearance and the hygiene Suicidal behavior Somatic symptoms

Another crucial issue of the early adolescence period is experimenting and harmful use of psychoactive substances, i.e. tobacco, alcohol and drugs, which is the leading cause of substance addiction in later age. The prevalence of tobacco and alcohol addiction is determined by age and nationality. Many studies concluded that there is a substantial increase in substance abuse with age. The Brazilian study by Costa (2007) showed that the proportion of self-reported alcohol use is 57% in the 14-19 year old group (29.3% of this group declared the frequency of substance use to be 1-3 times a week, 13% - once a week), 23% declared smoking and 5% declared drug use. In the 15-16 year old group in Slovakia, 24.8% of males and 14.3% of females reported smoking on a regular basis (Baska, 1999). Most researchers agreed on the male predominance in the group exhibiting substance abuse symptoms in most of European countries (Van Reek, Adrinase, 1994). In recent years, however, there has been a noticeable increase in the number of females presenting symptoms of either substance abuse or dependency (especially alcohol and tobacco).

With regard to drug addiction, prevalence of which is seemingly higher among 18-30 year olds, there is also a growing tendency in its prevalence among young adolescents. Analogous to tobacco and alcohol addiction, the prevalence of dryug abuse is also determined by age and nationality of the studied samples and, similarly, drug use increases with age during the entire period of adolescence (from early to late adolescence). One of the American epidemiological study examined the prevalence of substance abuse in 12-18 year olds. The results have shown that one out of four individuals in the older subgroup met the criteria of harmful use for at least one substance, and one out of five individuals manifested the symptoms of substance dependence. One out of three individuals smoked regularly, and 8,6% met the criteria for tobacco dependence. At least 10% of subjects manifested symptoms of alcohol abuse, and the proportion of addicted individuals in this case was 3.5%. A similar proportion was observed among the subjects with respect to marijuana dependence which was 4.3%. Furthermore, the study pointed out the male predominance for alcohol and marijuana dependence, and female predominance for tobacco dependence (Young, 2002). A Polish epidemiological study showed, however, that substance use (mostly derivates of Indian canopies) was reported by about 20% of all 14-year-olds in Krakow (Modrzejewska, 2004).

The co-occurrence of substance dependency and depression is not a rare case. One of the American epidemiological and longitudinal studies in a sample of 10 800 adolescents and young adults clearly showed that there is a two-way relationship between substance dependency and depression. The increase of depressiveness in the adolescence period correlated with substance abuse in early adulthood. Substance abuse in adolescence, on the other hand, was related to higher severity of depressive symptoms assessed a few years later. The correlation between these disturbances seemed more significant within the subgroup of males (Needham, 2007). A Polish population study concluded with the results confirming the American study and also stressed out the higher risk of substance dependence within the group of depressed adolescents (Modrzejewska, 2004).

MacPhee and Andrews (2006) enumerated nine risk factors for depression in adolescence with rejection by parents as one of the most crucial. Children and adolescents deprived of the parental care and receiving various forms of help from social care services (residential child care institutions, namely, orphanages or adoption centers) are exposed to high risk of depression and concurrent substance dependency. Despite its growing importance, the issue has not been sufficiently recognized, yet and as such shall be given closer consideration.

The aim of this study was to examine the relationship between the occurrence of depressive disorders and substance abuse among adolescents who belong to the high risk group for both disorders. The subjects were adolescent residents of the child care institution, thus exhibiting high risk for depression and the relationship between depressive symptoms as measured by Beck Depression Inventory (BDI) and substance abuse was examined.

Material and Methods

The sample consisted of 56 adolescents aged 13-18 (M=15.04, SD=1.62) residing in child care institutions in Gdansk (27 female and 29 male subjects). The participation was anonymous, the institution's consent was obtained, however, without knowledge and consent on the part of the parents, contact with whom was impossible to establish. The adolescents were properly informed about the goal and methods of the study and consented to participate in the study. They were also fully informed as to the structure and ways of answering to the survey. The study was conducted within the institution in the presence of its employee.

The following methods were used in the study:

Beck Depression Inventory (BDI) – a measure of clinical depressive states and an assessment method of the efficacy of treatment with antidepressants. The inventory assesses the severity of depression symptoms including emotional, cognitive, motivational, somatic and behavioral disturbances present in depression. It consists of 21 categories with self-reported symptoms and the subject is asked to choose one of four possible statements (ranging in severity) (Pużyński, Wciórka, 2002), e.g.

1) I do not feel sad.
2) I feel sad.
3) I am sad all the time and can't snap out of it.
4) I am so sad or unhappy that I can't stand it.

When the test is scored, a score of 0 to 3 is assigned to each answer and the total score is calculated. The total score ranges from 0 to 63. Higher scores indicate more severe depressive symptoms, however, the standard cut-offs are: 0-9 – for the lack of depression, 10-18 – mild depression, 19-29 moderate depression, 30-63 – severe depression. The total score of BDI was regarded as an index of depressiveness (although it is often referred to as the level of depression), and the decision was made due to the lack of medical diagnosis confirmation in this study.

BDI is a commonly used tool measuring severity of depressive symptoms in adolescence after 13 years and in adults (Beck, Ward, Mendelsonet al., 1961; Parnowski, Jernajczyk, 1977). It has been shown that BDI is a good indicator of the effects of treatment in adolescent patients, has good psychometric characteristics, and covers the cognitive component of depressive disorders (Dierker, Albano, Clarke et al., 2001; Lewinsohn, Rohde, Seeley, 1998). Accordinng to the authors the cut-off points for BDI were 11 and 15 for female and male adolescents, respectively (Dierker, Albano, Clarke et al., 2001).

Health Behavior in School-aged Children Survey (HBSC) – used in a cross-national study on young people's health aimed at gaining new insights and increasing our understanding of health behaviors, their social context, the role of particular lifestyles and the perception of one's health in puberty (Mazur et al., 2008). The study employed a set of questions from the survey, among others, those related to substance abuse.

Statistical analysis was conducted with the use of basic descriptive statistics, i.e. the mean (as a measure of the central tendency in the selected data set) and standard deviation. In the final analysis we also made use of proportions, namely, the proportion of particular answer for each question of the survey.

We also assessed the strength of associations between variables with correlational analysis, assuming that measured variables represented the ordinal scale. Therefore, we have chosen Spearman's rank correlation coefficient (*rho*) for this purpose, interpretation of which is the same as Pearson's correlation coefficient. The resulting value of coefficient close to 0.30 (-0.30) indicates weak correlation, the value close to 0.60 (or -0.60) indicates strong correlation, and the value close to 0.80 (-0.80) indicates very strong correlation.

Results

The Level of Depressiveness in the Sample

The overall level of depressiveness, as measured by the BDI total score, was 16.34 (SD=13.87) for the whole sample. The distribution of this variable is presented in the Figure 1. Out of the whole sample of 56 individuals, 22 adolescents did not manifest symptoms of depression, and the remaining (namely, 60.71%) manifested symptoms of depression ranging in severity from mild to severe. The distribution of depressiveness in females is similar to the distribution of depressiveness in the male subgroup. In the latter, the mean depressiveness score was 17.07 (SD=15.48), whereas in the female subgroup it was 15.56 (SD=12.15). The difference between both subgroups was not statistically significant [*t*(54)=0.41]. The distribution of the variable is shown in Figures 2 and 3.

In the male subgroup we found 12 boys with no manifestation of depression, 6 boys whose BDI scores indicated mild depression, 5 boys – moderate and 6 boys – severe severity of depressive symptoms. In the female subgroup, 10 girls were non-depressed, whereas 8 girls reported symptoms indicating mild depression, 7 – moderate depression and 2 - severe depression.

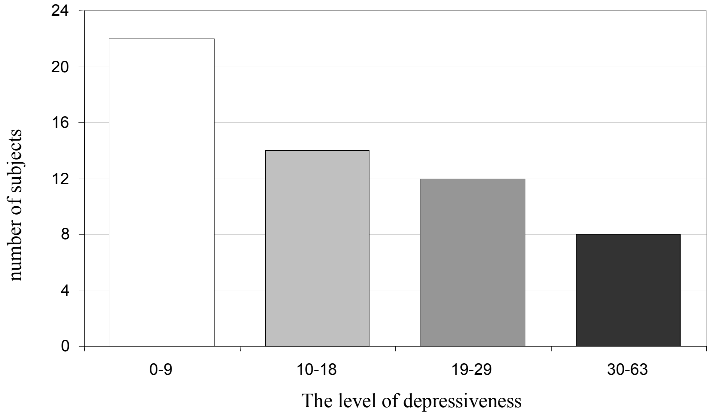

Figure 1. The distribution of depressiveness, *N*=56. BDI scores: 0-9 – the person is not depressed, 10-18 – mild depression, 19-29 moderate depression, 30-63 – severe depression.

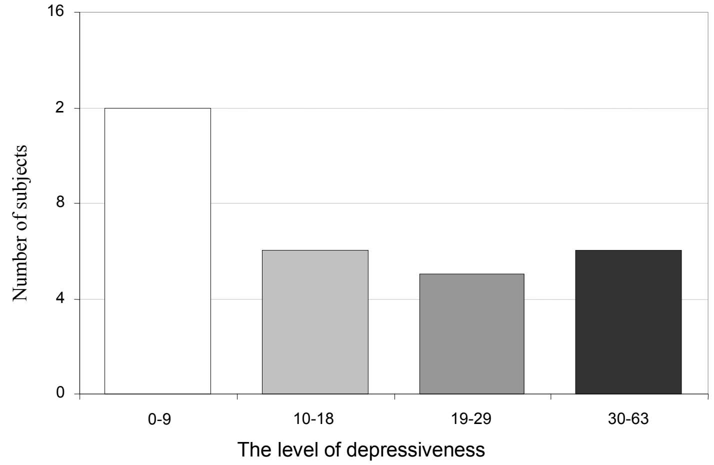

Figure 2. The distribution of depressiveness in the male subgroup, *n*=29.

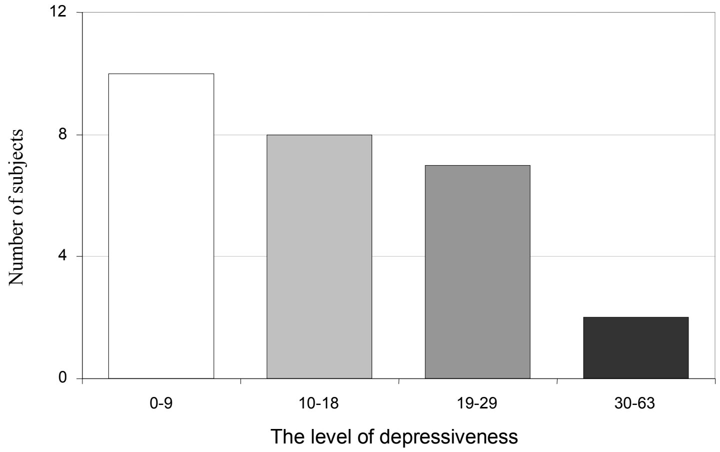

Figure 3. The distribution of depressiveness in the female subgroup, *n*=27

The Relationship between the Use of Substances and theLevel of Depressiveness

The detailed analysis of question 16 (Table 2), i.e.: How old were you when you first did the following? Alcohol drinking, Getting drunk, Smoking marijuana or hashish, Smoking cigarettes; with the response format: never, 11 years old, 12 years old, 13 years old, 14 years old, 15 years old; revealed a statistically significant correlation between the age of substance use initiation (for alcohol, cigarettes, marijuana, hashish – HBSC, M=3.13; SD=1.56) and the level of depressiveness (*rho*=-0.28; *p*<0,05). The result is, therefore, the following: the later reported age of initiation of substance use, the lower the level of depressiveness. The relationship between these variables is weak. Furthermore, the analysis did not provide any evidence for the relationship between the remaining indexes of substance abuse and depressiveness. The correlation coefficients for the relationships between the indexes of substance abuse and the level of depressiveness are presented in detail in Table 2.

Discussion

The study has shown that the overall level of depressiveness in the sample was 16.34 which is indicative of mild depression. The proportion of 60.71% of subjects reported severity of symptoms indicating the occurrence of depression. Bomba (2004) emphasized the fact that the prevalence of depression ranges from 27% to 54.08% among adolescents and the tendency is increasing. However, Rola (2004) in his study showed that severity of depression correlates with age and the place of residence (city vs. village) – that is, the dispersion in this respect is from 46.06% to 66.75% (with the highest level of depressiveness within female adolescents residing in cities and the lowest level within male residents of villages). The high proportion of depressiveness in the sample in our study (comparing to previous studies) may result from the specific background (residential child care institutions as a result of particular family circumstances) of subjects, different from the general population.

Depressiveness reached the same level in the male and female subgroups in the present study. Previous studies have shown, however, that the mean level of depression was slightly higher in male than in female adolescent groups (Witkowska-Ulatowska, 2000; Jaklewicz et al., 2003) which, according to the researchers, was due to the fact of stronger tendency in females to seek social support within helpful close relationships in female adolescents and, as a result, more efficient coping. Male adolescents rarely look for help from others, or even talk about their personal problems. Supposedly, the parental influence with the stereotypical approach to problem solving that may be concluded as the "boys don't cry" credo has also to do with the phenomenon of male predominance in this respect. Male adolescents, therefore, are often compelled to cope with their emotions on their own. For fear of intolerance for weakness in their social environment they even suppress or hide their affects, both of which may result in an inability to discard negative affects, the state of internal disorganization and, ultimately, depressive disorder.

Table 2. Mean scores (*M*) and standard deviations (SD) for the selected set of questions of HBSC survey (average use of substances in the subject group) and the correlation coefficients with the level of depressiveness (*N*=56).

HBSC survey (question number) (the range of answers)	*M*[1]	*SD*[1]	Correlation with the level of depressiveness (*rho*)	*P* <
Have you ever smoked cigarette? (10) (yes-no)	1.30	0.46	0.09	*n.s.*
How often do you smoke? (11) (I don't smoke– I smoke everyday)	2.14	1.34	-0.16	*ns*
Have you ever tried an alcoholic beverage of any kind? (12) (yes– no)	1.27	0.45	0.18	*n.s*
Have you ever drink alcohol to the point when you felt really drunk? (13) (no, never – yes, more than 10 times)	2.14	1.20	-0.19	*n.s.*
How often do you drink alcohol? (14) (never– I drink everyday)	1.53	0.67	0.06	*n.s.*
Have you ever tried marijuana or hashish? (15) (never – 40 times or more)	1.51	1.08	-0.03	*n.s.*
How old were you when you when you first tried the following? (16) (never– 15 year old or more)	3.13	1.56	-0.28	**0.03**
Try to asses how many of your collegues use the following substances. (17) (none – everybody)	2.43	0.73	-0.04	*n.s.*

[1]*M* and [1]*SD* – represent the numbers in particular question of HBSC survey. *n.s.* – the result is statistically non-significant.

There is, however, a discrepancy between the above mentioned and other studies on depression – namely, that of the female predominance with regard to prevalence of depression among adolescents. Other researchers claim that depression in the prepubertal period is not differentiated by gender, although the slightly higher index is found in male subjects (Rabe-Jabłońska, 2001, Rola, 2005, Radziwiłłowicz et al., 2006, Kołodziejek, 2008).

The lack of such a difference in our study may originate from the similarity of the family backgrounds of both girls and boys from residential care institutions and the common experience of emotional deprivation starting as early as in infancy, along with sharing the same conditions of living in residential care institutions.

The subsequent analysis of the above suggests that the lack of a significant difference in the level of depressiveness in relation to gender may be due to inhibition of the process of emotional maturation by unfavorable life circumstances, thus, the persistence of prepubertal stage of the process. In contrast to the results found in our study, Szymańska and Świtalska (2008) demonstrated that (in the group of students from both high schools and universities aged 16-27, consisting of 191 subjects, 111 females and 80 males) the mean level of depression in the sample indicated lack of depression. However, the study showed a significant female predominance in regard to the level of depression (z=2.28; p<0,01). The mean score in the male subgroup indicated the lack of depression, whereas in the female group it indicated mild depression, however, the majority of subjects (61%) did not reveal any symptoms of depression. Nevertheless, the proportion of mild and moderate depression (21% and 16% accordingly) in previously mentioned study can be considered substantial. The fact must be borne in mind at any time when striving for conclusion that the latter study was carried out in a sample with wide range of ages, along with a lack of correspondence in regard to specific family background (no risk of family or social dysfunction) between two analyzed sets of results.

Our study demonstrated the correlation between the age of substance use initiation and the level of depressiveness in the adolescent group with high risk for depressive disorder due to the lack of parental care. The older self-reported age of substance use initiation, the lower the level of self-perceived depressiveness.

This result may suggest that the earlier substance use initiation, the deepest level of depression the child struggles with and, if we go further with the conclusion, we may suppose that the more intense feelings of being rejected and lonely in the family of origin, the higher the risk of self-treatment through substance use. Many studies confirm that the percentage of substance abuse is growing at an alarming rate and the age of initiation is decreasing, presumably due to high availability of substances and inefficient prevention strategies (Modrzejewska, Bomba, 2004). The adolescence period, difficult as it may be, exposes individual to many risks, using drugs being an example. As a result, many somatic symptoms along with personality maturation disorder may occur. Among others, the factors that facilitate substance abuse include: the genetic susceptibility to substance abuse, drug abuse within the family and peer group, the lack of parental care, mental disturbances, behavior disorders, lack of positive relationships within the family, mental and physical abuse, low socioeconomic status (Baran-Furga, Steinbarth-Chmielewska, 2005). The sample in our study consisted of individuals more prone to substance abuse. Gmitrowicz et al. (2001) determined that the pattern of substance use is related to age. In their study, the subjects who initiated substance use earlier in life became addicted more easily and within shorter period of time. Furthermore, the risk for behavior disorder was increased, and the level of depressive disorders, on average, indicated more severe symptoms of depression. The study showed the prevalence of substance abuse on the level of 69.64% in the adolescent population (i.e. alcohol, tobacco, marijuana, hashish). The age of alcohol initiation was found to be as early as before 16 year of age, most commonly in 14-15 year of age, with the earliest age of 11-12. In the group of individuals revealing symptoms of depression, tobacco use initiation took place at the age of 14 in 23.5% of subjects, whereas in non-depressed subject group 22.7% of individuals initiated smoking at the age of 15 or more. With regard to drug use (marijuana, hashish) 22.7% of non-depressed subjects and 8.8% of depressed subjects declared only occasional use of substances (no more than 1-2 times).

The present study was concerned solely with the adolescents from the high risk group. The sample is not homogenous in itself, there were neither individual history records nor the record of family relationships, mental diseases on the part of parents, the history of drug abuse in the family, divorce, education or poverty, etc. which constitutes a significant limitation of this study. We should take into account the risk of positive self-presentation that might have blurred the results in regard to the level of depression, and on the other hand, we also must not ignore the possibility that subjects – due to negative perception of reality – are more prone to omitting the truth in self-reported symptoms.

The study was conducted with the use of questions that expressed the value assigned to certain types of behavior and, in consequence, the analysis took into account the smallest subgroups of individuals answering them the same way. It did not address the intellectual level in the subject group, depending solely on the opinion of a child's institutional caregiver, who assed his/her ability to participate in the study. We also cannot provide any psychiatric diagnosis that might have confirmed the reliability of survey results. Finally, results analysis is limited due to lack of control group in our study.

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Objawy depresyjne a używanie substancji psychoaktywnych u młodzieży objętej pomocą społeczną

Streszczenie

Depresja i używanie substancji psychoaktywnych wśród młodzieży jest znaczącym problemem klinicznym. Wielu autorów wskazuje na współwystępowanie obu zaburzeń, choć wyniki wielu doniesień są niespójne i wymagają dalszych badań. W opracowaniu wykazano korelację pomiędzy wiekiem rozpoczęcia stosowania używek i poziomem depresyjności. W ocenie młodzieży im później w stosunku do własnego wieku zaczęli stosować używki, tym niższy poziom depresyjności.

Słowa kluczowe: depresja, adolescencja, używanie substancji psychoaktywnych, uzależnienie od substancji psychoaktywnych

Chapter 4

The Care for Somatic and Psychological Quality of Life

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PSYCHOLOGICAL INTERVENTION FOR PATIENTS WITH PSORIASIS: RATIONALE AND INDICATIONS

Abstract

Various forms of psychological interventions have since long been proposed as potentially helpful adjuncts to standard pharmacological therapy of psoriasis. All studies investigating the effectiveness of psychological intervention in psoriasis reported its positive impact on the patients' psychological well-being and some studies also reported improvements in the skin condition as a result of psychotherapy. Recent psychoneuroendocrine literature provides evidence for potential anatomical and physiological pathways on which psychological intervention may affect psoriatic processes. When making a decision about the referral of a given patient to the psychologist, both clinical (psoriasis-specific) and general (psychotherapy-specific) indications should be taken into consideration. This can allow a better identification of those psoriasis patients who are in real need for psychological intervention and who are most likely to benefit from it.

Key words: psoriasis, psychodermatology, psychotherapy, psychoneuroimmunology

Introduction

Various forms of psychological interventions have since long been proposed as potentially helpful adjuncts to standard pharmacological therapy of psoriasis, contributing to the patients' improved psychological well-being and longer remissions (Shafii, Shafii, 1979; Milberg, 1963; Coles, 1967; Waxman 1973). They included such approaches as hypnosis (Frankel, Misch, 1973; Tausk, Whitmore, 1999), medical resonance therapy music (Lazaroff, Shimshoni, 2000), meditation (Kabat-Zinn et al., 2000), relaxation techniques (Winchell, Watts, 1988), stress management (Seng, Nee, 1997), biofeedback (Benoit, Harrell, 1980; Goodman, 1994), cognitive-behavioral therapy (Fortune et al., 2002), insight-oriented psychotherapy (Koblenzer, 1995), self-support group (Abel et al., 1999), eye movement desensitization and reprocessing (Gupta, Gupta, 1990), and psoriasis-related problems discussion (Price et al.,1991). However, most early studies were either case reports or uncontrolled studies, therefore lacking the appropriate power for a generalization of the results. Only recently have attempts been made to investigate the efficacy of psychological interventions in psoriasis in a better controlled way (Kabat-Zinn et al., 2000; Fortune et al., 2002; Zachariae et al., 1996). Still, the current state of our knowledge on the issue does not allow drawing justified conclusions as to the superiority of any of the psychological approaches in treatment of psoriasis patients, as no comparative studies have been carried out.

Therefore, in this review I do not intend to analyze from which types of psychological intervention psoriasis patients may benefit best, as the sound evidence is overwhelmingly missing. Instead, the main objective of this review is to analyze the basic rationale for psychological intervention in psoriasis patients and outline the most important indications for such intervention. A brief review of such indications has already outlined elsewhere (Janowski, Pietrzak, 2008), and this article aims at a broader analysis of this topic.

The cost-effective approach favors a selection of the patients referred to psychological intervention according to the pre-established indications maximizing the likelihood of a potential benefit rather than random or ‘for anybody’ referrals, and this review may hopefully help clinicians in taking decisions concerning such referrals. Since the relevant studies in patients with psoriasis are relatively sparse, I will sometimes resort to findings from pertinent research in other clinical samples, which will be appropriately indicated. When using the terms of psychological intervention, treatment or therapy, generally no specific therapeutic mode will be meant, unless otherwise indicated.

The Rationale for Psychological Intervention in Psoriasis

The first rationale for the application of psychological intervention in psoriasis patients comes from the studies which directly evaluated the effectiveness of such treatments (Frankel, Misch, 1973; Lazaroff, Shimshoni, 2000; Winchell, Watts, 1988; Benoit, Harrell, 1980; Goodman, 1994; Koblenzer, 1995; Abel et al., 1999; Price et al., 1991). In spite of considerable differences in therapeutic approaches and techniques, all of these studies found that the applied interventions were effective and helpful. Such unanimity has a persuasive power even if methodological limitations of many of these studies are acknowledged. Corroborating findings, however, have come from better controlled studies (Kabat-Zinn et al., 2000; Fortune et al., 2002; Zachariae et al., 1996; Kirby et al., 2000), all of which also reported statistically significant positive effects, regardless of the type of the psychological intervention applied. It can be concluded that the results of these studies are supportive for the usefulness of psychological intervention in patients with psoriasis by demonstrating: highly significant improvements in psychological spheres of functioning (reductions in depression, anxiety, increased quality of life) (Shafii, Shafii, 1979), and slight but significant improvements in clinical severity of psoriasis (Milberg, 1963).

The positive changes as reflected in psychological indices are not surprising and may be considered as the non-specific effects of a psychological intervention similar to those observed with the same intervention applied for any other problem or disorder. Even if the effects of psychological interventions in psoriasis patients were to be limited to improved psychological well-being, they would still deserve appreciation, as enhancing this important life domain in otherwise somatically compromised patients is beneficial regardless of whether this affects the skin condition or not (Fried, 2002).

However, as the findings of several studies have already indicated, positive effects of psychological interventions in patients with psoriasis may indeed include improvements also in severity of the disease, as reflected by reductions in PASI or in other disease severity measures (Kabat-Zinn et al., 2000; Fortune et al., 2002; Koblenzer, 1995). This obviously enhances the potential advantages of psychological interventions but at the same time calls for an explanation of the physiological mechanisms which non-pharmacological treatments activate to affect psoriasis-specific pathology. The answer to this question still remains uncertain although several possible and non-exclusive pathways have been proposed to account for the mind-body relationships observed in psoriasis (Brazzini et al., 2003). It should be noted, however, that these pathways were mainly searched for to explain the observation that psoriasis may be triggered or aggravated by psychological stress rather than the observation that the disease may be ameliorated by psychological intervention. In spite of this, a very likely hypothesis may be assumed that stress and psychological interventions utilize the same physiological pathways leading from the mind to the skin, naturally with reverse effects.

Bearing this in mind, considerable evidence already exists, suggesting possible anatomical and physiological substrates potent to convey psychological stimuli (be it stress or therapeutic interventions) from the mind to the skin. These pathways engage the hypothalamus-pituitary-adrenal axis whose hormones (CRH, ACTH, glucocorticoids) affect a wide range of immune and skin processes and cells, including those strongly involved in psoriatic processes (e.g. T lymphocytes, keratinocytes) (Richards et al., 2003; Karanikas et al., 2007). The hypothalamic-adrenomedular axis with catecholamines as its end-product was also proposed as capable of modulating psoriasis-related immunocutaneous processes in response to psychological stimuli (Weigl, 2000). Furthermore, the autonomic nervous system alone is able to modify various immune and cutaneous processes, some of which are relevant to psoriasis etiology (Bir, Aktan, 1999). Finally, several studied have already documented that cutaneous neuropeptides released from both autonomic and sensory skin nerve fibers may be potent regulators of psoriasis-related processes and be themselves modified by psychological stimuli (Joachim et al., 2007). Whether positive changes observed in psoriasis patients undergoing psychological interventions are actually mediated through these pathways remains unknown, the point, however, is that such pathways do exist and provide the biological rationale for such interventions.

Indications for Psychological Intervention in Psoriasis Patients

Unfortunately, no study so far has attempted to systematically investigate the issue of the indications and prognostic factors for psychological intervention in patients with psoriasis. Moreover, this issue remained unaddressed in virtually all the studies that investigated the effectiveness of psychological interventions in psoriasis patients. Nevertheless, certain specific guidelines may be formulated, based on conclusions from research on psoriasis and more general guidelines, based on findings from research on psychotherapy in general.

It seems that certain clinical characteristics of psoriasis patients constitute particular recommendations for psychological intervention. These primarily include any clinical form of psychiatric or behavioral disturbances. Ample evidence exists that psoriasis patients are at a greater risk of developing depression and anxiety disorders and the presence of these disorders should be considered as an indication for a psychological intervention (Esposito et al., 2007; Taner et al., 2007; Pietrzak et al., 2006). Suicidal ideation was also reported to be significantly increased in the population of in-patients with psoriasis, and it constitutes another indication for psychological intervention (Gupta et al., 1993). Various psychotherapeutic approaches exist to treat depression and anxiety and any of them may probably be applied, however, during the therapy of patients with psoriasis, the presence of this disease should be additionally taken into account as a potential causative factor for psychopathology and some time should be devoted for therapeutic work over this issue. It should also be remembered that when mental or behavioral disorders are suspected, a psychiatric consultation may be necessary, prior to a referral for a psychological intervention, and this is particularly important when the patient manifests suicidal ideation (Gupta, Gupta, 2001). In some cases a combination of both psychopharmacological and psychological treatment may prove most successful. It is worth mentioning that antidepressant medications (but not lithium) were occasionally reported to improve skin lesions in psoriasis (Modell et al., 2002) although contradicting findings also exist (Cox et al., 2002). Reductions in depressive and anxiety symptoms obtained during group cognitive-behavioral management in patients with psoriasis were also accompanied by improvements in the skin condition (Fortune et al., 2002). No study, however, straightforwardly investigated the effects of a specific depression-targeted psychotherapy for the clinical course of psoriasis in a controlled trial.

Another group of psoriasis patients who may potentially benefit from psychological intervention involves those whose history reveals psychosocial stress as a psoriasis-triggering or aggravating factor. Such persons may constitute from 40 to 80 percent of all psoriasis patients (Gupta, Gupta, 1996), and some preliminary findings suggest that psychological treatment may be particularly beneficial for these patients as compared to those who do not report associations of the disease course with stress (Gupta, Gupta, 1990; Niemeier et al., 2002). However, it should be realized that the mere presence of a stressful life situation or event does not constitute an absolute indication for psychological intervention, particularly if no connection can be found between the stressful event and exacerbation or changes in the course of psoriasis. Some authors failed to find significant associations between psoriasis and stressful life events and persuaded that it is deficits in coping with stress that contribute to aggravation of psoriasis rather than stressful life events alone (Harrison, Moore-Fitzgerald, 1994).

Another indication for psychological treatment in psoriasis involves significantly decreased quality of life (Fried, 2002). Since quality of life assessment in psoriasis patients becomes more and more common in clinical practice, its results may serve as a robust criterion when considering the need for psychological help (Bhosle et al., 2006). Careful analysis should be given, however, to the scores from the instruments measuring quality of life, as a considerable decrement in one quality of life domain, even with the global score relatively within ‘normal’, may sometimes be sufficient to qualify the patient for psychological help. Probably, primarily those patients should be referred to a psychologist whose quality of life is seriously affected in such domains as social relationships, sexual functioning and self-esteem. In this context it is also worth noticing that decreased quality of life may be a considerably stronger indication for psychological intervention than objective disease severity such as that reflected in the Psoriasis Area and Severity Index (PASI) score. A high PASI score alone does not automatically translate into a greater need for psychological intervention, however, more severe psoriasis was demonstrated to significantly affect quality of life when co-occurring with individual psychological ‘vulnerability’ characteristics such as certain temperamental traits (Janowski, Steuden, 2008).

Increased pruritus should also be viewed as an indication for psychological intervention. Research on pruritus in psoriasis showed that this symptom is associated with psychological factors such as increased depression, higher stress levels and lower quality of life, therefore shows promise be responsive to psychological influences (Gupta et al., 1988). Specific psychotherapeutic approaches are available targeting at psychophysiological symptoms such as pruritus (Grillo et al., 2007).

Another clinical characteristic of psoriasis patients, suggestive of the need for psychological help, are increased feelings of stigmatization. A study by Ginsburg and Link (Ginsburg, Link, 1993) demonstrated that about 19% of psoriasis patients experienced major episodes of social rejection due to their disease and a considerable number of these patients felt socially stigmatized by psoriasis. Feelings of stigmatization involve cognitive factors, such as sensitized attention to potential rejecting behaviors of others, biased interpretation of others’ behaviors and intentions, or anticipatory expectations of unfavorable reactions from others. Certain psychological approaches can offer effective ways of dealing with such cognitive beliefs or enhance social skills to be used in coping with real rejection situations (Wittkowski, Richards, 2007).

Psychological intervention may turn out particularly helpful in those patients, whose psoriasis is notoriously unresponsive to standard pharmacological treatments and in whom an underlying emotional cause of the recalcitrant course of the disease may be suspected. Koblenzer (1995) reported four cases of patients with intractable inflammatory dermatoses who showed major improvements after psychotherapy. Psychotherapy as a potentially helpful treatment option for intractable dermatoses, including psoriasis, was advised also by other authors (Ginsburg, 1995; Capoore et al., 1998).

A referral to the psychologist is advised in the cases of children and adolescents with psoriasis. Beside by infections, psoriasis in childhood was reported to be particularly frequently precipitated by psychological stress (Nyfors, Lemholt, 1975; Benoit, Hamm, 2007). In such situations, the psychologist may help to evaluate the potential stressful factors and help ameliorate them. However, even if no psychological factors can be traced in the etiology of psoriasis, the occurrence of the disease in early childhood alone always poses a risk for disturbances of normal development. Childhood psoriasis may negatively affect the natural conditions of the child's environment, including the familial functioning and peer relationships, which in turn may threaten the child's body-image, self-esteem and other developmental achievements (Beattie, Lewis-Jones, 2006). The psychological intervention may help to shape appropriate parental attitudes and educational techniques, and prevent potential adverse effects of psoriasis on the child's personality, as indicated by more numerous studies on the issue in childhood atopic dermatitis (Dennis et al., 2006). The same is particularly true for adolescents, as body-image and self-esteem in this developmental period are naturally fragile and may be easily devastated by an esthetically disfiguring disease such as psoriasis.

It remains unclear if other subgroups of psoriasis patients can specifically benefit from psychological intervention. Studies in patients with other chronic diseases suggest that psychological intervention may not provide much significant improvement in patients who are already well adapted. For instance, well-adjusted women with breast cancer participating in the group psychotherapy or in the support group did not show further marked changes in many indicators of adaptation, except for body image and recreation (Vos et al., 2007). By analogy, this may mean that also psoriasis patients who show a relatively good adjustment, particularly in terms of psychological well-being, may not be in real need for psychological intervention and may not obtain further significant improvement from such intervention. However, since with regard to psoriasis no study attempted to investigate the effectiveness of psychological intervention as a function of the baseline patients' characteristics, including the level of adjustment, it is so far impossible to draw ultimate evidence-based conclusions.

It should be emphasized, however, that the so called 'difficult patients', who during treatment reveal behaviors difficult to accept by the staff, including instigating conflicts, incompliance, disregard for medical staff or rejection of the therapeutic co-operation (Hull, Broquet, 2007), are not necessarily the group predisposed for psychological intervention. Although it is these patients that are frequently referred for a psychological consultation, the practice shows that they typically benefit little from psychological counseling. It seems that implicit expectations are directed for psychologists that they should induce a positive behavioral change in such patients, so that they do not further pose problems. Such expectations, however, are generally unrealistic, since these patients may reveal the same 'troublesome' attitudes towards the psychologist, which in turn may disturb the course of psychological intervention even to a greater degree than the course of pharmacological treatment. Having said this, however, certain psychosocial interventions have been reported in the literature aimed at enhancing the patients' adherence to pharmacological treatment, though in samples other than psoriasis patients (Tay,2007), and certain tips have been proposed useful in dealing with such patients (Othmer et al., 2007).

Finally, it should also be mentioned that apart from specific psoriasis-related indications for psychological intervention, there are also other, more universal factors, investigated thoroughly in basic research on psychotherapy, that are commonly considered to be predictors of psychological intervention effectiveness, largely irrespective of the clinical sample or treatment method. Good general predictors of successful completion of a psychological intervention are at least average motivation for the participation in the intervention and realistic expectations as to the results of the intervention, whereas at least average insight abilities are prognostic for achieving better psychotherapy results (Roth, Fonagy, 2005). Since any form of psychological intervention requires an active engagement on the part of the patient, even if the clinical indications do exist for such intervention in a psoriasis patient, but no apparent motivation, low effects, if any, may be expected. On the other hand, some psoriasis patients may show unrealistically high expectations as to the results, awaiting complete clearance of the skin after the psychological intervention, and such attitudes are a frequent cause of disappointment and therapy discontinuation. Studies in other clinical groups estimate that refusal, drop-out or non-benefiting from psychological therapy due to these general prognostic factors may be as high as 67% (Lincoln et al., 2005). Therefore, these factors should also be taken into account, beside specific clinical indications, when taking the referral decision with regard to psoriasis patients.

Conclusions

Many patients with psoriasis are in real need for a form of psychological intervention, however, no specific guidelines were available providing reasonably justified criteria for the selection of patients who may best profit from such intervention. I believe that this brief review may at least partially complete this gap while outlining both the rationale and suggesting specific clinical indications for psychological intervention in psoriasis patients. On the other hand, this review also uncovers how scant our knowledge is so far on the issue and that an urgent need exists for further well-controlled studies investigating various factors pertaining to the effectiveness of psychological intervention in this clinical group.

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Pomoc psychologiczna dla pacjentów z łuszczycą: podstawy teoretyczne i wskazania

Streszczenie

Od dawna wskazywano, iż pomoc psychologiczna stanowić może potencjalnie korzystną formę oddziaływań terapeutycznych komplementarną do standardowej terapii farmakologicznej. Wyniki wszystkich badań w których oceniano skuteczność interwencji psychologicznych wobec pacjentów z łuszczycą wskazywały na ich pozytywne efekty w zakresie stanu psychicznego pacjentów, a w niektórych badaniach donoszono także o poprawie stanu skóry w efekcie psychoterapii. Literatura psycho-neuro-immunologiczna dostarcza dowodów na istnienie anatomicznych i fizjologicznych ścieżek, które mogą wyjaśniać związki między interwencją psychologiczną a procesami łuszczycowymi. Podejmując decyzje o skierowaniu danego pacjenta do psychologa, należy brać pod uwagę zarówno wskazania kliniczne (specyficzne dla łuszczycy) jak i ogólne (specyficzne dla psychoterapii jako takiej). Pozwoli to na lepszą identyfikację tych pacjentów z łuszczycą, wobec których istnieje uzasadniona potrzeba pomocy psychologicznej i którzy mają największe szanse na odniesienie z niej korzyści.

Słowa kluczowe: łuszczyca, psychodermatologia, psychoterapia, psychoneuroimmunologia

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COGNITIVE-BEHAVIORAL THERAPY OF PATIENTS WITH PTSD: LITERATURE REVIEW

Abstract

Exposure therapy was the first one, which effectiveness was proved in psychological treatment of posttraumatic stress disorder (PTSD). However, studies have shown that this therapy was appropriate for some patients with PTSD, what caused the development of other models and therapies, among which the most important and effective are the theories of information processing and emotional processing. Studies have proved that cognitive-behavioral therapy (CBT) effectively reduces PTSD symptoms and accompanying depression, anxiety, giving similar results. CBT is a short-term therapy, and the achieved results are maintained afterwards. The main purpose of the PTSD cognitive-behavioral therapy is to reduce discomfort and improve the patient life. According to the authors of contemporary models of PTSD cognitive therapy, the patients' emotional involvement in traumatic memories makes a distorted cognitive content accessible and create a base for its modification, using a combination of cognitive and behavioral techniques to help patients to identify and modify distorted beliefs connected with PTSD. Lack of knowledge about change mechanisms, the most responsive to therapy symptoms, don't let to answer the question - whether PTSD cognitive-behavioral therapy will be the therapy of future. It depends on the fact if the current research results will help to develop effective PTSD therapies methods. This presentation provides an overview of basic concepts, application principles, research results on the effectiveness of PTSD cognitive-behavioral therapy.

Key words: posttraumatic stress disorder, risk factors, exposure therapy, cognitive models, cognitive-behavioral therapy.

Introduction

Posttraumatic stress disorder (PTSD) was initially perceived as a complex phobia with symptoms characteristic for generalized anxiety. Currently it is known that PTSD appears as a result of some life-threatening events or acts of violence. People suffering from PTSD re-experience trauma very often, have sleeping problems, feel alienated and indifferent. PTSD disorder co-occurs often with other mental disorders: depression, psychoactive substance abuse, problems with memory and cognitive functioning, and also affects social and family life.

One of the first theories dealing with PTSD was a learning theory, namely Mowrer's two-step theory. The theory assumed that the first step in the phobias development is anxiety learned, when a neutral stimulus is combined with a negative one. The second step is to learn avoiding behavior (Hembree, Foa, in: Reinecke, Clark, 2005). Rachman (1980) presented some limitations of that theory: It does not explain the thoughts and cognitive assessments associated to anxiety.

The second is model-based on exposure therapy proved its treatment efficacy. But this model also is not maximum successful, what caused the development of different cognitive approaches to PTSD treatment. Cognitive model and developed in its framework cognitive therapy combined with behavioral, offered a different view on PTSD disorder, its mechanisms and methods of treatment.

The Prevalence of PTSD

Currently more and more studies are conducted to clarify the prevalence of PTSD. For example, a survey of samples of Detroit residents has found that 11.3% suffered from PTSD (DSM-III-R) during the life (Breslau et al., 1991). In another research the spreading rate of PTSD was 7.8% (women - 10.4%, men - 5% in the NCS study (Kessler et al., 1995).).

Polish surveys of the PTSD prevalence has been carried out on samples of police officers and firefighters; on students and graduates; adults after a flood. These results are significantly different.

The prevalence of PTSD in Ukraine is presented in the Institute of Neurology, Psychiatry, Drugs UAS investigations: among all (100%) people who have experienced the complex trauma in the form of violence have all the symptoms of PTSD (56%), or just some of them (44%). Among the PTSD symptoms mostly were invasion and hiperactivation. Research of the women - victims of people trade, shows, that the PTSD symptoms were highest: in 60% - all symptoms of PTSD, 40% - only some of them. The survey of people who participated in the military actions or liquidation of the Chernobyl disaster in the past shows that in 19% of veterans in Afghanistan were revealed clinical PTSD, some PTSD symptoms - in 25%. Respectively, in 14% of liquidators of the Chernobyl accident PTSD was diagnosed, in 21% - some PTSD symptoms were present (Voloshin et al., http://www.likar.info/profi/articles/301.html accessed 30.06.2010).

PTSD Description

DSM-IV defines precise criteria for PTSD diagnosing (American Psychiatric Association, 1994).

People who are exposed to traumatic events are at increased risk for PTSD as well as for major depression, panic disorder, generalized anxiety disorder, and substance abuse, as compared with those who have not experienced traumatic events (Kessler et al., 1995). They may also have somatic symptoms and physical illnesses, particularly hypertension, asthma, and chronic pain syndromes (Zatzick et al., 1997).

Generally, to be given a diagnosis of PTSD, a person has to have been exposed to an extreme stressor or traumatic event to which he or she responded with fear, helplessness, or horror and to have three distinct types of symptoms consisting of:

1. re-experiencing of the event,
2. avoidance of reminders of the event,
3. and hyperarousal for at least one month (American Psychiatric Association, 1994).

Re-experiencing of the event refers to unwanted recollections of the incident in the form of distressing images, nightmares, or flashbacks. Symptoms of avoidance consist of attempts to avoid reminders of the event, including persons, places, or even thoughts associated with the incident. Symptoms of hyperarousal refer to physiological manifestations, such as insomnia, irritability, impaired concentration, hypervigilance, and increased startle reactions (North, Nixon, Shariat et al., 1999). Within the first month after a traumatic experience, traumatized persons may meet the diagnostic criteria for acute stress disorder. Although acute stress disorder is not always followed by PTSD, it is associated with an increased risk of PTSD (Harvey, Bryant, 1998).

PTSD – the Risk Factors

Hidalgo and Davidson (2000) on the basis of a research review have indicated some risk factors for trauma exposure and PTSD risk factors. As a factor of the first group they have identified gender (men are more exposed to traumatic events (Kessler et al., 1995). Other mentioned factors are as follows: age, education background, features of the person with a personality disorder, psychiatric issues, mental illness in the family and prior/previous exposure to trauma.

McFarlane and Yehuda (1996) on the basis of the empirical studies have proposed a theoretical model of factors influencing the PTSD development: family history, personality, coping style, the reaction of the environment, life events. PTSD does not develop as a direct consequence of traumatic events, but arises from the acute distress, strong post-traumatic reaction (Lis-Turlejska, 2002).

Practice Guideline (2004) gives the following risk factors:

1. Age - Trauma exposure, and therefore PTSD, occurs in individuals of all ages. For all types of trauma, exposure varies with age (Breslau, Kessler, Chilcoat et al., 1998). Age, developmental stage and the extent of any emotional problems may be important considerations in treatment.
2. Gender - Although overall exposure to trauma may be somewhat greater in men than in women (Kessler, Sonnega, Bromet et al., 1995), men and women differ in the types of traumatic events to which they are most likely to be exposed (Kessler, Sonnega, Bromet et al., 1995, Breslau, Kessler, Chilcoat et al., 1998). That men are more likely to be exposed to combat and physical violence, whereas women are more likely to be exposed to rape and sexual assault. Differences in trauma exposures between men and women may affect treatment considerations.
3. History of previous traumas - Exposure to previous trauma may modify vulnerability to subsequent trauma, influence the development of PTSD (Ballenger, Davidson, Lecrubier et al., 2000; Breslau, Chilcoat et al., 1999), and complicate treatment and recovery.
4. Aggressive behavior - Kardiner (1941/ in: Ursano, 2004) noted that some patients with PTSD had problems with aggressive behavior that was frequently impulsive and episodic. More recent studies have documented increases in domestic violence, child abuse, and delinquency after disasters (Curtis, Miller, Berry, 2000).
5. Self-injurious and suicidal behaviors - The response to trauma exposure may include self-harming behaviors that range from self-mutilation to eating disorders, alcohol and other substances abuse (van der Kolk, Fisler, 1994; Hall, Tice, Beresford, Wooley, Hall, 1989; Amir, Kaplan, Efroni, Kotler, 1999; Grieger, Fullerton, Ursano, 2003/ in: Ursano et al. 2004). In fact, PTSD has demonstrated the strongest association with suicidal behaviors of any of the anxiety disorders (Kessler, 2000). In addition, individuals with PTSD appear to have an equal or greater odds ratio for making a suicide plan and for making impulsive suicide attempts, compared to those with mood disorders or other anxiety disorders (Kessler, Borges, Walters, 1999).

Cognitive Models

Foa E.B. and Riggs D.S. (1993) developed a theoretical basis for PTSD in the emotional processing theory framework, combining the model of learning with a cognitive model and Lang's theory of emotion.

Patients with PTSD could be characterized by two types of cognitive content:

1. they view the world as an exceptionally dangerous place;
2. they see themselves as particularly incompetent people.

A cognitive model of emotional disorders assumed that:

1. the way of thinking influence the life events interpretation and leads to certain emotional reactions. That's why people suffering from PTSD are characterized by a pathological / abnormal fear and anxiety that may appear when positive events are interpreted as threatening ones.

2. key beliefs influence the perception and interpretation of the information regarding the future/ coming trauma. Horowitz (1986), Frank and Stewart (1984) research proved that traumatic experiences disrupt key beliefs / cognitive schemas, forcing them to convert.
3. to modify key beliefs they should be matched to the previous schemes (assimilation) or adjusted to the schemes (accommodation) (Horowitz, 1986). The researches shown that assimilation is more typical than accommodation (Resick, Schnicke, 1992). Foa and Riggs (1993) have assumed that cognitive patterns of a person with trauma regarding the world and themselves before the trauma took place, are decisive whether the person will handle with the trauma or not.

A cognitive model of PTSD developed by Ehlers and Clark (2000) assumes that PTSD appears when the person is processing the trauma and its consequences in a way, which causes a sense of current threat. Then there are two key processes: 1. negative assessment of trauma and its consequences; 2. coding of traumatic event memories. The behavior of people and their ways of coping with trauma and its consequences often make the cognitive change impossible and maintain a disorder. A sense of threat is sustained by a negative appraisal of the traumatic event or its consequences, and post-traumatic behavior.

PTSD Treatment

Psychotherapy of PTSD is pictured by various approaches, which formulate different assumptions about the causes of PTSD and effective mechanisms of the PTSD treatment. There has been a significant development of the PTSD psychotherapy techniques in the last decade, primarily related to the cognitive-behavioral approach. The latest one include different varieties of exposure techniques, cognitive restructuring, anxiety control training and methods combining elements of all above mentioned techniques (Meadows, Foa, 2000)

For many years in psychology and psychiatry there has been a very popular opinion that the treatment of patients with PTSD by some form of exposure to traumatic situations is an effective method. The aim of that therapy is to assist patients in coping with fear-causing objects, situations, memories and images.

In case of PTSD exposure-based programs include exposures in the imagination, which has to help to process the trauma emotionally by imagining and loud describing, and exposure in natural conditions, which through the confrontation with situations, actions causing anxiety, assisted processing (Hembree, Foa / in: Reinecke, Clark, 2005).

A treatment based on an extended exposure is usually applied in case of patients suffering on permanent post-traumatic stress and consists of 9-12 one-and-half-hour sessions. It's primary goal is to teach the patient how to reduce the PTSD symptoms.

Based on the assumptions of cognitive theory, an effective psychotherapy has to correct pathological elements of a cognitive anxiety structure (Foa, Kozak, 1986), or help organize traumatic memories and to allow modification of dysfunctional cognitive assumptions (Resick, Schnicke, 1992; Echlers, Clark, 2000). Other researchers found that traumatic events can disrupt or reinforce earlier patterns (Resick, Schnicke, 1992).

There are three factors of effective processing of traumatic events:

1. emotional commitment into the memory of traumatic events (through the victims, whose peak intensity of PTSD symptoms occurred shortly after the event, they recover from an illness more easily than those with a delayed reaction (Gilboa-Schechtman & Foa, 2001);
2. organization of traumatic narratives (chaos and time and space coherence, a lot of repetitions and unfinished sentences are not helpful);

3. correction of dysfunctional cognitive content, occurring immediately after the traumatic event.

A cognitive processing therapy was developed by Resick and Schnicke (1992):

- The basic assumption is: PTSD symptoms are caused by conflicts between new information provided by a traumatic event and earlier schemes.
- Cognitive therapy is focused on identifying and modifying these conflicts (Resick & Schnicke, 1992), namely in the following areas: a sense of security, trust, power, respect and sense of closeness (McCann et al., 1988).
- It consists of several successive stages: an education about PTSD and the theory of information processing, exposure, and cognitive therapy (Resick & Schnicke, 1992). Such a group therapy (6-8 persons) consists of 12 one-and-half-hour session. The first part is a written exposition (description of importance of a traumatic situation, identifying thoughts and emotions), next part – a strictly cognitive therapy (misconceptions identifying, challenging and modifications), with the support of homework.

The trauma-focused group psychotherapies just described typically share certain principles.

- The first sessions provide general psychoeducation regarding PTSD, coping skills for trauma reminders and posttraumatic stress reactions, and either anxiety-regulating or emotion-regulating techniques. They also provide group process exercises to improve group cohesion, openness, and tolerance.
- The trauma exposure sessions utilize different versions of prolonged narrative or exposure in imagination, moving from more general accounts to the most intense traumatic moments. They rely on group members' assisting each other in this difficult task.
- These sessions are generally followed by problem-solving sessions that address avoidant and aggressive behavior, secondary or current adversities, and developmental hindrances (Ursano, 2004).

Cognitive-Behavioral Therapy (CBT) in Practice

PTSD is understood by cognitive-behavioral therapists as a phenomenon of multifactorial conditions. Experiences, beliefs and knowledge of the people determine the way, how they see the signals from outside. Misinterpretation is supported by: behavior (eg, avoidance, forgetfulness), false beliefs about the world and themselves (such as "I am incompetent"), psychological (anxiety) and physical symptoms (somatic). The experience of trauma situation proves that the world is dangerous and the person is incompetent.

The main assumption of CBT is that patients with PTSD avoid thinking, discussing the situation, actions and memories connected with the trauma. The wrong way of events perception or interpretation leads to learn a non-adaptive behavior (Salkovskis, 1991).

The psychotherapy aim is to modify those behaviors through restructuring the content of thought. Therefore, CBT focuses on helping patients to understand processes and how they influence their thoughts, emotions and behavior, to re-assess person's views regarding themselves and disorder.

A therapeutic intervention in the CBT approach focuses on the symptoms of PTSD, such as re-experiencing the trauma (intrusive thoughts, flashback, physiological reactions), avoiding activities (forgetfulness, avoidance), symptoms of excessive excitation (sleeping problems, over-sensitiveness and intense reaction to surprise/ astonishment) and that how a patient tries to interpret the traumatic event.

Both the style and the method of a therapeutic treatment are based directly on a classical CBT approach developed by A. Beck (1976):

1. So cognitive therapy of patients with PTSD is an active, structuring, time-limited form of psychotherapy.
2. A style of work includes a development by a therapist and a patient treatment plan and goals, and an active role of therapist and active participation of the patient.
3. CBT techniques used in the treatment of PTSD are as follows: identifying thoughts and beliefs; showing the relationships between physical symptoms, thoughts, emotions and behavior; looking for the evidence for and against the righteousness of dysfunctional beliefs, assumptions, exposure, the alternative hypotheses creation.

Cognitive-behavioral therapy of PTSD starts with:

1. a detailed interview with special attention to detail the nature and intrusive images, flashbacks and maintenance problem factors.
2. education about the symptoms of the disorder is very important, as well as a rationale for asking the patient to recall painful experiences and relaxation training.
3. after the therapist assesses the patient's ability to tolerate within-session anxiety and temporary exacerbations of symptoms, the patient is led through a series of sessions in which the traumatic event and its aftermath are imagined and described, and the patient is asked to focus on the negative affect and arousal until they subside.
4. reassurance and relaxation exercises aid the patient in progressing through these sessions, and
5. homework assignments allow the patient to practice outside the sessions or while confronting triggers of anxiety (specific places or activities) in vivo (Harvey, Bryant, Tarrier, 2003).

In cognitive therapy – the distorted cognitive content is identified with the help of verbal discourse, its relevance is challenged, what can replace it with more rational and functional content. That is the advantage of cognitive therapy in comparison with the exposition, namely: it allows patient to confront conflicts and dysfunctional beliefs, not only by the memory activating, and gives the direct information, which corrects the dysfunctional cognitive beliefs (Resich, Schnicke, 1992).

Ehlers and Clark (2000) focus on the modification of cognitive evaluation of trauma and lasting consequences of the traumatic events during the treatment. They indicate that exposure is a tool of the cognitive content modifying.

The most useful method in CBT is exposure – it gives the patient new piece of evidence, denying his thoughts and beliefs (e.g. thinking about the trauma is not threatening), and the accumulation of evidence leads to the weakening of catastrophic thoughts and interpretations (Reineckie, Clark, 2005).

Another mechanism for PTSD treatment based on the exposure and emotional processing theory, is the development and organization of the trauma narrative. Foa et al. (1986) found that the growth of organization of trauma narrative correlates with a patient's improvement. Ehlers and Clark (2000) found that trauma memory is poorly developed and insufficiently integrated with other experiences, and its revival combined with the cognitive therapy supports the process of its development and integration. However, several studies have noted that exposure may increase rather than decrease symptoms in some individuals (Tarrier et al., 1999).

Cognitive restructuring helps patients to modify automatic thoughts and assumptions regarding the threat of feelings and situations. Patients realize that their worst fears are not inevitable with the help of checking the accuracy of their thoughts and beliefs. Cognitive restructuring results in an anxiety reduction (caused by both external and internal causes), and gives patients a sense of confidence, which leads them to engage in exposure.

Research on the Therapy Effects

In general, psychotherapy, examined across all types of interventions and for different types of victims, is an effective intervention for PTSD. Researches have demonstrated the effectiveness of such techniques as exposure therapy (helping patients confront painful memories and feelings), cognitive therapy (helping patients process their thoughts and beliefs), anxiety management, and interpersonal therapies (helping patients understand the ways in which the traumatic event continues to affect relationships and other aspects of their lives).

Sherman (1998) conducted a meta-analysis of 17 controlled clinical trials of psychotherapy for PTSD that included behavioral, cognitive, and psychodynamic individual and group therapy with veterans, female assault victims, and victims of other traumatic events. Psychotherapy was found to have a significant beneficial effect on PTSD.

Many studies have shown that a therapy based on exposure is an effective method that reduces the PTSD symptoms and its accompanying disorders (depression, anxiety). The state of war veterans with PTSD who were treated with exposure has improved in comparison with people from a waiting list for treatment (Keane et al., 1989). The state of women raped, treated with an extended exposure significantly improved (Foa et al., 1991).

A few studies have indicated that a brief cognitive-behavior therapy intervention in the acute posttraumatic phase can prevent PTSD while simultaneously treating ASD (Ursano, 2004)

Cognitive behavior therapy has often been combined with exposure therapy and shown to be effective (e.g. in a randomized, controlled study by Fecteau and Nicki (1999). Cognitive therapy techniques have not always been combined with exposure techniques, allowing for some comparison of these techniques.

Foa et al. (1991) studies of cognitive behavior therapy for PTSD have also examined outcomes for factors other than PTSD symptoms, such as anger. This study showed the specific clinical utility of a cognitive behavior treatment for anger as an adjunct to routine care, although no information was given on PTSD symptoms.

Group therapy may also be helpful in reducing isolation and stigma (Foa, Keane, Friedman, 2000). The trauma-focused group psychotherapy is especially effective in addressing this latter group of functional impairments. There were significant reductions in anger, depression, and symptoms of PTSD (Ursano, 2004).

Resick and Schnicke (1992) have researched the efficacy of group therapy of the cognitive processing in treatment of PTSD and depression in victims of rape: reductions of the PTSD symptoms were significant in comparison with the control group, treatment effects have been maintaining over a six months period after the therapy termination.

Tarrier et al. (1999) conducted a study comparing the relative efficacy of cognitive therapy and therapy based on exposure (in imagination). Therapy based on exposure in imagination and cognitive therapy are significantly and equally effective in the chronic PTSD treatment.

Marks et al. (1998) have conducted research on the effectiveness of treatment using different kinds of therapy: an extended exposure, cognitive restructuring, merger of these two therapies and the relaxation training. They have found that: 1. all these therapies are more effective than the relaxation training; 2. PTSD symptoms decreased more rapidly after treatment in patients using exposure or exposure in combination with cognitive restructuring.

A limited number of well-designed studies demonstrate some success not only in speeding recovery but also in preventing PTSD when cognitive-behavior therapy is given over a few sessions beginning 2–3 weeks after trauma exposure (Marks et al., 1998; Tarrier et al., 1999).

Stress inoculation training involving breathing exercises, relaxation training, thought stopping, role playing, and cognitive restructuring has also proven effective alone and in combination with prolonged exposure in reducing PTSD symptoms (Hembree, Foa , 2000).

Many studies show that cognitive behavior therapy is effective in treating psychiatric disorders such as depression and PTSD, which can increase the risk for suicide, few studies have shown cognitive behavior therapy to be effective for reducing actual suicidal behavior and intent (Kessler et al., 1999).

There are more studies published that provide support for the effectiveness of treatment based on exposure rather than cognitive therapy, so the first one is now considered as the most effective in the treatment of chronic PTSD, and recommended as a primary intervention. But there are only three descriptions of research on the effectiveness of cognitive therapy published (Reineckie & Clarc, 2005).

Conclusions

The research on effects of treatment suggests that the therapy based on exposure and the cognitive therapy effectively reduces the symptoms of chronic PTSD, depression and anxiety. These results are obtained in different centers of PTSD and patients with various traumatic experiences psychotherapy. Most comparative studies demonstrated that patients treated with cognitive therapy, and therapy based on exposure obtained similar results, although the exposure is faster and gives more stable results, it is effective only if the patients are well-responsive to that therapy.

In general researchers of cognitive-behavioral therapy are unanimous to a certain level about most important factors for successful outcome of PTSD therapy: according to the emotional processing theory the base of anxiety symptoms reduction is a pathological change of cognitive structures (Foa & Kozak, 1986), in the cognitive approach the important role is assigned to need in join emotions with traumatic memories by the patient to access the content of cognitive distortion regarding PTSD (Ehlers & Clark, 2000); it is important to correct the information in order to modify the distorted / incorrect cognitive content.

The cognitive model of PTSD is one of the most important achievements of modern clinical psychology. Cognitive theory has many advantages: it is coherent, refers to cognitive psychology, pathological behaviors and experiences, has practical applications, and also allows to use the majority of existing information concerning PTSD. This approach is based on how people interpret the problem and the procedure of cognitive behavioral therapy, and it also takes into account its expectations. CBT has shown effectiveness in treating patients with PTSD, it is comparable to the treatment of exposure therapy. CBT can be easily integrated with other therapy methods, and such an integrated approach seems to guarantee maximum efficiency.

There is still a knowledge lack regarding predictors of response to cognitive-behavioral therapy. To enrich the cognitive-behavioral theory further studies should be conducted on:

- mechanisms of change;

- relationship between individual differences in patients characteristics;
- symptoms that best respond to specific interventions;
- effectively matching of the elements of patient therapy.
- early interventions and PTSD prevention
- identification of risk factors for development of PTSD
- treatment of specific symptoms or clinical concerns (Ursano, 2004).

Taking all the above into consideration, current cognitive theories used in PTSD therapy differ significantly from a traditional exposure-based therapy, but they very similar to approaches derived from the emotional processing theory. Cognitive theories assume that emotional involvement in traumatic memories and a cognitive content of pathological changes are inevitable to succeed in the therapy. It is necessary to conduct further studies to declare which method leads to achieve this goal the best.

The decision whether or not the use CBT in the PTSD treatment will be a therapy of the future depends on if further research and obtained results will confirm the effectiveness of this therapy and if they find confirmation in a large clinical practice.

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Terapia poznawczo-behawioralna pacjentów cierpiących na zespół stresu pourazowego: przegląd literatury

Streszczenie

Terapia przez ekspozycję była pierwszą, której skuteczność została wykazana w wynikach psychologicznego leczenia zespołu stresu pourazowego (PTSD). Jednak badania wykazały, że ta forma terapii była odpowiednia dla części pacjentów z PTSD, co wywołało rozwój innych modeli i terapii, wśród których najbardziej znaczące i skuteczne są teorie przetwarzania informacji oraz przetwarzania emocjonalnego. Badania udowodniły, że terapia poznawczo-behawioralna (TPB) efektywnie obniża objawy PTSD oraz towarzyszącej mu depresji i lęku, dając podobne rezultaty. TPB - to terapia krótkoterminowa, a osiągnięte efekty utrzymują się po jej zakończeniu. Głównym celem stosowania terapii poznawczo-behawioralnej PTSD jest zmniejszenie dyskomfortu i poprawa funkcjonowania pacjentów. Według autorów współczesnych modeli terapii poznawczej PTSD zaangażowanie emocjonalne pacjentów we wspomnienie traumatyczne udostępni zniekształcone treści poznawcze oraz stworzy podłoże dla ich modyfikacji za pomocą kombinacji technik poznawczych i behawioralnych, pomagających pacjentom określić i zmodyfikować zniekształcone przekonania, związane z PTSD. Brak wiedzy na temat mechanizmów zmiany, objawów najlepiej reagujących na terapię, dopasowania elementów terapii do pacjentów nie pozwala uzyskać jednoznacznej odpowiedzi na pytanie - czy terapia poznawczo-behawioralna PTSD okaże się terapią przyszłości. Będzie zależało od tego, czy obecne wyniki badań pozwolą opracować skuteczne interwencje oraz metody terapii PTSD. Niniejsze wystąpienie stanowi przegląd podstawowych założeń, zasad zastosowania oraz wyników badań nad skutecznością terapii poznawczo-behawioralnej PTSD.

Słowa kluczowe: zespół stresu pourazowego, czynniki ryzyka, terapia przez ekspozycję, modele poznawcze, terapia poznawczo-behawioralna.

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PHYSICAL ACTIVITY AND QUALITY OF LIFE AMONG PEOPLE IN SENIOR AGE

Abstract

The subject of this article is surveys on frequency and kinds of physical activity of people in senior age and its relationship with the sense of quality of life. A randomized group of a hundred respondents has been examined, including 55 women and 45 men. Information relating to practicing sports, active recreation and knowledge of the retired people on the subject has been analyzed. The relation of different factors effecting physical activity of the retired has been covered. This article presents information on importance of physical activity for human health and the effect of physical activity on physiological processes. The significance of physical activity for shaping social attitudes and relationships as well as satisfaction of life has also been covered.

Key words: senior age, quality of life, physical activity in advanced age

Introduction

Nowadays the age of life becomes remarkably longer. Today it is generally 25-30 year perspective of life awaiting people after finishing their vocational activity. That vast amount of time is a space, as Janusz Homplewicz writes (quot. Jopkiewicz, 2003) […] *that may destroy a human or lead to his/her full maturity.* In the previous century life expectancy has remarkably increased. At present it is 70.2 in men and 78.3 in women (Wojtyniak, Bodyński, 2006). Going into retirement does not have to mean inactivity and passiveness. It may mean opening to new forms of activity that will support high quality of life.

Disease and disability are inevitable parts of human life and appear mainly in senior age. Illness may affect us, as R. Ossowski (2006) writes, but we may cope with it as well and, in spite of experience of passing by, live life moderately to the full.

One of vital compounds of healthy lifestyle and good health is regular physical activity and care over shape of the body and its fitness. Lack of that activity predicts many illnesses and disturbances. Physical activity is regarded not only as an important factor of human development, but also as a positive measure of human health (Walker, 2005). Human body is genetically programmed for physical activity. Concept of quality of life is presently a commonly used term both in specialist terminology as well in colloquial language. Most people connect it with happiness and fulfillment. Despite of that the notion is extremely difficult to define, because it is a phenomenon, in which what is the source of satisfaction or well-being for some people, it is of no value to others. The term *quality of life* is used in many fields, such as philosophy, social economy, psychology, sociology and medicine but each of the fields gives to the term own special meaning (de Walden-Gałuszko, 1996; Steuden, 2006; Shankar, McMunn, Steptoe, 2010).

Interest in quality of life originates from social sciences in second part of 20th century and, in its consequence the term of *quality of life* appeared in an American dictionary after the Second World War. At the beginning that term meant typical consumption attitude to goods and services, measured by objective socio -economic indexes such as home standard, education, employment, income (Szulc, 2000; Bowling, 2004). In 1960 Professor Eisenhower´s Committee for National Targets broadened the meaning of the term to measures of health, health care, education and economic growth. Such understanding of the term resulted partly from socio-political changes in late sixties in United States.

Psychologists connect quality of life with sense of satisfaction, staying in harmony with oneself and the world and widely understood feeling of happiness. Norwegian representative of that group of researchers Siriaes gave the components of quality of life (comp. Coleman, Ivani-Chalian, Robinson, 1998; Wołowicka, 2001):

- activity (that is freedom, self-actualization, energy and engagement)
- positive interpersonal relationships
- self-acceptance
- sense of happiness (resulting from safety, joy, emotional experiences)

Gerontology understands quality of life not only as complete health assessment of elderly people but first of all as general standard of living and the position in society of the individual (Kocemba, Grodzicki, 2000; Wadensten, 2006). Its theses refer to:

- functional concepts (quality of life viewed in terms of social roles of elderly people)
- disability concepts (multiple deviance and related stigma)
- socio-cultural importance of old age
- \`life events\` concepts (old age as stressful or a series of stressful events and strategies of coping with them in society)
- social inequality concepts
- mechanisms of retreat and losing independence and control upon own decisions (resulting consequently in interpersonal as well as institutional dependence)
- inclusion of elderly people to minority group (\`younger group\` assigns their place and rights)
- social attitudes to old age (generally to elderly people, chronically ill and the disabled)
- mass-media role in creating an image of old age
- self-assessment of old age (made by elderly people, their environment and younger people groups).

Quality of life is often defined as a result of comparison between patient´s expectation and reality. Basic criterion of that measure are subjective feelings (every ill person measures it “by one´s own bushel”) and the best method of learning it is to ask the individual himself/herself. For this purpose the researchers developed measures of quality of life in the form of questionnaires, indexes, rating scales and interviews. Measures used for HRQL are classified on the basis of the method of measure, its complexity and the specific character of the tool (Bowling et al., 2002; Wiraszka, Stępień, Wrońska, 2004).

Existing measures allow assessment of both subjective and objective components determined by the state of health. Most commonly used measures in medicine and physiotherapy that allow assessment of objective components are Karnofsky Performance Index, World Health Organisation Performance Status, Index of Independence in Activities of Daily Living, Spitzers Quality of Life Index. Health assessment is made by a person who takes care for a patient.

Subjective assessment of quality of life, determined by state of health is made by the patient. For this purpose usually Quality of Life Uniscale, Linear Analogue Self –

Assessment, McGill/Melzack Pain Questionnaire, The Functional Living Index: Cancer, Nottingham Health Profile, Psychosocial Adjustment to Illness Scale, The Sickness Impact Profile, The Rotterdam Symptom Checklist (compare: Wrońska, Stępień, Wiraszka 2004; Andersson, 2005).

With regard to complexity measures of quality of life are divided into:

- Multiple measures, that assess specific areas of life (The Functional Living Index and Linear Analogue Self – Assessment and Functional Assessment of Cancer Therapy Scale in case of people who suffer from cancer)
- One-determinant measures, that assess a certain area of life (Zubrod Functional State assesses physical health, Hospital Scale of Anxiety and Depression, Scale of Symptoms of Concern used in cancerous diseases; Beck Depression Inventory diagnoses emotional determinants; Psychosocial Adjustment to Illness Scale examines social determinants).

Specific character of the tool determines the range of examined areas specific for different health and conditions. Then we can distinguish:

- General measures – allow of measuring a wide range of areas specific for different clinical conditions. Thanks to it possible is to compare results of therapy in different patient populations (Health Profile, Disease Effect Profile)
- Measures specific for a given condition – assess the most important area of life in a given health condition (The Rotterdam Symptom Checklist, The Functional Living Index in case of cancerous diseases).
- Module measures – allow of detailed quality of life assessment by adding to the basic tool questions specific for a given health condition (The Functional Living Index with a module of large bowel cancer or breast cancer).

Research instruments used for HRQL assessment have to be characterized by precise keeping research intentions, critical view over psychometric characteristics, survey availability and being standardized. The notion means that questionnaire is developed in such a way that all testing procedures are consistent. The purpose of standardization is to minimize dependence of results on the researcher and external factors. According to Donovan (Wiraszka, Stępień, Wrońska, 2004) an instrument for assessing quality of life determined by state of health should fulfill following conditions:

- Appropriately specify a concept of quality of life (include questions and optional answers from all life areas)
- Assess psychometric requirements: reliability (defines exactness of the measure) and validity (assesses if the measure examines what it is aimed to)
- Respond to changes of quality of life (include a rational amount of questions, allow of a few answer options and assessment of results of individual life areas)
- Be based on information obtained from a patient
- Be accepted by researchers, health takers and patients (comprehensible, simple in usage and rating).

Material and Methods

In our study, sense of quality of life´s measure is comprehensive cognitive estimation of one´s life in perspective of satisfaction with the life and the number of positive and negative emotional states experienced by an individual over past few days just before meeting a rater. Cognitive indicator of sense of quality of life was Cantrill´s Ladder and emotional aspect of sense of life tested Scale of Positive and Negative Emotional States (PANAS). Scale´s reliability ranged, depending on the project, from $\alpha=0,86$ to $\alpha=0,89$ (in a part referred to positive emotional states) and $\alpha=0,84$ do $\alpha=0,85$

(in a part referred to negative emotional states (Trawka, Derbis, 2006; Crawford, Henry, 2004). Scale of Sense of Quality of Life has also been used to assess subjectively physical, mental and social factors and their level in individuals. To define physical activity of respondents the author`s questionnaire has been used. Its results have been used in the process of analysis of variance and converted into percents to enrich quality analysis of empiric data.

Author`s questionnaire consisted of questions in thematic groups.

- The first group of questions aimed to get to know the respondent (his or her age, sex, place of residence, wealth, interests).
- The following questions referred to detailed assessment of physical and mental functioning of respondents, their social relationships and environmental influences.
- The last group referred to self-esteem of the patient.

The overall aim of the research was assessment of physical activity in people at senior age and its importance for the sense of quality of life. Detailed aims included:

1. Defining the influence of socio-demographic conditions upon frequency and a kind of physical activity of examined people.
2. Establishing the relation between belonging to a certain social class and knowledge of respondents about effect of physical activity on livability
3. Assessment of sense of quality of life in the research group
4. Learning about the importance of physical state and somatic sensations for subjective estimation of quality of life.

The following research hypotheses have been constructed:

1. Frequency and a kind of physical activity have effect on physical and mental quality of life in elderly people.
2. Active in their lives people are characterized as independent, what favors declaring sense of happiness and life fulfillment by them.
3. Diseases of advanced age heighten restrictions of physical activity, intensify pain and cause drop in life energy what results in decrease in quality of life.
4. Main factors favoring onset and development of disease in senior age are:
    - age, sex,
    - genetic conditions,
    - lifestyle and health habits
5. Sense of fitness and self-reliance affects physical and mental state in a positive way, enhances faith in one´s abilities and establishes positive attitude to taking up everyday activities.

Results

Importance of physical activity is most interesting from the point of its relation to health. Trying to describe it in that context it is not enough to take into account energy output (which is not synonym of physical activity but its best measure), but also frequency, duration, intensity, forms and its circumstances because they also have an effect on health (Charzewski, 2000).

For this study the questionnaire examination has been used. The examination took place in Outpatient Clinic of Motor System in Tarnów and Outpatient Clinic of Rehabilitation and Family Medicine of John Paul II Hospital in Kraków (Cracow). The randomized group of 100 retired people, including 55 women and 45 men has been examined. Taking part in examination was voluntary and patients have been informed about the aim of the examination, its confidentiality and the way of filling in the questionnaire. Average age of individuals was 64.2 years (SD=8.2); in case of women it was: 65.3 years (SD=9.1) and in case of men: 63.4 (SD=7.3). 85 % of respondents stay married, 12% are divorced and 4% are widowed. The majority of patients had secondary education (62%) and 22% received vocational education. The higher education declared 16%. Despite retirement age 62% of respondents is still vocationally active and 22% is retired. 16% is vocationally inactive due to disability retirement.

The statistical analysis of assembled empirical data was consisted of two parts. In the first part, using methods of descriptive statistics, the description of the basic features of the most significant variables in the researched group was made. In the second part, the basic features of variables related to quality of life were described and the comparison whether the means of the two researched groups are statistically different from each other was made by using t- test.

As a result of those findings two groups have been distinguished: active physically people group and living sedentary life style group. Consequently, the results related to sense of quality of life within those two groups, measured by Scale of Sense of Quality of Life, have been compared.

Its results have been used in the process of analysis of variance and converted into percents to enrich quality analysis of empirical data (Table 1).

Table 1. General level of sense of quality of life in subgroups of physically active and living sedentary life style individuals.

Physically active group (N=54)		Sedentary life style group (N=46)		Generally (N=100)		Student's t-Test
M	SD	M	SD	M	SD	p
59.67	11.25	52.09	10.91	55.76	11.02	0.014

Sense of quality of life in physically active group was 59.67 (ds.=11.25) and was located in a range of high scores, while sense of quality of life in sedentary life style group was 52.09 (ds.=10.91) and was situated in a range of average scores. The difference was statistically significant at the level of $p<0.01$. There were no statistically significant differences between men and women for that variable.

Structural dimensions of sense of quality of life analysis allowed of detailed assessment of differences between two subgroups (groups differing in the level of physical activity). See Table 2.

Table 2. Structural factors of sense of quality of life in subgroups of physically active and living sedentary life style individuals.

Factor/ dimension of quality of life	Physically active group (N=54)		Sedentary life style group (N=46)		Student's t-Test
	M	SD	M	SD	p
Physical	18.9	4.7	17.4	4.8	0.173
Mental	20.4	3.2	17.3	3.7	0.002
Social	20.9	3.9	17.7	4.1	0.015

There were no statistically significant differences in subjective estimation of physical aspects of life between the compared groups. The examined reported satisfaction of present state of health, their physical fitness and everyday independence. Tested groups differed statistically for a mental satisfaction - accepted as a dimension of sense of quality of life. Less active individuals complained more often about lack of sufficient motivation for engaging in everyday life and problems in adaptation to new situations. Level of social satisfaction aspects of quality of life also differed statistically the examined subgroups. The differences were most clear in area of fulfilling social needs.

The frequency of taking up activity in a week has been assessed in a research group. Figure 1 shows that majority of respondents (54%) report active spending time 2 times a week. 26% - once a week, 8% - 3 times, 4% more than 3 times and 8% do not live active life at all.

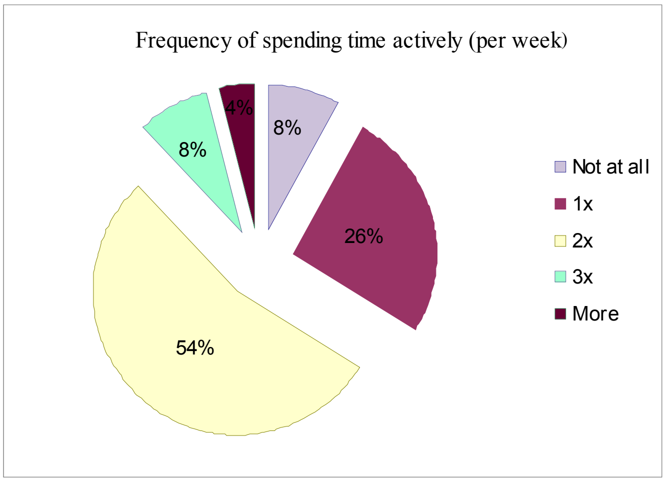

Figure 1. Frequency of spending time actively (per week).

Majority- as much as 54% believes that it is enough, while 44% thinks that they exercise too little.

Figure 2 shows preferred kinds of activity that respondents take up at present (there was multiple choice possible). Respondents reported most often walking, gymnastics with a therapist in a rehabilitation surgery, general gymnastics, aerobics. A lot of respondents enjoy also cycling, skiing and Nordic walking.

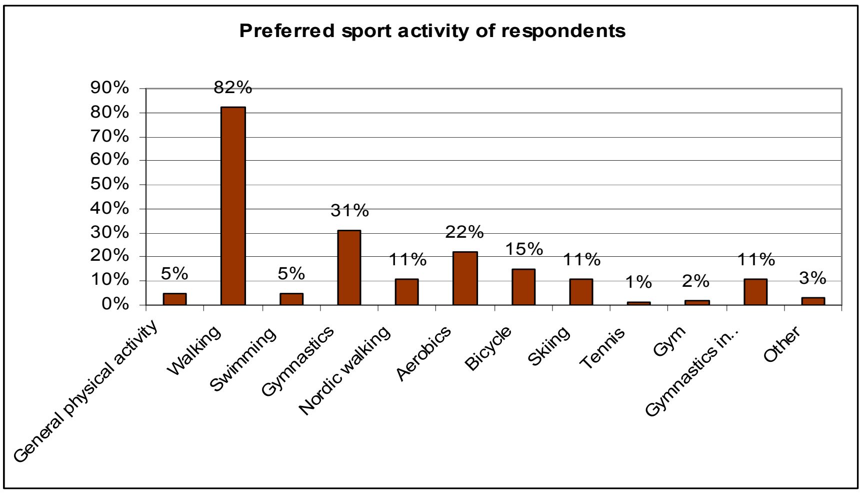

Figure 2. Preferred sport activity of respondents.

Figure 3 shows reported by the respondents their motivation for taking up physical activity. Most often the reason for physical activity is to lose weigh and look good. Respondents take into account also good physical and mental shape. They believe also, that physical exercises are a good form of recreation.

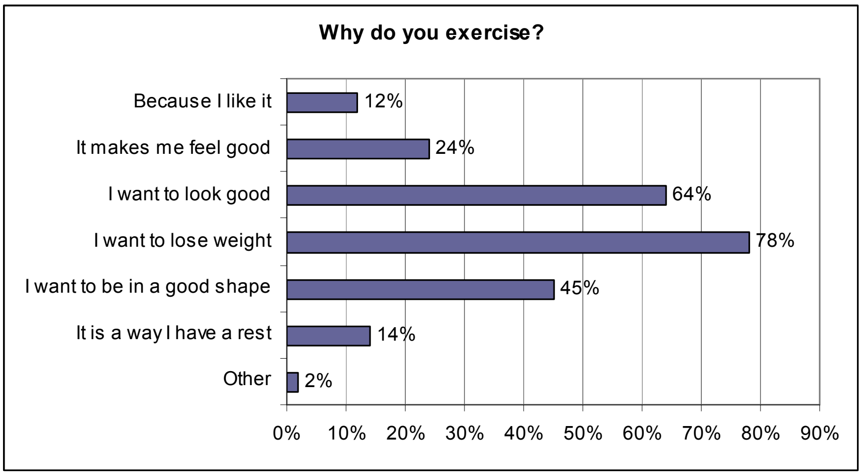

Figure 3. Declared motivation for taking up physical activity.

Participants were asked also about the diseases that may interfere in their activity in life. Among most common chronic diseases the patients named most often motor system diseases, cardiovascular diseases and genitourinary system discomforts. As less common the patients named metabolic disorders and respiratory system diseases (Figure 4).

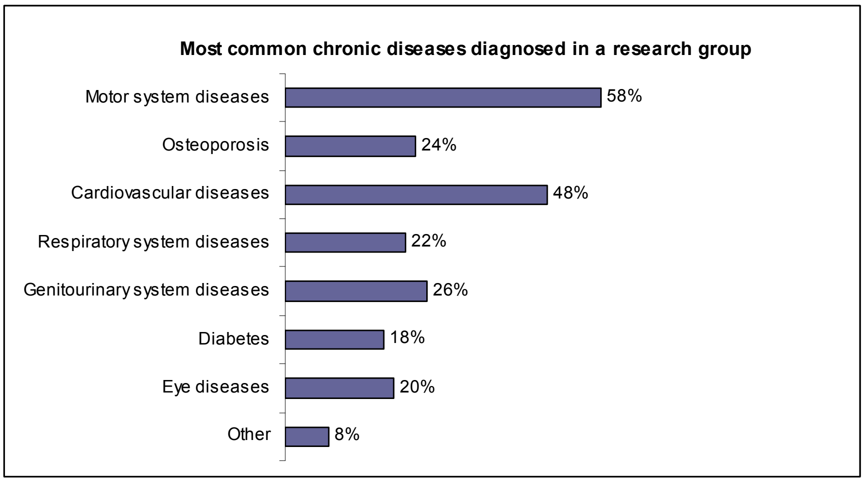

Figure 4. Most common chronic diseases diagnosed in a research group.

In the following analysis, attention was paid to subjective description of feelings of the individuals that allowed of assessment of their mental functioning. To the question: “How often do you feel happy?” only 6% answered that every day, when they wake up in the morning, 17% reported that never. The detailed results are shown in Figure 5.

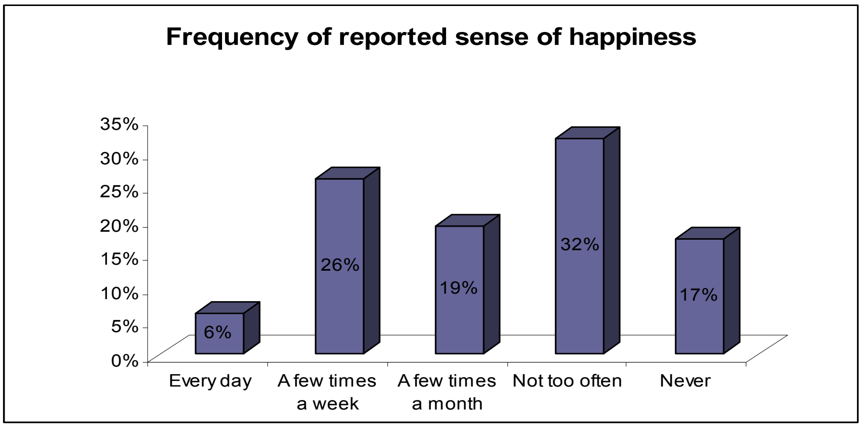

Figure 5. Frequency of reported *sense of happiness*

When extending information included in diagram nr 5, it was found that 15% of respondents declared no life energy at all to realize their life plans and the most respondents (as much as 39%) reported that their life energy allows them to pursue their interests at the moderate level. 30% declared that they fulfill most of their aims and only 13% answered that they fulfill all (Figure 6).

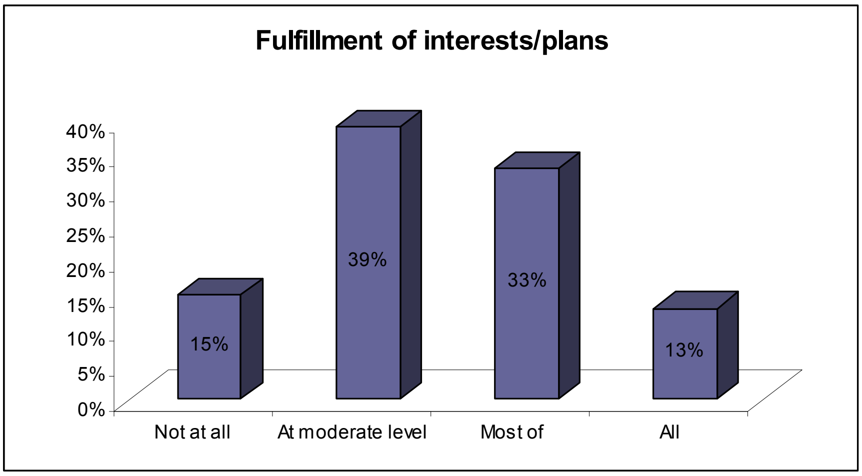

Figure 6. Fulfillment of interests/plans.

When assessing subjective perception of being in a good frame of mind it was found, that 43% the examined was in a good mood only occasionally and rather rarely, 40% felt it a few times a week. Definite minority of the respondents (12%) experienced that positive emotion every day and 5% - never.

Another positive experience that was subjected to assessment was relaxation. Our findings have shown that only 6% of the examined felt it every day and 8% - never.

Most respondents experienced the feeling of relaxation a few times a week (46%) and 40% experienced it occasionally.

When assessing the experience of negative emotions the focus of researchers was on feeling of nervousness, low spirit and fear of falling down. 25% of the examined declared, that they have never experienced nervousness because of every day life trifles. 37 % felt it a few times a week and only 4 % reported, that is free from that feeling.

In the research group 41% of respondents experienced low spirits occasionally, 38% felt it a few times a week. 17% have never had that feeling, as opposed to other 4% of respondents who face that feeling every day.

Fear of falling down was of no problem to 28% of the examined and 37% felt it occasionally. 13% of respondents faced that fear every day, while 24% - a few times a week. The analyzed results are shown in Figure 7.

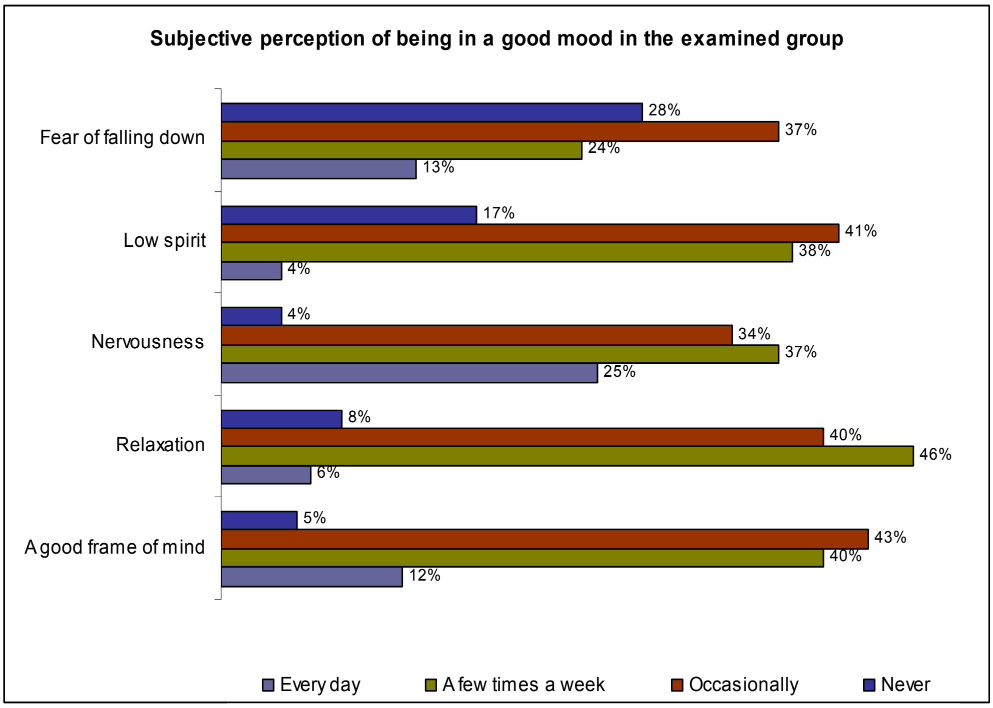

Figure 7. Subjective perception of being in a good mood in the examined group.

The aim of the study was also to examine the way of perception of one’s own health and mental self-feeling in respondents’ own opinion. Only 2% of respondents defined their health as excellent but as much as 25% defined it as very good. Twenty nine percent of respondents characterized it as good and the other 11% - as bad. The results are graphically presented in Figure 8.

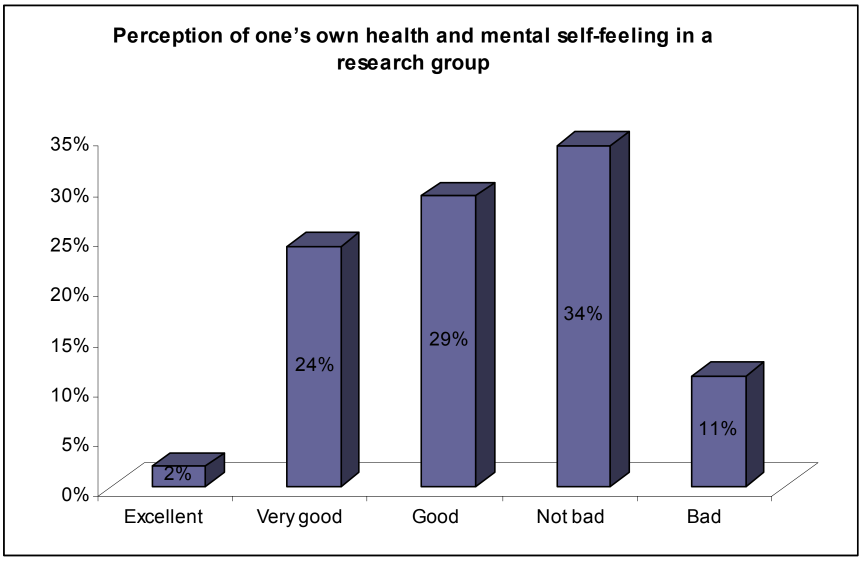

Figure 8. Perception of one's own health and mental self-feeling in a research group.

Discussion

Presented results differ from commonly accepted opinion that the Poles, particularly elderly people, do not care about their physical fitness. Presented study shows that as much as 54% of elderly people regularly –that is two times a week spend their time actively and only 8% do not recognize that need.

Physical activity is a biological need of human organism. Experts of World Health Organization specified the minimal, that is necessary dose of physical activity for the adult as 10 000 steps daily. A popular formula of 3x30x130, that means that it is enough, for maintaining good health and shape, to exercise three times a week for 30 minutes and keep heart strokes rate at the level of 130 a minute, is well known (Drabik, 1995).

Interest in questions of physical fitness is not new, because already in ancient Greece some hygiene practices, related to physical culture, were developed. Particularly attention was paid to strict education of Sparta. Appropriately chosen gymnastic activities aimed at toughening the body and increasing physical condition of citizens has been its part. Intensity of exercises for generating and maintaining of physical fitness was appropriately adjusted to different age groups. Attention was paid to the need for maintaining toughness and good physical fitness until old age. Good physical condition was connected with appropriate diet and sane rest. Commonly recognized importance of exercise and diet in human life should be particularly highlighted. Those two were principles of Hipokrates, who formulated basic principles of health prevention (Bielski, 1995).

Theses on the relation between physical activity and health can be found in different sources of past centuries and contemporarily and references to them are present in literature (comp. Cyzman, 2010). Unfortunately beginning of 21st century has not brought about full integration between knowledge and practice. Contemporary statistics show incredible increase in ongoing diseases caused by sedentary lifestyle. For decades we observe a steady increase in mortality caused by cardiovascular diseases and coronary heart disease: index of men´s mortality in our country is one of the highest in Europe (Gębska-Kuczerowska, Miller, 2009).

Gerontologists (Sierakowska, Matys, Kosior, 2006; Wadensten, 2007; Demakakos, McMunn, Steptoe, 2010) give four dimensions of quality of life:

- general health (measured by the rate of independence in fulfilling individual´s needs)
- socio-economic position
- life satisfaction
- self-esteem.

Measures allowing assessment of all four dimensions of quality of life include: clinical health assessment, regular taking up therapy, socio-economic environment (living standard, family situation, social support network), ecological environment (place of residence, rest and recreation, sense of safety), life style (diet, physical activity, social activity, beverages that have stimulating effect such as coffee, addictions), personality traits (friendliness with others, attitude towards old age, ability to adapt to new situations, ability to cope with stress), economic conditions (income, other financial support sources, material comfort), socio-demographic characteristics (age, sex, education, marital status, social status achieved during the time of vocational activity).

Gerontologists have identified quality of life with "positive old age" that is well-being, life satisfaction, meaningful social status, sense of happiness). Favorable getting old means also keeping social relationships and, first of all, sense of independence in making decisions about own place in social environment. Elderly people themselves think about quality of life in terms of gains and losses typical to that period of life. The summing-up of age related changes refers mainly to:

- health status (as a consequence of natural process of aging, decrease in physical fitness and mental abilities, ongoing diseases and disabilities
- economic status
- family status (death of a spouse or a child)
- vocational status (finishing career, loss of social roles, limitation of social contacts).

Quality of life of elderly people is defined also by social conditions including: belonging to a certain social class, income (material comfort), loneliness (resulting from economic status, level of social isolation, marital status), vocational activity (continuing a career), social relationships (family and group ones), social support (family, friends, neighbours), independent housekeeping (Carlsen, 1991; Sutherland, Till, 1994; Rowe, Kahn, 1998; Bowling, Windsor, 2001).

Elderly people realize that their body and mind call for special care. They are aware that their further health and life depend largely on themselves. Certainly broadcasts on TV designed for elderly people, for instance "Pora dla Seniora" (Senior's time) that promote active and satisfactory but not necessarily involving financial costs way of spending time, (what, as the surveys show, matters) or magazines popularizing anti-aging medicine, that concentrate less on treatment of symptoms and to a higher extend on improving quality of life, contribute to it (Ławniczak, 2010). Work of Senior Clubs, in which elderly people together look for the ideas for cheerful old age following the slogans "Be healthy till late old age" and "May life is not painful", is also inestimable. So is as well as work of Third Age Universities which aim is *improving quality of life thanks to educations* (Boczukowa, 2004, p. 58; Nakagawa, 2008).

Development of holistic medicine made quality of life - conditioned by the state of health - the dominant topic in medicine and social sciences. That holistic approach allowed of assessment of disease's and its restrictions' effect on patient's functioning. It allowed also of noticing that not only the disease itself and its course but also other factors such as age, sex, performed social roles, patient's personality, adaptability, processes of coping with adversities and a level of received social support have an influence on general evaluation of sense of quality of life in chronically ill individuals (compare: Tornstam, 1999; Sokolnicka, Mikuła, 2003; Sierakowska, Krajewska - Kułak, 2004). Question of economic status seems also of importance. L. Rappaport has observed, that *response to crucial events of old age depend largely on physical deterioration and the level of decrease in economic status* (M. Straś-Romanowska, 2008, p.268). R. Butler's study carried out in a group of 47 men aged 65-91 have showed clearly that good material situation correlate positively with vitality, creative attitude to life, sense of humor and *almost complete lack of mental functioning defects* (M. Straś-Romanowska, p. 268).

Conclusions

1. Sense of happiness, satisfaction and emotional harmony characterize more often active in their lives individuals (fulfilling job and/or family duties) than people living sedentary life (compare: tables nr 1 and 2).
2. Individuals with secondary and higher education show higher awareness of their body and take more care of their physical and mental development.
3. The respondents who experienced the benefits of active lifestyle continue their habits at senior age.
4. Most persons in senior age practice sports that do not involve important financial cost (for instance walking, gymnastics at home, cycling).
5. Experience of ongoing disease- due to increased pain, mobility restrictions and the drop in life energy - causes lowered subjective evaluation of quality of life.

It seems that efforts to increase the quality of life of elderly people should include providing them with regular support that would prevent them from functioning within so called "metaphor of an elevator" - *elevator hypothesis* – that was formulated in sixties by Neugarten, Havighurst and Tobin (1968). The metaphor describes the alternation of elderly people's response to newly acquired, more constructive form of behavior - they immediately bounce back to their old, well known scheme, like an elevator –"a floor up, a floor down". Supporters of old age stress theory use elevator metaphor for coping with stress of aging but the metaphor seems equally adequate to illustrate efforts aimed at improving quality of life in people in advanced age – those efforts are, undoubtedly, a form of coping with that stress (comp. Yun-Hsuan, 2008). Emphasizing in media as well in families rationality and usefulness of taking up education or practicing sports in advanced age will support the need of self-acceptation and acceptation of old age experience by those people. That will be additional motivation for them to further constructive activity to manage oneself and care about their condition and comfort of every day life.

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Aktywność fizyczna a jakość życia u osób w podeszłym wieku

Streszczenie

Przedmiotem rozważań zawartych w artykule są badania, dotyczące częstości i rodzajów aktywności fizycznej osób w wieku senioralnym oraz ich związku z poczuciem jakości życia. Przebadano losową próbę, składającą się ze 100 respondentów: 55 kobiet i 45 mężczyzn. Przeanalizowano informacje dotyczące uprawiania sportu przez badanych, czynnego wypoczynku oraz poziom ich wiedzy z obszaru tego zagadnienia. Poddano charakterystyce zależności, wpływające na aktywność fizyczną osób w wieku senioralnym. Publikacja zawiera również syntetyczną prezentację najważniejszych, wyodrębnianych w literaturze przedmiotu związków pomiędzy aktywnością fizyczną a stanem zdrowia człowieka. Omówiono w niej także znaczenie aktywności fizycznej dla kształtowania się postaw społecznych, relacji społecznych oraz zadowolenia z życia.

Słowa kluczowe: wiek senioralny, jakość życia, aktywność fizyczna w starości

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THE SUPPORTIVE ROLE OF THE HOSPITAL CARE STAFF IN THE PALLIATIVE PHASE OF TREATMENT OF THE TERMINALLY ILL CHILD IN THE CONTEXT OF QUALITY OF DEATH AND LIFE

Abstract

In the past, within the traditional societies, there had been many final ritual ceremonies which enhanced mourning and mobilized support for members of the family of the deceased. Today in our culture people avoid grief and deny the inevitability of death, especially a child’s death, which is viewed as unnatural and tragic. This paper provides a picture of what happens in the palliative phase of treatment of a terminally ill child and the family members. The substantive purpose of this article is to demonstrate how important the role of medical care staff (physicians, nurses and other staff members) is in the end-of-life process. From the author’s perspective, both the quality of a child’s death and the quality of life of the survivors strongly depend on how the hospital care staff facilitates the complex process of mourning which begins some time before the patient passes away. In this difficult process, sensitivity, emphatic interpersonal contact and responding to the needs of the little patient and his family needs all play crucial roles.

Key words: children’s death, medical staff, palliative care, quality of death, quality of life, psychological support

Introduction

One hundred years ago death was a natural part of family life. The natural cycle of growing up, aging, illness etc. was understood and accepted by all family members (Wolfelt, 1991). At present, traditional societies also have many final ritual ceremonies which both enhance mourning and mobilize support for the survivors within their social environment. Our western culture avoids grief and denies the inevitability of death, especially a child’s death which is viewed by many people as unnatural (Chaffee, 2001). There are serious consequences of this tendency, especially for the situation when people must confront the death of their beloved one. This paper provides a picture of what happens in the palliative phase of treatment of a terminally ill child from the perspective of all the family members (the patient, the parents and the siblings). The crucial goal of this article is to draw attention to the role of hospital care staff in the end-of-life process which – in the author’s opinion - strongly influences the quality of patients’ death and the process of dying as well as the quality of life of those who are staying alive (both the child’s relatives and the medical personnel).

Terminally Ill Child’s Experience

The experiences of the terminally ill children at the end of their life were precisely described by Hinds and al. (2005). They distinguished two key factors characterizing the dying child. The first of these is a physical suffering. Symptoms for children who experience their impending death may differ on the following: cause, type, intensity of previous treatment, available care resources etc. For instance, children with complex chronic conditions may die differently (more symptoms, longer hospital stays, more procedures - especially during the final three months of life) than do children, who do not have such conditions (Hinds, Schum, Baker et al., 2005).

The second factor distinguished by Hinds and her collaborators is the psychological suffering. Taking into account the main purpose of this article, it is important to present this factor more precisely. There is little empirical research to inform palliative care providers about the psychological suffering of children and adolescents facing death (Morgan, Murphy, 2000; Postovsky, Ben, 2004). Nevertheless, all of them emphasize that children's understanding and processing of death depends on the level of their cognitive development and previous experience. There have been several studies on development of children's understanding of death. For instance, Christian (1997) describes four main components connected with children's understanding of this concept: (a) irreversibility factor, (b) finality, (c) inevitability, and (d) causality. These relate directly to the cognitive level of the child at the time when the death occurs. The irreversibility factor means that children often do not understand that death is not something that can be "fixed" or reversed. The fact that death is permanent is often beyond their comprehension. As children begin to mature, they develop a better concept of time, and permanence has more real meaning for them. Another issue is that most children have not experienced the cycle of life long enough to understand that death is a natural process, unavoidable for all living creatures. Causal relationships are often difficult concepts, since many children do not yet understand that some things are caused by natural factors which they cannot control. While Wolfenstein (1966) believed that grief is not experienced until the child is fully differentiated (a process that takes place during the adolescence stage and involves an awareness of differences between thoughts, feeling and emotions). On the other hand, Bowlby (Westmoreland, 1996) claimed that children as young as six months experienced grief. A classic study conducted by Nagy (1948) outlines three distinct stages of the child's understanding of the death process. Stage 1 (three to five years) occurs when a child sees death as a mere departure from a place and believes that the person has just "moved" and lives somewhere else. Stage 2 (five to nine years) includes the child believing that death may be avoided entirely. Stage 3 (nine to ten years) describes the child who understands the death as permanent, inevitable, and affecting all living creatures.

The views on the issue when children are able to understand the loss may differ dramatically. Regardless of our approval of the above models, it seems that the more children are aware of reality and inevitability of their own death, the higher probability of psychological suffering occurs. Hinds' (2005) clinical experience shows that the terminally ill children grieve loss of function and future and worry about being forgotten, experiencing pain and leaving family members behind in sorrow. Proper psychological and medical support for the dying child is crucial at such moment.

In the most well-known Glaser and Strauss' (1965) theory on awareness of dying, the authors distinguished four different phases of death awareness: (1) closed awareness, (2) suspected awareness, (3) mutual pretense awareness, and (4) open awareness. The authors found that each of these contexts had implications on the quality of the patients' experience and their social environment. Closed awareness occurs when patients are unaware of their own impending death. Physicians, nurses, and other staff members purposely maintain the fiction that the dying patient might recover. They are careful not to arouse the patient's suspicions by their words or actions. Physicians and nurses may use certain tactics to maintain closed awareness. These tactics include: giving patients an incorrect or partial diagnosis, manipulating the conversation so that patients will make inaccurately optimistic interpretations of their situation, and avoiding spending time with patients to minimize the possibility of revealing the truth. During the periods of closed awareness, nothing is done to arouse patients' suspicion. Thus, patients are allowed to act on the false supposition that they will recover. This context does not enable these patients to close their lives with proper rituals. Because of the organized deception, relatives' grief cannot be expressed openly.

In some cases, patients begin to suspect, with varying degrees of certainty, that hospital staff believes them to be dying. Glaser and Strauss named this context suspicion awareness. They describe that patients who are suspicious engage in several strategies to attempt confirmation of their suspicions. These strategies include announcing patients' impending death (to check the reaction of hospital staff), talking about symptoms while listening intensely for clues and attaching significance to every word and gesture of staff members. However, although patients search for clues, they are unlikely to have sufficient medical knowledge to interpret them. If staff members believe that the patient suspects terminal illness, they attempt to counter those suspicions with strategies similar to ones which were used to maintain closed awareness. For example, physicians may act as if a patient is simply ill, rather than dying, by being impatient with the patient's suspicions and acting in a distracted, cheerful, or brisk manner. Nurses may send a clear message that they are too busy to talk or instruct the patient to ask the physician. Essentially, personnel discourage the patient from talking about suspicions by refusing invitations to talk. Glaser and Strauss found that this type of deception places patients, relatives and staff under considerable strain and creates an atmosphere of tension. Suspicion awareness tends to be converted into other types.

Another context - mutual pretence awareness - occurs when staff members and the patient know that the second one is dying, but everyone pretends otherwise. All of them are careful to maintain this fragile illusion using strategies such as focusing on safe topics and avoiding dangerous issues purposely. As time passes by, pretence is piled upon pretence. In Glaser and Strauss' opinion mutual pretence has positive effects. It can serve to ensure privacy and dignity for patients and minimize family members' discomfort. Generally, mutual pretence can create an atmosphere of peace. Although staff members might feel relief, mutual pretence may eventually lead to considerable stress. Pretence is challenged by pronounced physical deterioration or when patients feel they cannot face death alone. When this occurs, patients are likely to make the transition to open awareness.

In the context of open awareness, both staff and patients know and acknowledge that the patient's condition is terminal. Open awareness is often a stable context. Paradoxically, patients may experience open awareness about the terminal nature of their condition, but remain in closed awareness about particular aspects of death such as mode and time Glaser and Strauss' theory allows to understand what may happen with the terminally child at the end of his life stage. From that perspective it is obvious that emphatic attention and recognizing needs of child is one of the most important duties of his social environment.

Additionally, everyone should remember that children differ in the amount of diagnostic and prognostic information that they desire. Some children find it helpful to know detailed information about disease and treatment, whereas others find the same level of information distressing (Kübler-Ross, 1983). Thus, the terminally ill child has the right to get all the information he or she needs, but also has the right to not to hear the information he or she cannot bear. Each situation is unique and requires individual examination to determine what is in the best interests of the child. When the child demonstrates (verbally and/or nonverbally) the need of information, it is very important to create the atmosphere of safety, care and trust during the conversation. Obviously the language should be suitable to a child's developmental level. For instance, the adult person has to be prepared to communicate with the child, who uses less verbal and more symbolic ways to express his thoughts, feelings, and desires. Additionally, none of child's questions can stay unanswered (Kübler-Ross, 1983).

Parents' Situation

A literature review made by Fisher (2001) identified three the most important needs of parents of terminally ill children. First of them was named: the need for normality and certainty. Fisher cites studies of many authors, which discovered that the diagnosis of a chronic or/and terminal illness marked the end of the previously world known to the parents. The diagnosis heralded a period of adaptation to a new way of life which involved both physical adaptations, such as: adjustment to performing time-consuming therapies in addition to normal parenting tasks; and psychological adaptation to a way of life that many parents could have never predicted.

The need for information is the second need revealed by Fisher in her review (Fisher, 2001). The author writes that parents have an overwhelming desire for information regarding their child's condition, ways of treatment and prognosis. She also indicates that many parents demand information in order to reduce uncertainty. According to Fisher's research the hunger for information is closely linked to the parents' desire for normality and certainty described earlier. Acquisition of information provided parents with the necessary knowledge: they were able to regain control over their situation and therefore felt able to request a partnership with health care professionals.

The need for partnership is the last most important parents' need revealed by Fisher (2001). Due to her analyses almost all studies established that the great desire of parents was to be regarded as partners in the care of their child, and this desire was closely linked with the need to retain control in order to minimize uncertainty. It occurs that parents value the contribution of health care professionals, but also want recognition for their own expertise in the management of their child's illness. Health care professionals should be aware of the nature of the parents' specific needs, and where possible to fulfill them.

Terminal illness sooner or later leads to the patient's death. The death of a child alters the life and health of his parents for the rest of their lives (Kübler-Ross, 1983). Parents feel that they have lost part of themselves, their dreams and hopes for the future. Special bonds that exists between parents and the child, the unnaturalness of a child dying before parents and parents' strong sense of responsibility for the well-being of their children – all of these factors contribute to the extreme pain, emptiness, anger, gilt, fear, loneliness, powerlessness, despair during end-of-life care as well as a host of other feeling and emotions that parents experience (Whittam, 1993).

The nature of grief and its dimensions has been detailed in clinical literature. One of the most popular model of grieving is Kubler-Ross five stages of psychological reactions to death. Kübler-Ross developed five stages the bereaved person goes through if has enough time before the death of the loved one. These stages come from years of Kübler-Ross interacting with patients and their families who go through the mourning process (Kübler-Ross, 1969). These ones are shortly presented below:

1. Denial: rejecting the news of impending death in order to pursue life. During that stage, the relatives of the patient do not believe that their loved one is dead.
2. Anger: feeling and expressing the emotions ranging from envy, anger, rage, and resentment about the reality of the death.

3. Bargaining: attempting to reverse life of the loved one by making promises or even unusual magic rituals. Religious people often bargain with their God, for instance they promise introducing the moral changes in their lives.
4. Depression: experiencing very deep sorrow when death cannot be denied. People at this stage are often quiet and socially and emotionally withdrawn. They may also cry and talk about emptiness in their own life which – in their opinion - does not make sense.
5. Acceptance: understanding of inevitability of death. Acceptance means gradually admitting the loved one cannot be brought back to life and focus must be on memories and the living members of family. During this stage, the bereaved adjust to the changed life situation and they come back to their everyday roles (Arnold, Gemma, 2008).

Because the terminally ill child's death often takes place after the long-term palliative treatment (it is not sudden), parents and close relatives of the deceased patient probably would experience almost all stages of mourning (from the first one to fourth one).

Likewise, some authors claim the mourning begins before the patient passes away. According to Rolland's model (1990), when the relatives hear from the doctor that their loved one will die they come into the state named anticipatory loss. In general, it consists in experiencing grief caused by anticipation the child's death in the close future. It is important to emphasize that the anticipatory loss does not replace the real mourning. In conclusion, in the palliative phase of treatment, terminally ill child's parents (and the close relative) would probably experience the anticipatory loss and after the child's death, they would come into one of the stages of the real bereavement. Awareness of this regularity is very important to the hospital staff because may help its members to understand specific parent's feelings, behaviors and needs (Hulewska, 2009). Summing up, it is important to remember that the way of how the child dies directly influences parent's abilities to continue their lives after the death (Wolfe, Holcombe, Klar et al., 2000). If parents feel that the hospital personnel did everything to save their child, it is easier for them to come to terms with the loss and to rebuild their lives after the mourning.

Siblings' Perspective

The death of a sibling means a loss of a playmate, confidante, role model, and friend. Nothing can prepare the survivor for such a myriad of losses. Siblings' identities are intricately connected because they share similar histories, so when one sibling dies, the survivors essentially lose part of themselves (Davies, 1995). To understand what sibling of dying child might feel and experience, we should remember that there are some differences between children's and adults' grief process. First of all, the grief of children is usually cyclical. With each new stage of development, the child may recycle and in some ways revisit previous feelings and behaviors associated with the death itself (Christian, 1997). Second, while adults are better able to express themselves and ask for what they need, children are often confused and do not really understand why they feel the way they do. They often exhibit unacceptable behaviors, which in reality are just expressions of their confusion about what has happened.

Another difference is that adults have their life experience to understand that things will change in due time. The concept of time itself is confusing to children. They do not always understand that things usually get easier as time passes by. In other words, adults have a sense of future. Finally, adults usually have some form of built-in support system and can gain some level of closure from the rituals involved in the death process (Christian, 1997).

Taking into account the above aspects, it is important to be aware of specific feelings, needs and often unusual reactions that a physically healthy child may exhibit. For instance, research conducted by Bluebond-Langner (1989) shows that siblings often feel confused, uninformed, and worried about their dying sister or brother as well as worry about other family members. Additionally, problems of well siblings, that often accompany terminal illness, include disruption of family schedules, financial strains, lack of attention, emotional confusion, guilt, and ambivalence. Regression is also common. Children potty-trained for a long time may revert to bedwetting after experiencing the death of sister or brother. A child, who has slept in his own bed for years, even an older child, might try to get in bed with a parents, get into biting, bedwetting or thumb sucking in an attempt to cope with feelings they do not understand. Kübler-Ross (1983) wrote that many times even very young children experience extreme guilt when a sibling dies, especially if they had wished them dead or gotten upset with them recently. The noncompliant or acting-out behavior may appear because of disruption in daily routines.

Regardless the siblings' age, they need to talk about their feelings and experiences with someone close to them, especially parents. The language should be suitable to a child's maturity level, but euphemisms are seldom helpful at any age. Adults often use socially acceptable rhetoric such as saying that someone has "left us", "gone to a trip" and similar. These abstract terms have little meaning for most children. However, using the words - death and dying - in such a context that children do not feel as taboo or "unspeakable" subjects provides an opportunity for them to begin accepting the finality of death (Herbert, 2005).

There is no right time to tell a child that his sister or brother is dying. Researches show that children cope much better, both physically and emotionally, when they hear the news from a family member rather than from a stranger (Camp, Willis, 1999). One of the most damaging things that parents can do is to send the child away to visit someone until the death, funeral and initial grieving process is over. This not only makes the child feel disenfranchised from the family unit, but also does not allow to feel the sense of understanding of death, even if that understanding is rudimentary (Herbert, 2005).

The Role of Hospital Staff

Doctors, nurses and other staff members taking care of the terminally ill child are in a very difficult situation. Besides professional treatment (e.g. pain controlling) they are also engaged in the complex family system (the child's parents, siblings and other close relatives). Thus, if the personnel wish to be effectively supportive then it needs to understand the process of the family mourning and has to be aware of feelings, needs, expectations and potential reactions of each member of the family.

First of all, the hospital staff has to take care of the terminally ill child. This care consists of two parallel groups of activities. Firstly, doctors, nurses and other staff members have to reduce physical suffering of their young patient. In general, during end-of-life care medical interventions focus on reducing pain and treatment of other symptoms. We have to realize that types of interventions depend on the kind of illness, its specific course, individual demands and reactions of child's organism etc.

Secondly, medical care staff must confront the psychological suffering of the child (described more precisely in earlier parts of this paper). In addition, the more serious the state of the terminally ill child becomes, the more important the psychological support should be (Hulewska, Sitarz, 2010). The crucial factor of that kind of support is good communication. Clinicians generally agree that ill patients should be informed about their prognosis and the children will benefit from open communication about their impending death. Glaser and Strauss (1965) found that many staff members, especially nurses, prefer open awareness phase since they get satisfaction from being able to comfort patients. Open awareness is also good for patients giving them the opportunity to close their lives according to their ideas about proper dying. It also allows them to talk openly with their relatives. However, open awareness has some disadvantages for patients. They may not be successful in getting closure from their relatives and may die with more psychological pain and suffering than those who die in closed awareness (Glaser, Strauss, 1965).

It seems that there is no single "appropriate" psychological response to the terminally ill child. Medical care staff should precisely observe their patient, taking into account his individual needs and react adequately to them. Providing such support requires mindfulness, sensitivity and empathic resonance from the hospital personnel towards the "little patient's world" . There is no doubt that helping a child in this way may improve the quality of the remaining life as well as the quality of dying (among compassionate, trustworthy, benevolent and careful people) (Hulewska, Sitarz, 2010).

It is obvious that in the palliative phase of treatment, hospital staff often meet the child's parents. The effective communication between health care providers and the family is critical when addressing the end-of-life issues. Communicating the treatment options and prognosis is a very delicate process demanding from physician's appropriate social competences such as making contact, listening carefully, empathic resonance, providing information and such.

Providing parents with the information, they desire, in order to participate (to the extent they prefer) in decision making process about the end-of-life issues should constitute a primary goal for the medical staff. Results of surveys conducted by Contro et al. (2004) among the staff members show that families need to have confidence in the treatment team. They want to hear information, especially difficult news, from a familiar care provider who communicates honestly and clearly but compassionately. Unfortunately, majority of the family members reported mixed messages and incidents of careless or insensitive remarks that caused families lasting pain, increased their distress, confusion and finally - complicated their grief. Parents also can maintain a sense of hope for their child's survival, even after receiving the information on the certainty of the child's death (De Graves, Aranda, 2002). Respecting parents' hopes, while grounding them in the unfortunate reality of a terminal diagnosis, is a very delicate and important matter. Families who feel that the medical team is giving up may be resistant to engaging in important treatment discussions related to palliative care. Involvement of psychologists and/or social workers has been effective in facilitating the communication of such sensitive information and in turn with higher parent satisfaction with end-of-life care. All of the above phenomena indicate how important is the compassionate delivering information to the parents of a dying child what – if correctly done - may facilitate the parents adjustment to their dramatic situation and improve the quality of their lives.

Siblings of the dying child are very important members of the family system. They also visit the patient in the hospital and are engaged in the mourning process. Thus, it is important that caregivers know the common signs of mourning in children's behavior, which may include the following: anxiety, sleep difficulty, sadness, longing, anger, acting out, and physical complaints (Wilken, Powell, 1991). These signs are especially important to recognize in young children, who cannot express their emotions and do not necessarily know why they are angry or sad. Since parents are often mostly concerned about the ill child, they cannot see difficulties (emotional, cognitive etc.) experienced by their physically healthy one. In such situations, members of hospital care staff have to inform parents about the special needs of the terminally ill child's sibling. Parents need to be especially aware that their physically healthy child may require more, not less, attention when its sister or brother is dying. Attempts to improve family communication should be an important component of intervention process. While parents are in the deep sorrow and depression, organizing professional support for their healthy children is crucial. Mental health professionals working with bereaved people should then provide opportunities for the dying child's sister or/and brother to discuss their experiences, share their thoughts, feelings and concerns that could help them to cope with the loss of the loved one.

It should be noted that families (parents and siblings and/or other relatives) often emphasized the need for support not only during their child's illness and death, but also they are interested in bereavement follow-up contact. Parents frequently regarded the hospital staff as a "second family" and they experienced a lack of contact after their child's death as a secondary loss (Contro et al., 2004). It is heartily appreciated while hospital care staff can respond these needs, because that may essentially influence the quality of the family's life in the later phases of mourning and facilitating the process of adjustment.

Summing up, the paragraphs above present the hospital staff duties to the terminally ill children and their family, yet one more relevant aspect of the medical team's role cannot be neglected. In the author's opinion, if pediatricians, nurses and other members of the medical care staff want to support grieving families efficiently, they have to consider their own attitudes towards death. These attitudes - shaped by religious background, personal experience with death and process of professional acculturation (e.g. in the west medical world disease is often treated as an enemy and death as an ultimate failure) - may be activated with similar clinical situations, moderate the decision-making process and many other physician's behaviors (Gordon, 2003). Thus, hospital care staff should be aware of these matters and also should be able to separate their own attitudes from their little patients' and their families' attitudes.

There is one of the most important factors, which members of the medical staff should not forget about while the whole complex situation (medical treatment – psychological support – needs, feelings and expectations of terminally ill patient and his family etc.). It is their own condition. Caring for dying children is a stressful job and health care professionals face numerous challenges and obstacles while providing care to this unique population of patients and their families. For example, physicians, nurses and other members of hospital staff who witness the pain and suffering of children and their families may themselves also experience pain and suffering. Health care workers may experience emotions such as helplessness, anger, sadness, anxiety and such while providing care to the dying children (Weigel, Parker, Fanning et al., 2007). They may also experience grief and mourning. A study conducted by Papadatou (1997) describes the emotional distress experienced by medical staff when a child dies. It seems that the death of a child is perceived by health care workers "(…) as a 'triple' failure: first, because they did not have the means, skills, or abilities to a save a life; second, because in their social role as adults, they were unable to protect the child from harm; and, third, because they 'betrayed' parents who trusted them with the most valuable being in their life" (Papadatou, 1997, p. 576). Undoubtedly, this sense of failure increases grief reactions and intensifies feelings of helplessness, guilt, anger and sadness. Additionally, providing care to dying children can increase the awareness of their own loss and vulnerability among members of hospital staff, together with constant growth of anxiety and stress level.

The feeling of empathy, which is a key component of a psychological support given to the patient and his family, can become overwhelming in a field that demands strength and resiliency. Working with terminally ill patients challenges the physicians, nurses and other staff members with a variety of difficult issues, from palliative care, ethical concerns, intense interactions with patients and families to complicated treatments and end of life decisions. The consequence of this constant using up of empathy is called: compassion fatigue (McMullen, 2007). That phenomenon has been defined as a physical, emotional and spiritual fatigue or exhaustion that takes over a person and causes a decline in his or her ability to experience joy of taking care of others. If not recognized and treated, compassion fatigue can interfere with the ability to give quality professional care that is safe and effective, can cause physical and emotional exhaustion, and result in depersonalization and ultimately burnout syndrome.

Burnout often refers to medical professions (Sęk, 2009). We can mention a variety of possible reasons of that phenomenon including the discrepancy between the demands of a job and the ability of a staff member to fulfill them (Schaufeli, Greenglass, 2001). Medical professions are generally considered to be stressful, with frequent changes in the organization, financing and delivery of health care system bringing about additional problems (Arnentz, 2001). Demands at work, such as restrictions on time and resources, have been increasing and at the same time, physicians have to deal simultaneously with many different types of illnesses and patients' high expectations. This situation leads to a sense of diminished control over both administrative and clinical aspects of the practice, which turns into negative attitudes to the job environment, and facilitate the development of the burnout syndrome. This syndrome is s often considered as a result of chronic occupational stress (Pines and Maslach, 1978). Maslach and collaborators characterize burnout on the three dimensions: (1) emotional exhaustion, (2) depersonalization and (3) decreased personal accomplishment. Emotional exhaustion measures: feelings of being emotionally over-extended and exhausted by one's work. Depersonalization measures: an unfeeling and impersonal response toward recipients or one's service, care, treatment, or instruction; and the third dimension - reduced personal accomplishment, measures: feelings of competence and successful achievement in one's work with people (Maslach, Jackson, Letter, 1996). When physicians and other staff members suffer from these disorders, the potential negative influence on patient care is likely to be much greater. Medical staff is more likely to treat patients poorly, both medically and psychologically, and they are more prone to make errors of judgment and to make mistakes in decision-making processes (Firth-Cozens, 2001).

Inadequate support for staff members who provide the end-of-life care and for the families they serve emerged as an important theme. In the already cited study by Contro et al. (2004) two hundred forty-nine staff members responded to the open-ended question that asked: "What was your most difficult experience when a child died? Please describe what made it so difficult". References to personal pain and the lack of emotional, psychological, and social support were cited as the most frequent elements. Staff members stated their need for time to debrief after a patient's death and a desire for ongoing support services and educational opportunities. They also reported disappointment when they were unable to provide follow-up contact with the family after death. In response to an item that sounded: "Does the hospital provide adequate support for staff working with dying patients?" 54% replied "no".

It has been underlined that care providers who have insufficient training and experience in the delivery of the end of life care feel less competent and often become susceptible to feelings of burnout, inadequacy, and discomfort (Graham, Ramirez, Cull et al., 1996). When this occurs, they often resort to emotional distance or depersonalization in situations they feel poorly equipped to handle. In addition, unplanned and unhelpful behaviors may emerge. Studies also indicate that inadequate support for staff members who provide the end of life care can lead to depression, emotional withdrawal, and a variety of other symptoms (Mulder, Gregory, 2000). Staff members felt required to put aside their grief and return immediately to work, felt they had no place to talk about their experiences, and were plagued by painful memories. Thus, there is growing evidence that forums for staff support that facilitate examination of intense emotions are beneficial in enhancing the process of helping dying patients and their families (Contro, Larson, Scofield et al., 2004).

The exploratory study of stress-coping strategies used by hospital care staff conducted by Swetz and cooperates (2009) supplies lots of valuable suggestions. The findings confirm the need for multiple outlets for wellness and decompression. The reported most common approach was related to exercise and physical well-being, closely followed by nurturing professional relationships and taking up a transcendental perspective. The latter approach shows that “daily spiritual experiences” may help professionals engaged in the end-of-life care to mitigate burnout and speaks to strong mind-body philosophy while taking care of oneself is critical for optimum care for others. Several participants dealt with coping and improving the work environment, rather than using “time away” to escape from the work the physicians are engaged in. Building relationships and promoting teamwork within the medical care team is thought to be essential. This includes a strong sense of sharing workload and recognizing personal limitations. In the participants’ opinion such “decompressing” colleagues may minimize risk of professional burnout successfully. Some respondents maintained that making time within the day for oneself is more critical than vacation. Physicians emphasized taking small breaks within the day (e. g. meditation, personal reflection and reflection with others) as beneficial. Efforts to rotate professional responsibilities such as consultation, outpatient practice, hospice, teaching, research, and nonpalliative medical practice were also cited as useful. The importance of discussing one’s feelings (joys, disappointments, frustrations, and successes) was common, just as was valuing relationships with others. However, respondents more frequently reported the importance of relationships with colleagues over family or friends outside work. This suggests acts of collegiality may be more important to relieve professional stress than outlets outside of the work environment (Swetz, Harrington, Matsuyama et al., 2009). Thus, in order to help others effectively, members of medical care staff must take care of themselves at first, because the quality of their lives – both professional and personal – strongly influences the quality of life and death of their patients and their close relatives.

Conclusions

Terminal care exposes practitioners to patients who may become sicker and die. As mentioned earlier in this article, working with terminally ill people constitutes a great challenge for the physicians, nurses and other staff members with a variety of difficult issues: from palliative care, ethical concerns, intense interactions with patients and families to complicated treatments and end-of-life decisions. The palliative care of the terminally ill children is extremely difficult. Physicians’ emotional reactions to children’s death affect their own personal lives and increase the likelihood of suffering compassion fatigue and burnout which in turn significantly reduce effectiveness, cause frustration and reflect the job satisfaction in a negative way. Since the job satisfaction is one of the major sources of quality of life for an adult, permanent stress, burnout and lack of proper support can significantly reduce the quality of life of medical care staff. However, members of hospital personnel play a key role in facilitating mourning process of their terminally ill patients and their close relatives. Since physicians and their cooperates have so strong influence on the quality of terminally ill child's death and the quality of the survivors' lives, they have to take care of their own physical and psychological condition to be effectively supportive for a long time.

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Rola psychologicznego wsparcia udzielanego przez zespół medyczny terminalnie chorym dzieciom i ich rodzinom – perspektywa jakości życia i śmierci

Streszczenie

Większość dawnych kultur pierwotnych uznawała śmierć za naturalny etap wieńczący ludzkie życie. Przetrwanie, najczęściej bolesnego, okresu żałoby ułatwiało wówczas szereg rytuałów pogrzebowych, a także wsparcie, którym wspólnota otaczała osierocone osoby. W dzisiejszych czasach starzenie się, umieranie itd. stały się tematami tabu. Członkowie euroamerykańskiego kręgu kulturowego przeważnie tak długo, jak jest to możliwe, zaprzeczają istnieniu śmierci - w szczególności śmierci dziecka, która jest postrzegana jako nienaturalna i tragiczna. W niniejszym opracowaniu podjęto próbę zilustrowania przeżyć i doświadczeń terminalnie chorego dziecka, jego rodziny oraz zespołu medycznego, które mają miejsce w trakcie leczenia paliatywnego. Zasadniczym celem tekstu jest ukazanie roli, jaką pełni psychologiczne wsparcie - udzielane chorym i ich rodzinom przez lekarzy, pielęgniarki oraz pozostałych członków szpitalnego personelu, ale także wsparcie otrzymywane przez zespół medyczny - dla jakości śmierci dziecka oraz jakości życia tych, którzy przy życiu pozostają.

Słowa kluczowe: śmierć dziecka, zespół medyczny, opieka paliatywna, jakość życia, jakość śmierci, psychologiczne wsparcie

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DREAMS OF THE BLIND PEOPLE – CONCEPTIONS AND RESEARCH REVIEW

Abstract

This article tries to systematize views and studies present in literature on dreams in blind people and people with other visual impairments in perspective of different models of adaptation to disability. The fact that dreams are mostly visual experience (Szewczuk, 1995) and other sensations – auditory sensations and 1% of taste, smell and tactile sensations (Snyder, 1970; Kerr, 1993; Zadra, Nielsen, Donderi, 1998) are less frequent, arises addressed in the article question of a character of dreams in blind since their birth people, who have no visual sensations and also in people with visual impairment, whose range and sharpness of vision- vision acuity are significantly limited. The last part of the article refers to author´s pilot surveys, which searched for the answer to the question of relationship between dreams of the blind people and their experiences in real life.

Key words: blind people, dreams, disability

Introduction

In accordance with Hall's `hypothesis of continuity` (1966) dreams reflect reality and they do not have a function of compensating it (Vedfelt, 1998). Therefore, everything a person experiences in his/her dreams depends on the sensations he/she has in reality. Blind people experience non-specific sensations. They have to perceive and learn about the world without the aid of sight – the most important sense of healthy people. Of importance is also their acceptance of their disability, adjustment to social situations, fulfilling one's own needs and wishes or living a satisfying life (Ossowski, 2005). Experiencing positive emotions such as satisfaction, optimism and hope reflects in various positive emotions also in dreams. It is in accordance with `hypothesis of continuity`. Although that hypothesis has been verified in many studies it does not exclude the compensational function of dreams in that group of disabled people.

Characteristics of Visually Impaired People

Sight is one of the most important senses in humans. Visual perception allows humans to learn of environment, gain knowledge about the world and objects and phenomena that exist in it (Majewski, 1983; 2002). Visual perception has an important function not only in development of cognitive processes but also is of importance in practical activities (eye orientation, physical activity control and regulation), developing visual-spatial orientation and safe moving in the room. Besides a human can experience a lot of positive emotions, receive messages from the environment and, for instance by using facial expressions (naturally to restricted extent) also send them to the environment by the means of visual sensations and perceptions (Steffens, Bergler, 1998).

Two groups of individuals with impaired sight are identified. The first are born blind and those with residual vision or totally blind. To the other group belong people with low vision and those with binocular eyesight defects (Ossowski, 2005). Respective groups show different problems and possibilities of cognition of environment (Matlock, 1988; Matlock, Sweetser, 1989; Sweetser, 1990). Worth of recognizing are also individuals included in the blind or `blind in practice` group but who lack vision to that extent that, despite their ability to discriminate some colours, contrasts or shadows, are unable to act independently in their life. Residual vision can be of subjective and psychological value for the individual (Sękowska, 1974; 1995; Dobrzańska – Socha, 2002). It can be also of importance when taking a psychological criterion into account. In that context mentioned classification is defined by the technique enabling them to function in the world (visual-auditory-kinesthetic, kinesthetic- auditory- visual, kinesthetic- auditory or non- visual). Depending on the extent and range of impairment they use one of those techniques or use each of them, depending on the situation (Sękowska, 1996; Majewski, 2002). Then of great importance is the extent to which eyesight is lost and the moment of disability´s onset. Different problems are faced by people totally blind since their birth and by those who lost vision while having earlier opportunity of experiencing the world visually (Sękowska, 1991; Dobrzańska – Socha, 2005).

Loss of eyesight causes a deep shock for a person and an important change in previous functioning. While losing a number of skills which are founded on eyesight, an individual has to learn to function in his/her environment afresh. Difficulties he/she faces are, among others, information gaps, decisive conflicts (because of insufficient information a person is uncertain about rightness of her/his decision), overload of regulation system and the risk of physical injuries (for instance at the attempts of moving) (Ossowski, 2005). So an important issue is compensation of visual sense by other senses and bridging the gaps and limitations that have appeared in cognitive processes development (Klimasiński, 1989). The theory of so called curacy, that is a replacement of a sense by sensitization the other at the sensory level has been rejected. Then theory of `sensory compensation` has been replaced by perception compensation, based on cooperation of all other senses and improving the whole perception process (Majewski, 1983). Complete structures, resulting from integration of touch, kinesthetic sense, hearing and smell, and residual vision in people who still possess it, are being created (Majewski, 1983, 2002). A mental image - understood as a reconstruction of an object or phenomenon on the basis of previous experiences (Majewski, 1983, p. 101), is a notion related to a perception. In blind people the nature of those images are tactile, auditory or kinesthetic sensations. There are identified two kinds of images: representative (reproductive) - created on the basis of previous experiences and generative ones (ibidem).

Worth mentioning is compensative importance of touch, which in case of blind people, is of highest significance for getting to know the environment (Majewski, 1983) However, contrary to earlier believes, its function is different than function of sight. Touch is understood here broadly and it includes proper touch, kinesthetic sense and proprioception (Klimasiński, 1989). Then, blind individuals` perceptions consist mainly of spatial constituents. (Kirtley, 1975; Kirtley, Sabo, 1983; 1984). In case of those blind people who experienced visual images earlier in their lives we can say about so called `secondary visualization of tactile perceptions` that might help in more simultaneous receiving information (Klimasiński, 1989). We can assume that one of the functions of mental images is the knowledge about space and position of objects in it. Similar images may be generated also in born blind people, but in their case, without contribution of sight (Matlock, 1988). Of particular importance are mental spatial images that enable an individual to move both in a well-known and new environment. Of importance here is also a contribution of touch and hearing (Majewski, 1983). The significance of so called `an obstacle sense`, that has an orientation and cognitive function, has been also emphasized (Ossowski, 2005). As Witkin states (1968; following: Klimasiński, 1989) blind people are characterized by more holistic and global cognition of their environment then sighted people.

Possibility of visual contents of mental images present in blind people, because of their usage of language similar as of the sighted people and that contains visual elements, has been suggested. Yet the surveys excluded such option (following: Majewski, 1983). Another important issue related to usage of visual expressions and notions by the blind people is presence of so called surrogate images (Palak, 1988; Majewski, 2002). These images replace those cognitive substances that cannot be learned immediately. Then they adopt a form of generative images and expressions collected from the language of sighted people (Majewski, 1983; Ossowski, 2005). We may identify two kinds of surrogate images: images of objects related to space and not available for a blind individual, for instance a mountain, and connected to light and colour (appearing by associating inadequate, mainly auditory stimulus with them) (Majewski, 1983). Analogy` that replaces what in the life of the sighted people can be stated immediately` (Grzegorzewska, 1964, p. 60) is particularly important in cognitive processes of the blind. Another important issue in blind people's life is verbal compensation. This means replacing visual information that is available for sighted people with verbal description of that. (Kirley, 1074; Kennedy, 1993; Rainville, 1994; Kennedy, 1997). It can serve also as a kind of supplement of perception compensation. It is particularly important for the objects and phenomenon which are not available for other cognition and only by sight (for instance colours, position). However it is of importance that generated notions and images are adequate for reality and avoidance of verbal expressions used in different meaning than it is used by sighted people (Majewski, 1983).

Social Functioning and Acceptance of Sight Impairment

Disability affects every sphere of both a child´s and adult person´s life. Creating right attitudes towards oneself is related with self-acceptance and awareness of one´s limits but also of possibilities (Sweetser (1990, Ossowski, 2005). According to Wright (1965; following: Ossowski, 2005) the basic principle of rehabilitation is an acceptance of one´s disability (Kerr, 1993). The position in which the disabled people find themselves may be perceived as `uncomfortable or limiting` but at the same time an individual aims at improving his/her position and the limitations do not cause suffer. Of a big importance is a moment and a degree of losing the sight. Blind born people learn about their caused by the disability limitations during their development and take it at the beginning as natural. Then, contrary to those who got blind later at their lifetime, blindness is not connected with a shock that changes all the previous life (Majewski, 1983). Limitations that born blind children experience are a natural thing they do not realize of, at least at the beginning. That initial period can be called `primary adaptation` (Kowalewski, 2005) when disability does not interfere with normal activity. According to Sękowska (1991) children easier accept their disability but its consequences they realize more clearly at the age of adolescence or adulthood. Lack of sight is connected with limitation of independence that may upset mental balance and hamper forming self-concept (Sękowska, 1991). Particularly difficult seems to be a position of sand-blind people who appear to be situated `between` the sighted and the blind. Then, they have a bigger opportunity to compare their behaving with behavior of sighted people but also to face their negative attitudes. People with residual vision have difficulty in identifying themselves both with sighted and with the blind people and they may be less accepted by their social group. (Majewski, 1983).

Blind people are exposed to numerous difficult situations such as failures, barriers, sense of loneliness or isolation that generate different negative emotions (Majewski, 1983). Of importance are also attitudes of sighted people that often heighten the feeling of isolation from the social group (Sękowska, 1991). An individual can use different kinds of behavior in order to deal with that difficult and threatening situation (Zahl, 1973; following: Sękowska, 1991). It can be for instance compensation leading to negation of differing from other people or hysterical behavior by which a person tries to receive help or excuse his/her dependence on others. Yet, such kind of behavior does not lead to good adaptation (Sękowska, 1991). Other possible forms of behavior are attacking, belittling one´s disability or isolation from sighted people and being in contact rather with other blind people. Also Kwak (1980; following: Palak, 1988) highlights the importance of self-acceptance and believes that the youths, who do not accept themselves, have a bigger sense of inferiority and the need of acceptance by other people and their life satisfaction is smaller. Contrary, young people with higher self-acceptance show higher trust in themselves and have a positive attitude towards life. Also Sękowski (2001) claims that acceptance of one´s disability and good social adjustment as important features of good functioning and identifying one´s life as satisfying. Then, positive attitude to oneself and the environment and trials of overcoming possible to overcome limitations and accomplishing one´s plans and fulfilling wishes may contribute to a sense of life satisfaction.

Dreams of Visually Impaired People – Review of Literature

Dreams, consisting mainly of visual sensations, directed attention of the researchers to the way of experiencing dreams by the blind (Kerr et al., 1982; Hurovitz et al., 1999; Kerr, Domhoff, 2004). Systematic surveys on dream of the blind people have been started by Jastrow (1900; following: Kerr, 1993), who used special questionnaires designed for that group of subjects. Mentions of the characteristics of dreams of born blind people appeared quite early in surveys of also Polish researchers. Wiktor Szokalski (1863) believed that visual images do not appear in people who are born blind or lost sight very early in their childhood but other senses – hearing, touch or smell retain. He highlighted the relationship between dreams and individual´s experiences in reality and what is available in his/her experiences, what interests his/her, what an individual is. The author maintained also that due lack of other possibility blind people report their dreams in a language of sighted people who, in turn can image and see what a blind people touch or hear in their dreams. According to Szokalski (1863) individuals who lost sight later in life see in their dreams the same way as the sighted people but with time visual images fade up in their memory and become rarer.

In result of review of existing in the literature summaries of empirical analysis the following generalizations can be found:

- lack of visual references in dreams in individuals with diagnosed blindness since their birth
- visual experiences appear very rarely in life of individuals who lost their sight before reaching 5 years (among others Deutsch (1928) and nowadays Hurovitz et al. (1999) report the exceptions)
- visual sensations may or may not retain in individuals who lost sight between 5th and 7th year (Kirtley, 1975; Hurovitz et al., 1999; Kerr, 1993);
- majority of people who lost their sight later after reaching 7 years keep visual sensations in their dreams.

Dreams can be of visual character long time after losing the sight, but with time they can appear rarer and become less vivid and clear until they disappear completely (Kerr, 1993). It is believed (Kerr, 1993) that except lack of visual images dreams of totally and born blind people (or those who lost sight when under 5 years old) are similar to dreams of the sighted people – they also include complex plots and stories settled in different environments and with different characters. Also Szewczuk (1995) mentions complete lack of visual content in dreams of born blind people.

Many researchers agree with the above solutions about visual sensations in dreams of born blind people (Schneider, Domhoff, 1999; Hurovitz et al., 1999; Kerr, Domhoff, 2004). Some researchers, for instance Bértelo et al. (2003) doubt the validity of those claims. Bértelo et al. (2003) in his studies analyzed dreams of 10 blind and 9 sighted people trying to identify mental images in dreams of blind people. He studied EEG alpha activity that falls down when visual activity appears and he analyzed graphic representations of dream settings. On the basis of his research he stated that blind individuals are able not only to describe in words but also make graphic representation of the scenes that may refer to visual content appearing in their dreams. Then, he believes that individuals who have never experienced visual sensations are able to imagine them. He has not found almost any differences between dreams of sighted and blind people in this scope. He mentions the possibility of creating `virtual images` by the blind people and suggests that by the means of visual cortex also other information (tactile or auditory) is processed. Imaging something not experienced previously, as it is a case of born blind people, could show that mental images appear regardless visual perception and are integrated by the means of other modalities (Bértelo et al., 2003).

Bértelo et al.`s findings (2003) have been subject to criticism by Kerr and Domhoffa (2004). A few objections to the conclusions he has drawn have been raised. First of all, there is no evidence regarding experience of visual sensations by the born totally blind people but we can say that images of those individuals are characterized by certain features that may functionally replace present in sighted people mental images (Kerr, Domhoff, 2004). Of importance is also distinguishing between visual image or visual content-when those terms may refer to visually perceived objects or scenes, and spatial image- that may be used to describe imagery that consist of dimensions and other spatial characteristics without using vision. Bértelo et al. (2003) believed that if blind people can draw equally well as the sighted people with closed eyes so it is the evidence that the blind people experience visual images in their dreams. However surveys on blind people´s drawings (Kennedy, 1993, 1997; following: Kerr, Domhoff, 2004) show that these drawings are similar to the drawings of sighted people – they content two-dimensional figures, show depth, movement, perspective, surface, contour and other characteristics. According to Kennedy (1993, 1997; following: Kerr, Domhoff, 2004) although sight and touch are different systems of perception, processing information from different senses takes place in a brain´s area called `a-modal` or `multimodal` that integrates common elements. Additionally Kerr and Domhoff believe that Bértelo et al. using category of visual activity from the system of Hall and Van de Castle has not taken into account the possibility of metaphoric usage of visual terms by the blind people, the same as they do in their real life. Then, also when describing scenes that appear in their dreams blind people prefer using terms referred to visual sensations and by them explain their awareness and knowledge about the things happening in their dreams´ environment when they do not have to learn about it by moving in it or by touch Kerr, Domhoff, 2004).

Another issue subjected to criticism by Kerr and Domhoff, (2004) in Bértelo et al. (2003) study has been assertion of relationship between decreased alpha waves activity in visual cortex and appearance of visual content in dreams reported by both sighted and blind people. Yet, Kerr and Domhoff believe that alpha waves rhythm may relate also to auditory or tactile or general – not related to any modality processing of sensations. In this case also using by the blinds words referring to visual sense, as more convenient to describe their multi-sensual experience, seems to be of importance. Individuals with identified some visual characteristics such as light or colour perception report their appearance also in their dreams – in the same range and sharpness as it is in reality. Other elements of the dream are integrated with the information by other perception systems (Kerr, Domhoff, 2004). The term of virtual images used by Bértelo et al. (2003) and understood as certain notions that may be represented graphically and integrated in brain area that traditionally is interpreted as visual one do not allow to claim that they are of visual character, the same as in sighted people (Kerr, Domhoff, 2004).

A lot of attention has been paid to the issue of visual images in dreams of born blind people (Bértelo et al., 2003). Researchers´ interest referred to the form and content of dreams reported by the blind individuals - in laboratory surveys (Kerr, Foulkes, Schmidt, 1982) or using the method of dream diaries (Kirtley, Sabo, 1984; Hurovitz et al., 1999). Kerr, Foulkes, Schmidt (1982) in their laboratory studies upon dreams of the blind versus dreams of the sighted people found that formal characteristics of the dreams of the blind and sighted people are similar although some dominance of auditory images can be found. The researchers compared also the reports of dreams appearing in individual phases of the dream – REM, NREM and at the beginning of the dream. They have found that blind people dream more often about known to them places then about new ones, when compared with sighted people.

Researchers (Bereger et al., 1962; Kerr, Foulkes, Schmidt, 1982; Rosenthal, Rubin, 1982) wondered whether images present in the dreams of individuals with residual sight reflect their knowledge of reality or whether their previous visual experiences enable them to imagine newly learned things. Indirectly they asked whether these blind people can imagine visually only those things they could see before they lost sight. The solution whether their images are of reproductive or creative character has been searched. However, no difference has been found in frequency of dreams with tactile images in totally blind people, partly visually impaired ones and with residual sight people. In summary of the above surveys - no major differences of formal characteristics of the dreams of the blind and sighted people have been found, despite the absence of visual images. Dreams of people with residual sight have been indistinguishable from the dreams of the sighted. Taking into account individuals who lost their sight later in their life (at least 5 or 7 years old) we can believe that dreams are not just a reflection of present real life experiences but they represent real life in the best possible way the individual can imagine it (Kerr, Foulkes, Schmidt, 1982).

Hurovitz et al. (1999) tested dreams´ content and the scope of sensual modalities (in categories: visual, auditory and taste/tactile/smell) appearing in the dreams. Additionally attention has been put to literal or metaphoric usage of words `to see` or `to watch`. The significant relationship has been found between lack of visual references and being born or since early childhood totally blind and also number of years spent as a blind person. The data is consistent with earlier findings (Kirtley, 1975; following: Hurovitz et al., 1999). The authors found also that using visual descriptions shows metaphoric understanding of `seeing something` as `experiencing it`. They paid their attention to close connection between vision and touch (Kennedy, 1997; in: Hurovitz et al., 1999). As for the dreams´ content more positive interactions in dreams of the blinded have been found compared with the norms for sighted people. Overall there were less positive or negative interactions in dreams of the blind people and they experienced smaller amount of dreams about success or failure than sighted people (Hurovitz et al., 1999).

Kirtley and Sabo (1984) testing friendly interactions in blind people found more positive interactions in a blind women. Because of lack of data on the number of real social interactions of the examined individuals the researchers have not referred to those differences (Hurovitz, 1999). Worth mentioning is also the importance of dreams in therapy of people with residual sight, that has been highlighted by Raymond Rainville (1994) who himself lost sight at the age of 25 years and worked on that issue. According to him the longer a person is blind the more often there is such difference also in dreams. For that reason he emphasizes the importance of keeping visual images in the dreams for possibly long time. According to this author visual images can be of importance for connecting earlier life experience of being a sighted person and the experience of lack of sight. He identified three kinds of dreams: unfinished dreams, in which a person gets some distance to the occurrence of sight loss, consolidating dreams in which a person can connect information he/she received as a blind person with the visual meaning and reminiscent dream in which he/she can see.

Referring to this work´s author´s pilot work that was carried out in Special Educational Centre for the Blind and with Visually Impairment Children in Krakow (Cracow) and in Integration Post-secondary School of Therapeutic Massage in Krakow (average age of the examined was 20,1 years) and following the methodology suggested by C. Hurovitz (1999) and taking into account earlier methodological reservations present in works of Amadeo and Gomez, (1966) and Kern et al. (1982) It is worth noticing that majority of the examined individuals with visual impairment (30 people) described their dreams as rather long and rich in content. This issue has been often considered by different researchers who tried to explain the differences between people who remember their dreams and those who say that `they do not dream at all`. The interest in phenomenon of dreams and belief in their importance has been emphasized as important factors for remembering the dreams. Researchers´ attention was paid also to the role of stress and mood in remembering one´s dreams. It has been found that people who are in worse mood remember more dreams than when they are in good mood (Domhoff, 1996). More than a half of examined people (29) reported recurring dreams or dream motifs. The issue of remembering dreams or recurrent dreams also seems of importance when taking into consideration that subjects are asked by the researchers to report their last dream or the one he/she remembers best. Often it can be in a way important for the individual dream or just recurrent one and that way well remembered. The majority of the examined (33) rated the mood of their dreams as pleasant compared with only five who pointed at experiencing more unpleasant dreams than pleasant ones.

It is not consistent with Hall´s findings (following: Vedfelt, 1998) which show that adult people experience more rather unpleasant dreams. Dreams of the adult have been described as realistic and everyday things interweaved with wishes or dreams of the individuals. Both in dreams of stone- and sand blind people the most often appearing motifs were meetings with other people (28) and events connected with real life (24), what might support the hypothesis of continuity. Examined individuals significantly more often dreamed about known to them people (27), usually they were their peers. It is consistent with other surveys (Vedfelt, 1998) showing higher frequency of appearing known to the dreamer people in their dreams.

Looking at the answer to the question of immediate relationship between dreams of the examined individuals and their real life such relationship has been found in 9 cases. In this research only clear references of the dreamer to real life, present in the cassette player recording of the dreamer´s report of his/her dream have been considered.

These findings in some measure might be consistent with continuity hypothesis. However some dream elements have been found that incline a deeper reflection on compensative function of dreams of people with residual sight and sand-blind people. Four individuals reported driving a car as a motif appearing in their dreams. They clearly emphasized that it was a strange thing to them and that they did not need sight for it (auditory and tactile sensations dominated). Then, they could drive in their dream, what has been their wish in reality but was impossible to fulfill because of their disability. Analyzing knowledge of the world in one´s dream in reference to his/her disability one man told: *Yet different things that are in those places I am getting to know rather by touch- that is I dream that for instance I touch something.* On the other hand, when considering some utterances of the blind people, dream allows them to do the things as if it was not possible in real life. (For example: *Then it is of no importance whether I can see or not, but somehow you walk).*

In a dream people seem just `to know` where something is or where they want to go and they can get there without being exposed to dangers that are possible in reality. Commenting on her understanding of her dream one blind woman mentions her lack of acceptance for her blindness and that is why she emphasizes that in the dream she does not move with a cane or learns about the things by touch but simply walks or runs. The majority of the born blind people (12) have not reported any visual sensations in their dreams - they have described experience of their dreams in that way as they perceive the world in reality - that is using available in reality senses – mainly hearing and touch. However, interestingly, four people have reported that they can see in their dreams and two of them mentioned visual imageries appearing in their dreams. Analyzing their utterances in which they tried to explain it, we can say that they used the word `to see` in a meaning: `to know`, that is to know where something is situated in a dream´s environment and that way be able to move there safely and steadily. One of the examined individuals reports: *I have not got that picture that way as the sighted has in his/her eye, I just have that awareness of the space in my head, awareness where something is located and how it looks like.* Another individual says: *I can walk freely without any walking cane, I can move like that. I know that there is no threat to me.*

Generally, the examined people faced great difficulty in explaining the way they perceive their dreams. One of them has reported: *It is difficult to explain. Because I have for instance dreams about colors, it happens also like that. For I usually associate colors with something. I do not know how exactly they look like but somehow associate them with something, for instance green with grass or something rather dark and yellow with sun. And sometimes in the dream it appears somehow in front of my eyes and for me it is an obvious thing. That it is like that and not the other way in this dream`.*

The author´s pilot studies presented against different theoretical conceptions on dreams of the blind people show the need of further scrutiny of that problem in longitudinal perspective and considering general physical mobility of the blind individuality, his/her social experiences and interactions, personality type and characteristic of adjustment to disability and its dynamic.

Conclusion

The world of dreams has been attracting interest since ancient times and dreams have had different function depending on the era (Szewczuk, 1995). Also their origin has been understood in different way – as coming from the gods or originating from the human body (Szewczuk, 1995; Oldwitch, 1995). Researchers of the dreams, depending on their theoretical background and understanding of the phenomenon paid their attention to different facets of the dreams and their functions – for instance a compensation for what is not available for a person in reality or, as it is according the hypothesis of continuity, connected with events in real life (Vedfelt, 1998).

Largely visual content of experienced dreams directs attention of the researchers to the issue of experiencing dreams by born blind people for whom visual sensations are not available (Hurovitz, 1999). Dreams of totally blind people consist mainly of spatial characteristics and are founded on available in reality senses, particularly on tactile ones. Of importance is a moment of losing sight in a lifetime – it is assumed that people who lost their sight before they reached 5 or 7 year do not experience visual images in their dreams (Kerr, Domhoff, 2004). In surveys attention is paid also to metaphoric use of words in describing dreams by the blind people and using the language of sighted people by them, where the word `to see` means for them `to know` (Hurovitz et al., 1999; Kerr, Domhoff, 2004). Dreams of the blind like dreams of the sighted people consist of different contents, complex plots, various kinds of dream environment and characters, except for visual imagery (Kerr, 2003, Hurovitz, 1999).

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Marzenia senne osób niewidomych – koncepcje i badania

Streszczenie

Artykuł stanowi próbę systematyzacji poglądów i badań, obecnych w literaturze przedmiotu, dotyczących marzeń sennych osób niewidomych i słabowidzących w perspektywie różnych modeli przystosowania do niepełnosprawności narządu wzroku. Fakt, że marzenia senne są doświadczeniem w przeważającej mierze wizualnym (Szewczuk, 1995), a inne wrażenia: słuchowe i w około 1% smakowe, węchowe i dotykowe (Synder, 1980; Kerr, 1993; Zadra, Nielsen, Donderi, 1998) są mniej częste nasuwa podjęte w publikacji pytanie o charakter snów osób niewidomych od urodzenia, które nie posiadają żadnych wrażeń wzrokowych, jak też u osób słabowidzących, których zakres i ostrość widzenia są znacznie ograniczone. Ostatnia cześć artykułu odwołuje się do autorskich badań pilotażowych, które, między innymi, poszukiwały odpowiedzi na pytanie o związek marzeń sennych badanych osób niewidomych z ich doświadczeniami w realnym życiu.

Słowa kluczowe: niewidomi, marzenia senne, niepełnosprawność

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QUALITY OF LIFE AND THE PHENOMENON OF SOCIAL WITHDRAWAL IN JAPAN

Abstract

This article aims to investigate the issue of quality of life in the context of an attention-grabbing phenomenon – social withdrawal of youth in Japan. This analysis is divided into two research areas. The first part is an in-depth study of this peculiar phenomenon. The second one scrutinizes the concept of quality of life at three levels: 1) the level of individual, 2) the level of family and 3) the level of community. Final remarks lead to the revision of axionormative crisis in Japan. In conclusion, the concept of "quality of life" is not only the indicator of personal or communal well-being (or its decline), but might also be used as "litmus paper" showing emerging transformation of values in the given culture.

Key words: quality of life, social withdrawal, Japan

Introduction

Why do people have to be defined by their social relations? This question might be a little strange, but not for socially withdrawn people in Japan. They pose such a question everyday and try to shun all existing relationships surrounding them from childhood. Ordinary people live to keep in touch with others: the family, friends, even enemies. A person is wrapped in a net of social relations. Why do socially withdrawn people (called *Hikikomori*) strive for the liberation from the regime of "social hell"? Let me elucidate this very intricate problem.

The Outline of the Phenomenon

It is not easy to make an outline of socially withdrawn individuals. These people are hidden in their rooms. Families do not want to spread any information to the public sphere. Thus, all we have is some "label", which slightly reveals the truth about this phenomenon to incidental observers.

However, there is a wide range of various theories on this topic, as well as plenty of research groups and scientific teams trying to deal with this acute intricacy.

In 2000 the Ministry of Health, Labour and Welfare in Japan began efforts toward preventing the phenomenon of social withdrawal by establishing a special research group. [*Kousei roudoushou ni okeru [Hikikomori] taisaku ni yosete*] Japanese researchers started to exhort parents to change attitudes and to overcome deeply entrenched shame (Nakanishi, 2003). A variety of special brochures started to be issued to broaden the awareness of lay people concerned by this phenomenon. [*The report of mental health…,* 2003)

But who can be named as a social withdrawn person (*Hikikomori*)? According to the Ministry of Health, Labour and Welfare in Japan, a socially withdrawn person is an individual who, for various reasons, lost the chance to participate in various social activities. Such a person does not have their own living place, but continues to live with their parents, and does not attend neither to school, nor to work (*The Guideline of regional activity …*, 2003).

However, it is very crucial to note that in published materials and brochures it was expressed that this is not a sort of mental disorder, but a kind of social phenomenon (Isobe, 2004). Doctor Tamaki Saito, an expert in the case of *Hikikomori*, coined his own definition, according to which this term denotes people (mainly young boys or men whose age ranges from teens to 30s) who are withdrawn from society for at least half of year, they isolate from outside world by closing themselves in their rooms; their behavior might include acts of violence toward family members and other people; they refuse to participate in any social activities. And, as I stressed above, the primary cause of such behavior is not a mental disorder (Saito, 1998). Quite similar definitions were proposed by Isobe (2004) and Yamada (2001).

In Japan there are also some opinions, according to which *Hikikomori* was classified as a manifestation of *Amae*, a sort of "sweet dependence" on others, mainly on the parents (mother), the closest family (Ushijima, 2004). Some theories mention the extended period of psychosocial moratorium. Even there some voice can be heard that this is only a personal problem of certain families in which parents do not know how to properly bring up their lazy children to be mature and responsible (Olejarz, 2010).

There are various theories and definitions surrounding the problem of withdrawn individuals. However, important thing is to reach to the roots of this intricacy.

Entrenchment of the Problem

In the process of searching for the entrenchment of social withdrawal in Japan we should analyze three main realms: the perspective of a person, a family and a community (society). The penetration of a scope of these spheres will give us a more accurate view of this phenomenon.

A Dimension of an Individual

Social withdrawal in Japan occurs mainly among boys, (83,7% of reported cases) (Sakai et al., 2005). This situation is strictly connected with traditional duties and obligations imposed on men. The honor and future of a family depends on the male, and it is not an empty truism, but natural consequence of the traditional family model in Japan. Failure men do not have a possibility to provide for their own family, cannot find a job and it is the main cause for feeling social shame. Great obligations are imposed on the first son. It is observed that many firstborn sons are afflicted by the phenomenon of social withdrawal. Such situations cannot be explained by theories that parents lack experience in fostering the first child (Kondo, Hasegawa, 1999). It happens due to still present relic of the primogeniture rules. The pressure and strict demands burdening the shoulders of the firstborn son are significant. He must take care of his old parents, siblings and conduct memorial ceremonies of family ancestors. Such tasks and pressures leave deep trace in the psyche (Markus, Kitayama, 1991).

Kids are prepared for their social roles since their early childhood - in kindergartens and all levels of school education. Young boys are growing up in the competitive atmosphere and are pressured to achieve success. It can be felt on each level of education, as well as in the job market. In such situations they often escape from society. However, the age of deepest crises is the adolescence. The *Hikikomori* phenomenon most frequently occurs at that age. In such case, what happens in the family? How does the *Hikikomori* phenomenon affect their life? (Olejarz, 2010) Let me re-examine this intriguing problem.

A Dimension of a Family

When we talk about the families in Japan we cannot pass over the fact of fatherly absence in the process of raising children. Almost all of the duties concerned in children education and fostering are in the responsibility of mothers and teachers at school. A man has to devote his time and efforts to his job, he identifies with the work he does. That is why in Japan in the traditional family model it is the woman that takes care of the household (Miyanaga, 2002). Children are involved in the educational system. And this is the beginning of a vicious circle: some of them withdraw from family life because they do not have much time for such contact, and following their withdrawal they lose the ability to build such relationships in the future. They become more and more withdrawn. In such a situation these children do not know how to communicate with their closest ones, their relationships grow weaker, they are gradually losing the ability to maintain social contacts, to manage with conflicts, emotions and all possible difficult situations in social life (Yamada, 2001; *If you think Hikikomori*, 2002). That is how the causes are mixed with the results. However, first germs of the problem rise and can be seen in the family realm.

Families in Japan faced undeniable crisis which must be overcome. Some Japanese specialists advise not to search for the reasons of the family conflict. Seeking the guilty is not the best method, and it can only escalate the ongoing conflict (*If you think Hikikomori*, 2002). It is important to find the solution in the present, very hard situation of the withdrawn person (*Hikikomori Support Net* – website). It is not always beneficial to penetrate painful past.

This special phenomenon is only a tip of the iceberg, and draws attention to the deep crisis which occurred in the Japanese society. The harmony (*Wa*), which is the first rule and the essential kernel of interpersonal relations, was disturbed. The most important matter for a person, particularly in Japanese context, is their interpersonal bounds with their community. In Japan the person is defined by their relations with the community, then why the individual started to destroy their reference system? (Olejarz, 2010). Let me take penetrate the peculiar realm of this society.

A Dimension of a Community and Society

In the last century Japanese society faced great transition. However, the essence of this transition consisted predominantly in processes of active assimilation of foreign values, ideas, and thoughts into its original culture. The countenance of this transition was rapidly changed. This rapid change led to the cul-de-sac of "self-independent" society. According to a certain scientist this is the kernel of the *Hikikomori* problem (Takatsuka, 2002). Such new model of a society requires new patterns of behavior, much more individualized. The concepts such as self-determination, autonomic acting and all the features characteristic and working well in western societies are highly evaluated. This transition is not only the core of the social crisis, but also an axionormative one. The values and their old hierarchy are subject to alteration. Commonly respected model of norms and aims, in which values of the community were recognized as primary, started to be undermined from the inside. Anything that has a form loses it as time goes by.

However, every change requires one thing – the adjustment to it. And here is a very mysterious hint in which direction *Hikikomori* phenomenon has to be reconsidered. Some researchers suggest that our view on a withdrawn person might be changed if we looked at such individual from a different perspective. At first glance such a person is given the label: "socially maladjusted" But this withdrawn person should be considered as an individual who cannot adjust because he tries too hard (Kato, 2005). People affected by *Hikikomori* are very much interested in the society and its life. However, they can clearly see the hiatus between reality and the desired ideal state, and that is why they cannot take any action, they do not have ability to cope with changes and challenges. In consequence, they do not act at all and they withdraw from society. Then the transition of society is one of the main factors, which contributed to the distorted behavior of young, oversensitive people who are susceptible to changes (Kato, 2005). Then, what is the relation between the social transition and the phenomenon of *Hikikomori*? (Olejarz, 2010) Before the elucidation of this intricacy, let me explain the concept of "quality of life" in the context of social withdrawal among young Japanese males.

Quality of Life in the context of Social Withdrawal in Japan

In what way can we talk about the concept of quality of life in the context of social withdrawal in Japan? (Olejarz, 2011) Using the concept of "quality of life" in the context of social withdrawal in Japan might be considered as a provocative practice. However, this is not a matter of provocation or some puzzling collation. This research perspective has not been taken into consideration yet. That is why this gap has to be filled. Therefore, let me bring you closer to this poignant matter.

An Individual Area

How should we examine the concept of "quality of life" on the example of socially withdrawn individuals in Japan? Firstly, the most important elements of the concept of "quality of life" should be named. They include: 1) physical, 2) mental and 3) financial conditions; 4) social life (relationships with family, community, partners; social roles); 5) the comfort of living; 6) activities (work, education, hobbies); as well as 7) the subjective feeling of fulfillment. These general categories should be described in detail.

Physical condition of a socially withdrawn individual varies from person to person. However, it does not mean that nothing can be said about this crucial component of "quality of life" among the withdrawn people. Staying in a small isolated room for a long time without exposing oneself to the sun rays might cause physical weakness in the whole organism. Additionally, the lack of any physical activity, reversed sleep cycle (sleeping during the day time), using a computer for a long time, irregular meals (eating disorders which can lead to drastic loss of the weight), the lack of vitamins and microelements – these are trigger factors contributing to the declining health of a socially withdrawn person. A general feeling of pain might also occur.

Bad physical condition inevitably affects mental condition of socially withdrawn person. As I mentioned before, *Hikikomori* is not recognized as a sort of mental disease. However, long-term isolation might lead to some mental disorders. It starts from negative thoughts and feelings about the person's own life, which might result in low self-esteem, self-blame, hatred, which may finally lead to depressive moods and suicidal thoughts.

Bad mental and physical condition of a socially withdrawn person might be deepened by their financial situation. Lack of money might not be a special problem. The food and drinks are provided by family. However, money is needed to buy certain things on the Internet. In such cases socially withdrawn individuals may simply steal the money from their families. In this sense the financial condition of withdrawn youth does not seem to pose such a serious problem. The fact that they cannot earn any money themselves is more significant. Therefore, they lose the sense of agency.

The next step in reviewing the quality of life of the Japanese called *Hikikorori* is to consider the defining element of this phenomenon – social life. These young

Japanese men escaped from social life. They lose touch with their family members (or very minimal, occasionally), do not keep any peer-relationships, shun interactions with the local community. Such a situation results in getting rid of or rather rejecting previous social roles (that of a learner/ a student/an employee, a son/a grandson/a brother; a member of community, etc.). This long period of lack of social contacts leads to atrophy of various elementary social skill such as maintaining a conversation, social rules and standards of proper behavior, empathy etc. Cognitive functions and memory also tend to gradually decline.

The difficult element to analyze is the comfort of living, as it tends to be very subjective. The life of a socially withdrawn person seems to be very comfortable, full of leisure and free of duties and responsibility. However, the extreme passiveness of such life has to be pointed out here. The scope of autonomy is limited to physiological functions. Such a person is dependent on his family and almost cannot survive without their help.

Living in permanent seclusion, people labeled as *Hikikomori* lose their sense of agency and competence. They are unable to do anything of their own accord. Such lack of confidence in your own ability to act might transform into permanent helplessness.

Talking about the comfort of living and the passiveness of socially withdrawn people, we cannot forget about a very important element of “quality of life”, namely activities. Withdrawn *Hikikomori* people do not act in any field. They refrain from education, work, doing sports, travelling or even having a hobby (except using the Internet, playing games, watching movies or *Manga*). Lack of mobility also entails lack of stimuli and challenges. Such lifestyle inevitably leads to the diminished level of vital energy.

All of the elements mentioned above convince the socially withdrawn male that in his life there is almost no place for feeling of fulfillment. It seems that in his life socially withdrawn person can mainly experience overwhelming boredom, helplessness, existential anxiety, lack of self-confidence and meaning. Many of them are convinced that it is almost impossible to change their life (however, desperate suicide attempts might be considered as a sort of change). So they stick to doing nothing.

The “quality of life” of socially withdrawn people does not seem to be worth living. However, what can we say about those who must share the hardships of that particularly heavy burden? Let me consider an area of familial struggle.

An Area of a Family

Everyday the familial area is a “battlefield”, not only “the struggle with silence”, but also with shame. Having a socially withdrawn son (grandson, brother) is a reason to feel guilty (we - parents have not managed to raise him properly) and socially ashamed in front of others (in front of neighbors, relatives, co-workers, school teachers, acquaintances). Having a socially withdrawn person in the family affects the family’s physical and mental health and its financial condition. The social life of the family is also affected. Family members tend to gradually become more reclusive and start to isolate themselves together with the *Hikikomori* problem. Feeling ashamed and terrorized by their son, the parents lack the will to stay in touch with other normal families and local communities. Their “comfort” of life turns into “hell”. Everything is subjected to the “black sheep” of the family.

Other family members feel insecure and helpless. That is why they might abandon their activities connected to leisure and pleasure. The concentration on work brings some relief. In such a dramatic context they do not feel any fulfillment in their lives, but rather they consider themselves as helpless “slaves” in their own homes, condemned to the eternal terror they have to endure from the “home-made” eremite.

Both the family and the person labeled as *Hikikomori* are living on the “periphery” of normal life. If so, what about those who live “in the centre” – what about local community? How does the *Hikikomori* phenomenon affect it? Let me deepen this topic.

An Area of a Community

It is very important to belong to a local community in Japanese culture. There are various types of communities which for example are based on religion, health care, neighborhood, education, sports and common interests. The main question is how the *Hikikomori* phenomenon affects them. It is not so certain that they just do not care about dropping out of the *Hikikomori* individuals. Because of the prevalence of this problem and the continuous spread of this phenomenon, local communities are very concerned and try to deal with it by various means.

Members of local communities are gradually aging, similarly to the general population of Japan, so their physical and mental health is becoming weaker and weaker. The financial condition of the retired is not so good as compared to the pensioners of the 1980s or 1990s. Aging members of the community want to spend the rest of their days peacefully. However, socially withdrawn people are imposing a great and embarrassing burden on them and other middle-age members of local communities.

One of the main troubling points is financial insufficiency of socially withdrawn people. Of course, all over the world there are people who are unable to provide for themselves. However, in Japan such a situation forms a dangerous trend in a large group of young people. And since this phenomenon has continued for several years, there are reasons to feel anxious about the future of these communities.

Who will work on behalf of these people in ten or twenty years time? Who will provide them with food and housing? And after 30 or 40 years of such “vegetation”, who will be responsible for giving them a pension? This is a very urgent problem for local communities. Not only a financial problem, but first of all an educational one.

In a particular way, the *Hikikomori* phenomenon affects all levels of education. The dangerous thing is that such behavior becomes sort of “fashionable” among young generation. It is “fashionable” to be a *Hikikomori*. Of course, this is often only a transient interest in a new type of sub-culture. However, some young people might not be able to overcome this detrimental “fashion”. That is why the most important “battlefield” for preventing youngsters from the *Hikikomori* phenomenon is school, where teachers and psychologists struggle to eradicate the first germs of social withdrawal.

The matter of reproduction poses another very pressing problem related to socially withdrawn people and the community. The generation of *Hikikomori* does not and probably will not produce any offspring. In collation with a very low birth rate in Japan, this is an alarming matter. Socially withdrawn people do not have any partners and are not able to start their own families. It contributes to a dangerous phenomenon – the negative portrayal of a Japanese boy or young man among Japanese girls. Nowadays Japanese girls try to become independent of men. Many Japanese girls are disappointed with the irresponsible behavior of their male peers. That is why they very often postpone getting married (having children) and continue to study and work even into their mid-thirties. The described status quo is a serious blow to the local community. The factors mentioned above have a significant impact on the subjective feeling of “quality of life” within local community.

We have examined two main research fields: 1) the entrenchment of the social withdrawal and 2) the components of "quality of life" in the context of the *Hikikomori* phenomenon. Now it is high time we went back to the question from the end of the second paragraph. Then, what is the relation between social transition and the phenomenon of *Hikikomori*? Let me reach deeper and explore the chasm of axionormative crisis.

An Axionormative Crisis

The crisis approaches when the old systems and hierarchies of values are gradually violated and reversed. The axonormative crisis in Japan appeared in three realms and encompassed the person, family and society (communities). Social withdrawal is only one vivid manifestation of this axionormative crisis. What is the scope of ongoing crisis?

The scope of the axionormative crisis, which manifests on the first level – the person – extends between the autonomy from the individualistic realm, and interdependent harmony, from the side of collectivistic system of value. The content of this crisis, meaning a distorted version of those two values, is some kind of defeatist "outsider-ism". The individual gives up from the beginning, escapes from the responsibility and autonomy (also in moral respects).

Then, the scope of the axionormative crisis on the level of family encompasses the values extended between the obedience to familial tradition and the individual decision to shape one's own life independently. The content of the crisis is the "frustrated anchoretism". The man decides to withdraw (from familial traditional life-style) and to be alone (individual decision). But he does not have the ability to provide for himself and live apart from his family. That is why he remains alone in his hermitage – in a room of his parents' house.

And the last and most important level of the axionormative crisis is the sphere of society. The content of the crisis from the individualistic part is the value of work for one's own success, and from the collectivistic part – the work for the reinforcement of the harmony in his community. And the content of the crisis is the distorted version of those two values – "cynical parasitism". The individual does not attend to school, does not work and this situation brings some doubtful benefits for him own, but at the same time it does not bring any development; quite the contrary, it leads to self-destruction.

The transition process from the collectivistic into individualistic model caused drastic changes in the hierarchy of values. A lot of young people emerged from the chaos of changes who tried to grope for their hierarchy of values using both models and struck some happy medium. However, the problem occurred in midway between collectivistic and individualistic values where they could not find the *aurea mediocritas*. They started to implement some quasi-values which have nothing common with neither collectivistic nor individualistic values, but are rather a distortion of both models. The embodiment of these "hybrids" contributed to the collapse of these young people and it led to the emergence of such questions: "In what direction should we go, how should we act, and for what should we live?" And that is why they froze in stillness (Olejarz, 2010).

What can be done to rescue those young people? Maybe making various opportunities of communication with them can be some solution? However, is it a remedy or only a palliative? But this is a topic for an absolutely new investigation.

Conclusions

The scope and content of the *Hikikomori* phenomenon revealed the horrifying truth about the hopeless existence of many young men living in wealthy conditions in

Japanese families. However, these conditions cannot contribute to the subjective feeling of high "quality of life". What conclusions can be drawn from this lesson?

1. It is extremely important that small children have to be socialized and immunized against various failures.
2. Social withdrawal affects not only particular individuals and their families, but it might also be dangerous for the structures of local communities in the near future.
3. The entrenchment of the mentioned type of withdrawal is very profound and can reach the depths of transition of the entire society and even changes of moral paradigms of a certain culture.
4. The concept of "quality of life" is not only the indicator of personal or communal well-being (or its decline), but might also be used as "litmus paper" showing emerging transformation of values in the given culture.
5. The current challenge is not only to save withdrawn individuals, but to detect precisely and change (or modify) the factors responsible for the chasm of the axionormative crisis (revision and new prioritizing of crucial values).

People think that "quality of life" depends on defeats and victories in personal, familial and communal life. But this is an infernal trap. If we stay away from that trap, we will be able to feel a breath of truly high-quality life.

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Jakość życia a zjawisko wycofania społecznego w Japonii

Streszczenie

Artykuł ten stawia sobie za cel analizę pojęcia jakości życia w kontekście frapującego fenomenu – wycofania społecznego w Japonii. Analiza ta podzielona jest na dwa obszary badawcze. Część pierwsza jest pogłębionym studium tego szczególnego fenomenu. W części drugiej pojęcie „jakości życia” zostaje przebadane na trzech poziomach: 1) jednostkowym, 2) rodzinnym i 3) wspólnotowym. Końcowe uwagi prowadzą do rewizji pojęcia kryzysu aksjonormatywnego w Japonii. Reasumując, pojęcie „jakości życia” jest nie tylko wskaźnikiem jednostkowego czy wspólnotowego „dobrostanu” (lub jego spadku), lecz może być również zastosowane jako „papierek lakmusowy” ukazujący wyłaniającą się transformację wartości w danej kulturze.

Słowa kluczowe: jakość życia, społeczne wycofanie, Japonia

Chapter 5

Selected Psychometric Instruments in Clinical Diagnosis

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SENSE OF COHERENCE QUESTIONNAIRE (SOC-29). A COMPARISON OF THE CLASSICAL AND HIERARCHICAL SENSE OF COHERENCE MODEL.

Abstract

The Sense of Coherence Questionnaire (SOC-29) is an instrument developed by A. Antonovsky to measure sense of coherence – the central concept of his salutogenesis theory. However, critical issues were raised regarding validity of SOC-29, in particular concerns about a significant loss of the control over the variance in the test due to non-optimal subscales identification. These issues provided an encouragement to seek a solution in which Antonovsky's classical model and the tool (SOC-29) used for its testing could be subjected to optimization. To achieve this goal, the techniques of confirmatory factor analysis were applied to test the goodness of fit of the empirical data to various variants of theoretical models of sense of coherence. The classical three-factor model proposed by Antonovsky failed to fulfill the criteria of goodness of fit. As a result of the analyses, the final, hierarchical model of sense of coherence was achieved, with satisfactory goodness of fit criteria and with improved psychometric properties.

Keywords: sense of coherence, confirmatory factor analysis, SOC-29, adolescence

Introduction

The Theoretical Assumptions of the Sense of Coherence Model

The theory of salutogenesis announced by Aaron Antonovsky (1979, 1987) presents a proposal for a comprehensive approach to health issues in the psycho↔bio↔social aspects. Its central concept is a relatively fairly universal personality characteristic called *sense of coherence* - defined as – "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one's environment is predictable and that things will work out as well as can reasonably be expected" (Antonovsky, 1995, p. 11). The basis for this belief is "... dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement."(ibidem p. 34).

The inspiration for the formulation of the theory of salutogenesis, as its author himself emphasizes, was the analysis conducted in 1970 of mental health status of Israeli women entering the menopause period, who had survived a long stay in a concentration camp. Despite the stressor of war and the camp imprisonment, up to 29% of women in this group remained in relatively good mental health. The respective rate among women who had not experienced the nightmare of the concentration camp was 51% and was thus significantly higher. However, it was more valuable for the author to find an answer to the question about the source of health maintenance in the group of 29% concentration camp survivors. This group was hampered by tensions arising from the stressful confrontation more frequently and more intensely than women in the control group, and yet, in a significant proportion of them, thanks to generalized resistance resources, a pathological effect did not develop, instead a neutral, or perhaps even positive effect contributing to better health was observed. The basis for the formulation of answers to the question about the source of good health (under the influence of information theory) was a distinction of the perception of incoming stimuli as information or noise. The material gathered by the Author through free idiographic interviews from people who had experienced deep trauma was the basis for the author to formulate an answer to the question - how do coherent people perceive their lives? Incoherent people are distinguished by generalized resistance deficit, acting as a stressor.

The basis for classifying people for the first or the second group were the results of analyzing the content of their utterances, and on their basis Antonovsky identified three components which he called a sense of comprehensibility, manageability, and meaningfulness, which can occur in different structural configurations giving rise to a more detailed typology of people.

Comprehensibility. "This concept refers to the extent to which one perceives the stimuli that confront deriving from the internal and external environments, as making cognitive sense, as information that is ordered, consistent, structured, and clear, rather than as noise - chaotic, disordered, random, accidental, inexplicable. The person high on the sense of comprehensibility expects that stimuli, he or she will encounter in the future will be predictable, or at the very least, when they do come as surprises, they will be orderable and explicable" (Antonovsky, 1995, p. 32).

Manageability. This is "the extent to which one perceives that resources that are at one's disposal are adequate to meet the demand posed by stimuli that bombard one. 'At one's disposal' may refer to resources under one's own control or to resources controlled by legitimate others –one's spouse, friend, colleagues, God, history, the party leader, or the physician – who one feels one can count on – whom one trusts. To the extent that one has a high sense of manageability, will not feel victimized by events or feel that life treats one unfairly. Untoward things do happen in life, but when they do occur one will be able to cope and not grieve endlessly" (Antonovsky, 1995, p. 33).

Meaningfulness expresses the motivational aspect, referring to the life events interpreted as a challenges, "... as something worth emotionally engaging, that deserves commitment (...), it is the extent to which one feels that life makes sense emotionally, that at least some of the problems and demands posed by living are worth investing energy in, are worthy of commitment and engagement, and are challenges that are "welcome" rather than burdens that one would much rather do without. This does not mean that someone high on meaningfulness is happy about the death of a loved one, the need to undergo a serious operation, or being fired, but rather that when these unhappy experiences are imposed on such a person takes up, he or she will willingly take up the challenge, will be determined to seek the meaning of it, and will do his or her best to overcome it with dignity" (Antonovsky, 1995, p. 34).

The Sense of Coherence Questionnaire (SOC-29)

The idiographic material collected by means of free interviews served as a basis for distinguishing groups of people with a strong *vs.* weak sense of coherence, as well as the most important conceptual source for defining the psychological construct called sense of coherence, and as inspiration to develop its measure (SOC-29, *Sense of Coherence Scale*). Antonovsky presents its concise description in chapter two of his work, cited above (1987/1995, pp. 71-90), to which I refer the Reader. It should be noted, however, that sense of coherence as a theoretical construct is to be understood as a kind of global world-view. Each of the questions testing this construct was supposed to meet the conditions of a kind of 'mapping grid' (mapping sentence) taking into account the constituting elements (E) and aspects (A, B, C, D) of the stimulus: (A) modality (instrumental (1), cognitive (2), affective (3)), (B) the source (internal (1), external (2), internal-external (3)), (C) requirements on the part of the individual (concrete (1), diffuse (2), abstract (3)), (D) time, which refers to the stimulus (past (1), present (2), future (3)). The elements are variants of the respondent's answer to a specific stimulus (E1) the sense of comprehensibility, (E2) the sense of manageability, (E3) the sense of meaningfulness. A specific combination consisting of one element of each aspect was the basis for the formulation of the specific profile for the question. Thus, if the author of the questionnaire had intended to meet the criterion of at least one question by filling in the 'mapping grid' to comprehensibility, he would have had to formulate 81 questions, (i.e., 3^4), and, similarly, 81 for the other two elements.

The number of questions in the version of the questionnaire suggested by the author is 29. Each of them has its own code. For example, for question 25 *Many people - even those with a strong character - sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?* code (3131, Man), A3 (*felt* – an affective stimulus), B1 (*even those with a strong character* - internal origin), C3 (*in certain situations* - with abstract requirements), D1 (*in the past* - referring to the past); this question is a part of the sense of manageability, and I think the Reader will agree with the code by proposed the author.

On the other hand, the code proposed to question 1 (1312, Com), *When you talk to people, do you have the feeling that they don´t understand you?* A1 (*don't understand you* – an instrumental stimulus), B3 (*When you talk to people* - of the internal-external origin), C1 (*talk* – with specific requirements), D2 (*have the feeling ... never vs. always* - referring to the present); an element of comprehensibility - will not necessarily be understood in the same way as proposed by the Author. Especially in terms of the stimulus modality, other options can be admitted, for example A2 (a cognitive stimulus), as the conversation can be a source of knowledge of oneself and / or the other person); aspect B3 (stimulus of internal and external origin) is not so obvious, because the assertion or rejection of the premises during a conversation may be made on the basis of various considerations, even irrelevant, after all, accurate, and beneficial for the general sense of coherence; aspect of C1 (a stimulus with specific requirements) is hardly devoid of doubt, since the value of conversation generally is dependent on many subjective elements, such as the resources of «I» and the content of «events», which are usually interpreted entirely as an interactive process bearing the features of a particular »situation«. The same »situation« by can be variously interpreted by different people, not only because of the concreteness-abstractness dimension, but also because of the importance of the content of the «events» for «I»; aspect D2 (the stimulus applies to a present reaction) is generally located in the present as a stimulus and reaction, but if we take into account the answer format to this question ranging from *I never have this feeling* to *I always have this feeling* – then as a whole, an attempt to locate both a specific stimulus and response in one aspect of the dimension of time (the author suggests - in the present) will not end with an unambiguous declaration. The interpretation can indicate the present, but the other two aspects (past and future) cannot be excluded, and thus we will have to deal with a quite generalized attitude of «I», that is relatively independent of the content of the «event» in the timeline, what otherwise might mean resorting to universal wisdom, or a possibility of utilizing stereotypes, and the latter do not seem to represent sense of coherence but rather its opposite.

Similar analysis can be carried out for much more items of SOC-29, in an attempt to optimize the tool, and to combine a theoretical model of coherence of the content of questions that could be used for its testing (aspects x elements). The author himself, sharing his experience with the Reader, did not develop a questionnaire completing all possible combinations (3 x 81, x 5, for example, 5 questions for a specific variant) and he did not encourage researchers to do so. On the contrary, he proposed reducing the number of questions that he had suggested at the beginning, recognizing that the "reduced" empirical material will still be sufficiently accurate to test the theoretical construct of sense of coherence in a particular person. Numerous psychometric studies using SOC-29, which have been were carried out worldwide for the last thirty years, fairly universally show that different variants of exploratory factor analysis performed on the data matrices of 29 questions, load differently in the three factors, which could correspond to a sense of comprehensibility, manageability and meaningfulness (Com, Man, Mean). There are usually 5, 6, and sometimes even more extractable factors, i.e. those allowing for explanation of at least 4% of variance. Nevertheless, authors of published articles and conference papers quite commonly confine the information concerning SOC-29 to provision of the scores on the three scales, often treating them as independent or dependent variables in various combinations of statistical calculations. While maintaining the awareness that many of the results of statistical analyses are derived from the effect of a specific sample (e.g., clinical or experimental) rather than a representative sample from the general population that meets the criterion of proportional, stratified, random sampling, the psychological constructs that are identified on their bases have different levels of universality, usually with limited grounds for generalizations. Those constructs have the greatest heuristic value that are based on the findings from random sampling (cf. Ferguson, Takane, 1999), but practice shows that such projects are scarce and usually limited to samples on which the scale normalization is performed.

In the case of SOC-29 scale, the Author stipulates directly or implicitly, that did not intend to construct a perfectly valid instrument, arguing that (1) the theoretical construct of ‘sense of coherence’ itself is not fully defined in its complexity, (2) the development of a diagnostic tool used for its testing, meeting the above-mentioned requirements of the ‘mapping grid’ perhaps makes sense, but it requires consideration and decisions based on the economic-merit ratio, (3) the tool utilizing the distributions of responses to 29 questions proved useful in studies conducted almost throughout the world.

A review of the results of numerous studies using SOC-29, however, can give the impression that researchers agree with the loss of empirical knowledge resulting from the reduction of the variance of the scores to only three scales (Com, Man, Mean), giving a total of 33-35% of explained variance, with the coefficients of common variance (communalities - h^2) shared by questions when three factors are extracted ranging from 0.19 (question 2) to 0.53 (question 6). In several research programs, in which I utilized SOC-29, exploratory factor analysis showed that such a solution is typically a source of significant loss of control over the variability of distributions of the scores. For instance, factor analysis on the data from a group of N = 405 people (further analyses in this article come from this sample), with a more relaxed criterion (at least 4% of variance explained by the weakest of the seven factors) showed a total of 50.7% of total explained variance, and h^2 values are contained in the range from 0.36 (question 20) to 0.67 (questions 10 and 17). Although it is difficult to give an objective measure of the benefits from adopting such a solution, a claim can be risked that the researcher holding to the three-factor solution agrees with the loss of control over the scores reaching up to ⅓ of their variance. The next explanatory and predictive loss will occur at the stage of further statistical analyses in which the SOC-29 scales will appear in a pool of independent or dependent variables.

The Classical vs. Hierarchical Model of Sense of Coherence

The issues raised above concerning the validity of SOC-29, can encourage seeking a solution in which the original A. Antonovsky 's idea of the development of the salutogenic model and a tool (SOC-29) used for its testing could be subjected to optimization. To achieve this goal, I will resort to the techniques contained in structural equation models (SEM), and more specifically to confirmatory factor analysis (CFA), functioning as a module of AMOS (Analysis of Moments Structures) (Arbuckle, Wothke, 1995/1999; Arbuckle, 2007) and supplementing PASW Statistics software.

I want to emphasize that the whole project is just about the optimization procedure, rather than a full review of the theoretical salutogenesis model and re-constructing the diagnostic tool used for its testing. The problem, to which I intend to find an answer, can be expressed in the question – whether, as a result of revising, substantive and formal procedure applied to the 29 questions and three scales of SOC-29, it is possible to find a solution that would allow for greater accuracy of the measurement of a psychological construct called the sense of coherence?

In order to answer this question, using the CFA, the results will be presented below of testing (1) the admissibility of the models, and (2) the significance of improving the fit of the models based on introduced adjustments. In both cases, the subject of H_0 testing (acceptance or rejection) is the result the *chi*^{2} test, additionally supported by the results of other tests of goodness of fit of the model, taking into account the values of validity and reliability (cf. Górniak, 2000, 2005; Arbuckle, 2007).

Results

A. Antonovsky's Sense of Coherence Model

A study conducted with use of SOC-29 provided the basis to answer the question - Is it possible - referring to the criteria and assumptions of the classical SEM - to empirically confirm the general structure of the theoretical construct of sense of coherence presented by A. Antonovsky?

The formal basis for the confirmation of the model is generally a negative verification of H_0 about the lack of discrepancy between the observed covariance matrix (S) and that implied by the model (Σ). It is worth noting that there are numerous statistical tests (at least 40) on which the investigator using SEM can rely on to make final claim about the admissibility of the model (cf. Arbuckle, 2007). Depending on which of the SEM technique is used, it is advisable to apply a specific configuration of the tests[1]. In this paper I use the tests recommended mainly for the application with

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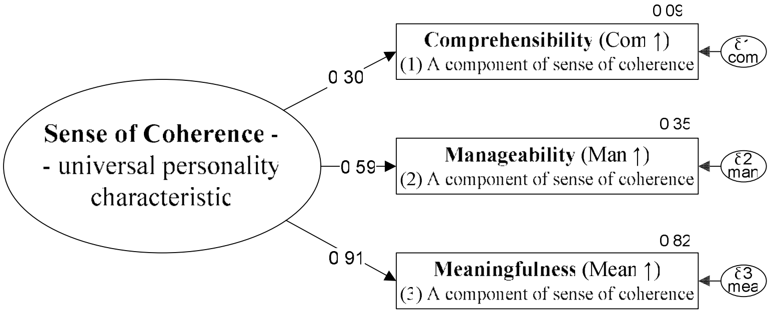
[1] Examples of their application and use can be found in M. Zakrzewska (2004) and critical introduction to the discussion about them, together with proposals for the selection are suggested by J. Górniak (2000, 2005). These are: (1) ($\chi 2/df$) - a traditional measure for testing H_0 of no significant difference between the observed covariance matrix (S) and that implied by the model (Σ), (if $p>0.05$), (2) RMSE - Steiger Lind test which is a measure of how ill-fitting a model is, taking into account the parameters that require estimation, the closer the result to 0, the better fit of the theoretical model to the matrix of scores; the index not exceeding the value of 0.05 is already suggesting a good fit, (3) RMSE-LO$\leq$0.05 – the basic error limit for well fitted models, (4) RMSE-HI$\leq$0.08 - the approximated upper limit of error of a decent fit of the model is the value of 0.08 or less, which means permissible error of approximation; the value 0.1 is a basis for rejecting the model, (5) PCLOSE$\geq$0.05 or higher, approximating 1, the better for the model; the index value of 0.05 is the minimum value which gives us the argument that there is no reason to reject the model; PCLOSE - is the so called proximity test, in my opinion, giving particularly valuable information in the case of CFA (confirmatory factor analysis), (6) GFI>0.9 - the index of goodness (quality) of fit analogous to the determination coefficient in regression. It measures the size of the variance-

confirmatory factor analysis (CFA), which compared with the more commonly used exploratory factor analysis (EFA) has a significant merit and formal advantage over it (cf. Bollen, 1989). For instance, it is a deductive method (not inductive), allows verification of the theoretical construct itself, as well as optimization of the assumptions of the theory, upon which it was generated. I skip the latter procedure due to its extensive range relative to the scope of this article. I recognize, however, that it would be very valuable at the stage of the initial development of the method.

It is worth noting, however, that the use of CFA is an attempt to satisfy the classical postulate of L. Cronbach and P. Meehl (1955, p. 283) to make ‘constructs’ the subject of study, i.e. certain postulated people’s traits, as reflected in the test performance, which corresponds with the issue of theoretical validity, that is the degree to which the test measures a theoretical construct or trait defined as a latent psychological variable, also comparable with the personal construct, as understood by G.A. Kelly (1955, 1970). The exogenous latent variable (ξi - Greek *ksi),* being a defined conceptual entity, is a hypothetical cause of variation for specific observable behaviors (X_i - Greek *Chi*). It is a variant with reflective indicators. In this study, it is this kind of direct causality that is subject to confirmation by CFA.



χ^2/df=28.30 **RMSEA =0.260** **GFI =0.953**
df =1 RMSEA LO=0.183 AGFI =0.721
p =0.0000 RMSEA HI =0.347
PCLOSE =0.0000 Hoelter N=55
(0.05)

Figure 1. Confirmatory factor analysis: Testing a path model of sense of coherence; SOC-29 by A. Antonovsky, (standardized coefficients). Sample N=405, 13-18 years of age, boys (36.3%) and girls (63.7%).

The confirmation of the classical model of sense of coherence was not obtained, due to the lack of fulfilled criteria (see footnote 1) of the fit between the theoretical

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covariance matrix (S) which is predicted by the reconstituted matrix (Σ). The value above 0.9 – means already an acceptable model, (7) AGFI> 0.9 – the corrected index of goodness of fit, the measure analogous to the corrected determination coefficient in regression models, which takes into account the number of degrees of freedom relative to the number of variables, the higher the number of df - the better the model, the value above 0.9 – means already an acceptable model, (8) Hoelter "N"(0.05)≥200 - the lower limit of the acceptability of the model, if it is lower - it shows that the model can be rejected, where the sample size falls below 200; if the value of N calculated for the model is higher, for example 254, this means that our model may become unstable, if confronted with data matrix derived from more than 254 people.

model (Σ) and the empirical covariance matrix (S). None of the results in tests of goodness of fit of the model (see Fig. 1) is not close to the criterion value, which could be considered as the grounds to accept the one-factor sense of coherence model as correct and acceptable. Although the effect strength of the construct (ξ - Gr. *ksi*) on the intensity of the three observational variables (X_i - Gr. *chi*) oscillate within the limits (λxi - Gr. *lambda*) between 0.30 and 0.91 and are highly significant ($p \leq 0.05$), it is easy to see that the overall model is dominated by variability attributable to *the sense of meaningfulness*. This effect is even more apparent if one compares the values of the determination coefficients (from 0.09 to 0.82). Then the predictive validity between the latent variable and the *sense of comprehensibility* is expressed at the level of 9%, *the sense of manageability* - 35%, and *the sense of meaningfulness* at the level of 82%. Such a high path index ($\lambda x_3=0.91$) shows an almost collinear relationship between the construct and the observational variable, which marginalizes the participation the two remaining observational variables (X_1, X_2). Moreover, in both cases the variances of measurement errors ($\delta_1=0.97$, $\delta_2=1.84$) are significant ($p \leq 0.001$). The measurement error associated with the variable X_3 (*the sense of meaningfulness*); $\delta_3=0.64$) is not significant ($p \leq 0.05$).

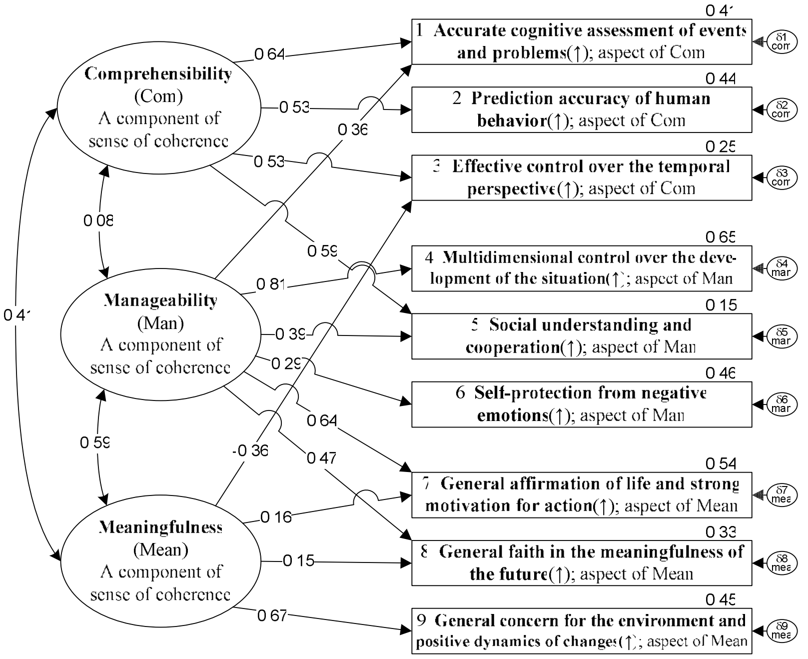
Skewness statistics ($g_{Com}=0.18$; $g_{Man}=- 0.01$, $g_{Mean}=0.13$; all standard errors = 0.12) show that in the first and third case a detachment of the scores from the normal distribution appeared in the right direction, i.e. a moderate shift toward low scores (weaker "sense of coherence").

The admissibility of three one-factor models: (1) "the sense of comprehensibility" - ξ_1, (2) "the sense of manageability" - ξ_2, (3) "the sense of meaningfulness" - ξ_3, (4) and the full three-factor model were also made subject of confirmatory testing. In each case, the distributions of scores for the questions as assigned to the scales by A. Antonovsky were made the observational variables. Skipping the detailed presentation of the results of the estimation of these models, I present their minimal range: (ad 1) $chi^2/df=3.79$, PCLOSE=0.0000; standardized values $\lambda_{xi} \ldots x_j$ from 0.12 to 0.60, (ad 2) $chi^2/df = 3.10$, PCLOSE=0.01; $\lambda_{xi} \ldots x_j$ values from 0.15 to 0.61, (ad 3) $chi^2/df=1.94$, PCLOSE=0.52; $\lambda_{xi} \ldots x_j$ values from 0.37 to 0.64, (ad 4) $chi^2/df=3.24$, PCLOSE=0.0000; $\lambda_{xi} \ldots x_j$ values from 0.14 to 0.66. As it can be seen, only in the case of the "sense of meaningfulness", the result of the PCLOSE test (≥ 0.05), which is a measure of the so-called closeness between the observed covariance matrix (S) and that implied by the model (Σ) - provides the basis for adopting such a solution. In all the remaining cases, the results of the presented tests (including those which I have omitted) of goodness of fit for the models - did justify unconditional acceptance of the models. Moreover, in the case of the full three-factor model, the correlations between the constructs were, respectively: $\xi_1\xi_2=0.56$; $\xi_1\xi_3=0.51$; $\xi_2\xi_3=0.94$. This last result shows that "the sense of manageability" and "the sense of meaningfulness" constructs share at least 88% of the tested psychological space. Two other correlations show that the ranges of these shared spaces are 31% and 26%, respectively. The domination of the participation of "the sense of meaningfulness" in the overall model has previously been shown. One can risk the claim that "the sense of manageability," controlled by 10 questions, is subordinated to the "sense of meaningfulness" controlled by 8 questions.

The Hierarchical Model of Sense of Coherence

Seeking an alternative solution, it was decided: (1) to maintain an overall model of theoretical sense of coherence proposed by A. Antonovsky as far as possible (2) to check the psychometric status of each question assigned to particular scales in accordance with the scoring key, (3) taking into account that the semantic spaces tested by the individual SOC-29 scales: (a) "the sense of comprehensibility" (11 questions), (b) "the sense of manageability" (10 questions), (c) "the sense of meaningfulness" (8 questions) can be too complex – it was decided to try and break each of the major scale to smaller parts and try to determine their status in the general model, (4) in this endeavor, it is not without significance that ‘overgeneralized’ scales, when transformed into more detailed scales, allow the researcher to regain control over the variability of the scores, which can lead to an increase in explanatory and predictive values of SOC-29.

Figure 2 presents a proposal of the final model which was reached as a result of application of these four assumptions.



χ^2/df=1.97 **RMSEA =0.049** **GFI =0.981**
df =19 RMSEA LO=0.025 AGFI =0.956
p =0.007 RMSEA HI =0.072
PCLOSE =0.492 Hoelter N=325
(0,05)

Figure 2. Confirmatory factor analysis: Testing a hierarchical path model of sense of coherence; proposed correction of the key to SOC-29; (standardized coefficients). Sample N=405, 13-18 years of age, boys (36.3%) and girls (63.7%).

In the expanded version of the model, observational variables (X_1 ... X_9) have the status of subconstructs for which the distributions of the scores for 29 questions are observational variables. I am skipping their detailed presentation here. However, it is worth noting that in each of the three main constructs, three subconstructs were extracted:

- within (ξ_1) "the sense of comprehensibility", the following were isolated: ($\xi_{1.1}$) ‘the accuracy of cognitive assessment of events and problems,’ ($\xi_{1.2}$) ‘prediction accuracy of human behavior,' ($\xi_{1.3}$) 'effective control over the temporal perspective'; fit of the model: chi^2/df=2.29, df=24, PCLOSE=0.272;

• within (ξ_2) "the sense of manageability", the following were isolated: ($\xi_{2.1}$) 'multi-dimensional control over the development of the »situation«', ($\xi_{2.2}$) 'social understanding and cooperation,' ($\xi_{2.3}$) 'self-protect from negative emotions'; fit of the model: chi^2/df=1.84, df=51, PCLOSE =0.683;

• within (ξ_3) 'the sense of meaningfulness', the following were isolated: ($\xi_{3.1}$) 'general affirmation of life and strong motivation for action,' ($\xi_{3.2}$) 'general faith in the meaningfulness of the future,' ($\xi_{3.3}$) 'general concern for the environment and the positive dynamics of changes'; fit of the model: chi^2/df=1.65, df=17, PCLOSE =0.708.

For each of the three source models, the results obtained in other tests measuring goodness of fit of the data - are satisfactory (see the criteria in footnote 1), providing evidence for the correctness and acceptability of the models, similarly as in the final model presented in Figure 2.

According to the assumptions listed at the beginning of this section, I sought to preserve the original belonging of the questions to the three scales, as specified by A. Antonovsky. However, in two cases (question 1 - *When you talk to people, do you have the feeling that they don´t understand you?*), (question 5 - *Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?)* a better fit of the model was obtained under the condition of their displacement from scale one to scale two. An additional formal argument for this procedure was an improvement of the reliability values (ξ_1) α=0.55 for eleven questions, after correction α=0.63 for nine questions; (ξ2) α=0.65 for ten questions, after correction α=0.69 for twelve questions; (ξ3) α=0.71 for eight questions (in this case, the pool of questions remained unchanged).

The procedure of subconstructs isolation obliges the researcher to define them. The operationalization procedure performed here (cf. Hornowska, 1989, 2005, p. 161) is not a simple continuation of the confirmation variant with 'reflective indicators,' in which the direction of causality goes from the latent to the observational variable, but it has the opposite direction - from the observational to the latent variable, which corresponds to models with 'formative indicators' (cf. Bollen, 1989; cf. Brown, 2006, p. 351). In other words, an attempt to define a common semantic variance for the questions that were relevant to the hypothetical construct - is also the basis for the definition of this construct. In this case, this procedure is not completely autonomous, as the definitions of the parent constructs (ξ_1, ξ_2, ξ_3), which Antonovsky formulated, need to be taken into account.

Within the "sense of comprehensibility" (ξ_1), the following were isolated:

1) 'the accuracy of cognitive assessment of events and problems'($\xi_{1.1}$) – i.e. the assessment in terms of the cause and effect relationships with the ability to overcome relativity. The person reveals an ability to resolve the dichotomy of thought content, and possibly accompanying contaminated emotions and feelings. The role of subject-centered, object-centered and contextual awareness is clearly marked, with an adequate interpretation taking into account the causality of the interactive type (questions 15, 19, 29, g_1=0.18, g_2=0.14).[2]

2) 'prediction accuracy of human behavior' ($\xi_{1.2}$) - includes a realistic, multi-faceted interpretation of the »situation« ('I'↔'event) whose goal is to plan and implement scenarios for action owing to understanding the meanings of common

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[2] g_1 - is the value of skewness, g_2 - is the value of kurtosis, in all cases the standard error of skewness is (0.12), standard error of kurtosis is (0.24).

determinants of human motivation. The aim of the predictions is to regain the control over one's own fate, the control over development of events and achievement of the general well-being. A similar perspective is adopted in interpreting oneself and other people from a broad social environment (questions 3, 12, 21, 24, g_1=0.19, g_2=0.01).

3) 'effective control over the temporal perspective' ($\xi_{1.3}$) - which seems to be a derivative of an ordered, accurate reflection over one's own life history. The ability to draw conclusions from the history of one's own life, as well as observing descriptions and recording the genesis of the developmental dynamics of other people's biographies - become the basis for the belief that the current fulfillment of certain conditions is the basis for accurate predicting the future. A positive picture of the future is accommodated as a derivative of a constructive use of one's own autonomy and not as a result of coincidence of favorable circumstances (questions 10, 17, g_1=0.26, g_2=-0.26).

Within the "sense of manageability" (ξ_2), the following were isolated:

4) 'multi-dimensional control over the development of the »situation«' ($\xi_{2.2}$) - a derivative of the levels of assessing the interaction between 'I'↔'event', which aims to not only succeed in solving the immediate problem and achieving temporary satisfaction, but also the indirect work on the general repertoire of ways, strategies and styles, giving greater opportunities to deal with life problems. This is accomplished in accordance with the interests of both oneself and society, resulting in longer and more intense periods of well-being in the somatic, mental and social aspects. The role of social interaction effects is consciously appreciated, starting from the results of symbolic communication, through an exchange of experiences, to the synergistic interaction for the common good. The control is achieved through optimal fulfillment of one's own role, and monitoring and supporting the roles of other people who "belong" to the »situation« (questions 1, 2, 13, 20, 23, 27; g_1=-0.20, g_2=-0.14).

5) 'social understanding and cooperation' ($\xi_{2.2}$) - whose aim is action for the common good as a derivative of mutual trust between people. One of the key mental health criteria underlies this psychological variable, i.e. 'to be predictable' for oneself and other people. Such trust is a result of observation of people and experiences with their participation, knowledge of the previously assigned and executed roles, owing to which appropriate significance is attributed to the status and certainty of the predictions and the behavior of a particular person. Justified trust or lack thereof is an antidote to the threat of possible disappointment, and even illusory success resulting from the misunderstanding and social cooperation (questions 5, 6, 25, g_1=-0.01, g_2=0.03).

6) 'self-protection from negative emotions' ($\xi_{2.3}$) such as anger, fear, sadness, or other emotions resulting from life failures and states of frustration, as well as the use of defense mechanisms such as denial, projection, dissociation. Well-being is understood here as the result of conscious application of adaptive (in place of non-adaptative) strategies of negative emotion regulation (questions 9, 18, 29, g_1=0.11, g_2=-0.21).

Within the 'sense of meaningfulness' (ξ3), the following were isolated:

7) 'general affirmation of life and strong motivation for action" ($\xi_{3.1}$) - associated with positive self-perception and satisfaction resulting from unconditional commitment to everyday tasks and activities, even if they are monotonous. In its context, stable and strong motivation is observed to accomplish short-term and long-term tasks, and consequently repeatedly experiencing 'self-actualization' and general well-being (questions 7, 14, 16; g_1=-0.26, g_2=-0.41).

8) 'general belief in the meaningfulness of the future' ($\xi_{3.2}$) which is a predictable effect of one's own involvement in accomplishment of goals and aspirations. Boldly facing new challenges does not arise from making unpredictable choices and

decisions, but from accurate cognitive assessment and analysis of the likelihood of success of plans and projects. Being implemented, the latter are also as a source of satisfaction resulting from functional motivation (questions 8, 11, 22, g_1=-0.12, g_2=-0.55).

9) 'general concern for the environment and the positive dynamics of changes' ($\xi_{3.3}$) is expressed in the concern for symbolic values, in monitoring of the planned qualitative changes, and striving to understand the world and interact with it in terms of meta-values (questions 4, 28, g_1=0.01, g_2=-0.45).

The statistics of skewness (g_1) and kurtosis (g_2), allow us to observe two distinct patterns: (1) all the variables belonging to the construct of 'sense of comprehensibility' (ξ_1) demonstrate right skewness, and show deviation from the normal distribution, or even a mild departure from symmetry towards the direction of low scores representing weak sense of comprehensibility. Given the relatively young age of persons the studied sample, it is not surprising, since one can assume that this psychological construct develops under the influence of the wealth of personal experience, which probably are poorer in the youths than in the elderly. Additionally, analytical thinking quite typical of adolescence only over time yields to synthetic thinking, which, I suppose, 'supports' the construct 'the sense of comprehensibility,' and as a feature of intelligence it is distinguished only in the second half of life, (2) negative values of kurtosis (platicurtic distributions) for all the variables belonging to the 'sense of meaningfulness' suggest relatively large scatter of the scores. People with high scores have a strong sense of meaningfulness, and people with low - weak. This finding suggests that there are two fairly large groups of people in the studied sample, representing a strong or weak sense of meaningfulness. Observational data seem to confirm this finding, convincing that the presence of personality crises, and in other cases - a strong sense of meaning in life, can be observed in the population of young people.

The proposed model shown in Figure 2 satisfies the criteria of correctness and acceptability (see tests of goodness of fit, footnote 1). Nevertheless, it is not an ideal solution, since it can easily be seen that covariance with the construct other than the one originally assumed had to be allowed in five cases. The variables associated with the 'sense of comprehensibility' are the most promising pool of data. The values of standardized coefficients of paths (λ_{xi} ... x_j from 0.53 to 0.64) indicate a comparable status of each variable. For this construct, an improvement of the quality of the fit of the theoretical model (Σ) to the covariance matrix of the empirical (S) occurs if the subconstruct of 'self protection from negative emotions' and its empirical indexes is taken into account. This finding suggests that the psychological space consisting of 'the sense of comprehensibility' is not only of the cognitive nature, but the elements related to its protection (security) are also important, and they play an important role in the evaluation of the interaction between 'I' ↔ 'event', especially when negative emotions occur, such as fear, anger, anger, sadness, etc., which are distracters for cognitive processes (cf. Januszewska, 2009; cf. Januszewski, 2009). In order to maintain control over the development of the »situation« and to ensure the general well-being, it is important to have at one's disposal a full repertoire of ways, strategies and styles to cope with these reactive states, and secondary - to overcome problems in life.

The pool of the variables associated with 'the sense of manageability' was increased from three to six. All values of standardized path coefficients are positive, although clearly more diverse than for the previous main construct (λ_{xi} ... x_j from 0.29 to 0.81). Although the content of the definition of this variable as specified by Antonovsky suggests that 'manageability' is a feature of 'I' consists in perceiving and using all available resources, both within 'I' and in the immediate vicinity of the 'I', it is clear that the status of the former resources is dominant, and the resources from the environment are interpreted as a value remaining in the background of one's own ability to cope with the problem. In addition, the status of 'the sense of manageability' indicates that this construct has numerous and strong interactions with cognitive and emotional-motivational psychological variables. Noteworthy is the strongest estimant value (0.81) in relation to the 'multi-dimensional control over the development of the »situation«.' The content of the definition of this variable demonstrates that a strong sense of internal locus of control (cf. Rotter, 1989) is the psychological background of this factor, as well as ways, strategies and styles of coping with stress (cf. Terelak, 2001; cf. Januszewska, 2005).

'The sense of meaningfulness' and the pool of the variables related to it, is on the one hand, under the predominant influence of the 'sense of manageability' (two values of λ are 0.47 and 0.64), on the other hand, the highest value of $\lambda=0.67$ linking this construct to 'a general concern for the environment and the positive dynamics of changes' shows four-fold weaker participation of the two remaining variables in its explanation. Moreover, the estimant value of (-0.36) between the 'sense of meaningfulness' and 'effective control over the temporal perspective,' undermines the overall theoretical value of the construct defined in this way, as well as the tool for its diagnosis. The quality of the control exercised by 'I' over the temporal dimension is one of the most important predictors of mental health (cf. Uchnast, 2006). The negative contribution of this variable, which has a distinct cognitive accent, to the functioning of the 'sense of meaningfulness' suggests that this construct is dominated by emotional-motivational components, while the role of the cognitive component is marginal.

The effect of increased variation of the main latent variables also resulted in a substantial reduction in the values of the correlations between them: $\xi_1\xi_2=0.08$; $\xi_1\xi_3=0.41$; $\xi_2\xi_3=0.59$. This means the 'release' of the original, one-factor model from the dominant influence of the 'sense of meaningfulness' with benefit for 'overall sense of coherence'. Not only was the structure of the sense of coherence differentiated in the hierarchical model, but also in spite of some formal and qualitative weakness of the proposed solution - the shares of the main constructs and subconstructs gained comparable proportions relative to each other.

Formal Evaluation of the Classical and Hierarchical Models of Sense of Coherence

To answer a question about the criterion of improvement achieved for the models of sense of coherence, one should resort to the value of the *chi*^{2} test, resulting from the difference between the values of other *chi*^{2} tests (cf. Arbuckle, Wothke, 1995/1999, p. 169) calculated for the compared solutions: the classical vs. hierarchical variant. Due to the limitation of the content of this article I am skipping a detailed presentation of eight fairly complex models. I think by reading the content presented above, the Reader will not have much difficulty to be able to reproduce their developed forms. Let me add that in all the pairs of comparisons, the hierarchical models meet the criteria for correctness and acceptability. In contrast, the model testing the 'sense of meaningfulness' is the only correct solution for the one-factor variant scored according to the key proposed by Antonovsky is (see the tests in footnote 1). The number of degrees of freedom are given in smaller type in parentheses.

A. The three-factor model of "sense of coherence", 29 questions scored according to the key proposed by A. Antonovsky *vs.* the hierarchical model (three constructs, eight subconstructs and 29 questions (proposed by A. Januszewski):

$\mathrm{chi}^2_{(374)}=1212.13-\mathrm{chi}^2_{(365)}=943.16=\mathrm{chi}^2_{(9)}=268.97$, $p\leq0.0001$ (the 2nd solution is significantly better)

B. The ‘sense of comprehensibility’: one-factor model with nine questions (adjusted by A.J.) scored according to the key proposed by A. Antonovsky *vs*. the three-factor model with nine questions (proposed by A. Januszewski):

$\mathrm{chi}^2_{(27)}=129.55-\mathrm{chi}^2_{(24)}=54.98=\mathrm{chi}^2_{(3)}=74.56$, $p\leq0.0001$ (the 2nd solution is significantly better)

C. The ‘sense of manageability’: the one-factor model with twelve questions (adjusted by A.J.) scored according to the key proposed by A. Antonovsky *vs*. the three-factor model with twelve questions (proposed by A. Januszewski):

$\mathrm{chi}^2_{(54)}=189.81-\mathrm{chi}^2_{(51)}=93.64=\mathrm{chi}^2_{(3)}=96.17$, $p\leq0.0001$ (the 2nd solution is significantly better)

D. The ‘sense of meaningfulness’: the one-factor model with eight questions scored according to the key proposed by A. Antonovsky *vs*. the three-factor model with eight questions (proposed by A. Januszewski):

$\mathrm{chi}^2_{(20)}=38.9-\mathrm{chi}^2_{(17)}=28.05=\mathrm{chi}^2_{(3)}=10.85$, $p\leq0.0125$ (the 2nd solution is significantly better)

As shown, in all the paired comparisons, the hierarchical solutions are characterized by a significant ($p\leq0.05$) improvement in the fit of the observed covariance matrix (S) to that implied by the model (Σ). Furthermore, in all four cases, the results obtained in the tests of fit (their presentation is skipped) meet the criteria of correctness and acceptability.

Conclusion

One of the main difficulties for a developer of a psychological test is to link the theoretical system describing a psychological space of latent variables to an empirical tool serving as a valid measure of this space. This claim is also included in the key statement formulated by the American Psychological Association (APA, 1954, in: Wiggins, 1973, p. 116) that the essence of psychological tests’ validity is to measure specific conceptually defined entities. M. Maloney and M. Ward, being advocates of psychologists involved in the testing assessment diagnosis, claim that an objective difficulty in the measurement of psychological traits stems from the fact that these traits cannot be measured directly, as, for instance, physicists can do, because they are conceptual constructs with no tangible existence (1976, p. 131). These Authors, commenting on the issue of content, criterion and construct validity of psychological tests, emphasize the particular value of the latter, because ‘...it relates to the degree to which a test measures the specific theoretical construct or trait. The basic method of determining this type of validity is a theoretical analysis of the nature of the test variable and its relationship to other variables’ (1976, p. 136). The opportunities provided by the battery of psychometric techniques based on structural equations models (SEM) significantly enriched the workshop of psychometricians, addressing the issues of construct validity as the basic condition required from psychometric tests.

Antonovsky’s theory of salutogenesis and the Sense of Coherence Questionnaire (SOC-29) have gained a special position in the psycho↔bio↔social interdisciplinary research paradigm of human health problems. For nearly thirty years theorists and researchers of this problem have successfully resorted to he assumptions of this theory and reported results of the studies using SOC-29. The Author Himself stipulates that neither the theory nor the diagnostic tool are not entirely worked out. This article focuses solely on an attempt of optimizing the SOC-29, and the results from this study are the basis for the formulation of the following conclusions:

1. The basic hypothesis about the confirmation (according to the assumptions of SEM) of the three-factor model of salutogenesis against the empirical distribution of answers to 29 questions grouped into three scales of the SOC-29 questionnaire – was verified negatively.
2. The admissibility of the directional hypothesis was confirmed provided diversification of three major components and creating a hierarchical model of the subconstructs of sense of coherence. Within the ‘sense of comprehensibility’ the following subconstructs were isolated: ‘the accuracy of cognitive assessment of events and problems,’ ‘prediction accuracy of human behavior,’ and ‘effective control over the temporal perspective’; within the ‘sense of manageability’ the following subconstructs were isolated: ‘multi-dimensional control over the development of the »situation«,’ ‘social understanding and cooperation,’ and ‘self-protection from negative emotions’; within the ‘sense of meaningfulness’ the following subconstructs were isolated: ‘general affirmation of life and strong motivation for action,’ ‘belief in the meaningfulness of the future,’ and ‘general concern for the environment and the positive dynamics of changes.’
3. The hierarchical model extends the measurement spectrum of the f psychological space of ‘the sense of coherence’ construct. Instead of the three indexes, nine indexes were obtained, which significantly enriches the area of coherence diagnosis and possible scope and subject-matter of psychological therapy.
4. The proper value of the proposed modifications to the model and the indicators of ‘sense of coherence’ will be tested in the projects undertaking the problem of convergent and discriminant validity (the multitrait-multimethod matrix) or in projects that use causal modeling.
5. The variation introduced to the ‘sense of coherence’ construct should not be considered as fully satisfactory, but rather as a set of conditions for more systematic construction of a theoretical model of sense of coherence and the tool used for its diagnosis.
6. The demonstrated results describing the model and the indicators of ‘sense of coherence’ do not justify generalizations for the whole population. The fact that the research material came from young people between the ages of 13 and 18 is a basis to generalize the conclusions for this group of people.
7. In the second paragraph this article, the ‘mapping grid’ of the assumptions was outlined, which Antonovsky took as a basis for formulating questions for the questionnaire. Quite a large disproportion between the complex system of the assumptions and the number of 29 questions used for the test, makes it difficult to consider this pool to be sufficient to verify the network of the assumptions. The least doubts are raised in the case of the elementss (E) which are the variants of the respondent’s answers to a specific stimulus. However, the aspects of the stimulus (A, B, C, D), due to a lack of appropriate test samples, are completely unverifiable.
8. A formal and substantive analysis of the model estimation results in the non-standardized estimant variant, in which data on measurement errors (δ_i) are one of

the most important sources of information guiding the revisions, can be particularly valuable for the optimization of the theoretical model and modification of the test questions.

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Kwestionariusz Orientacji Życiowej (SOC-29). Porównanie klasycznego i hierarchicznego modelu poczucia koherencji.

Streszczenie

Kwestionariusz Orientacji Życiowej (SOC-29) jest narzędziem opracowanym przez A. Antonovsky'ego do pomiaru poczucia koherencji – kluczowego pojęcia teorii salutogenezy. W odniesieniu do tego narzędzia istnieją jednak zastrzeżenia krytyczne, w szczególności dotyczące znacznej utraty kontroli nad wariancją wyników spowodowaną suboptymalnym wyodrębnieniem podskal. Zastrzeżenia te stały się podstawą do poszukiwania rozwiązań w których klasyczny model Antonovsky'ego oraz narzędzie służące jego testowaniu (SOC-29) mogłoby zostać zoptymalizowane. W tym celu zastosowano techniki konfirmacyjnej analizy czynnikowej oceniając parametry dobroci dopasowania danych empirycznych do różnych wariantów teoretycznych modeli poczucia koherencji. Klasyczny trójczynnikowy model poczucia koherencji zaproponowany przez Antonovsky'ego okazał się nie spełniać kryteriów dobroci dopasowania. W rezultacie przeprowadzonych analiz zaproponowano finalny, hierarchiczny model poczucia koherencji charakteryzujący się satysfakcjonującymi kryteriami dobroci dopasowania oraz poprawionymi właściwościami psychometrycznymi.

Słowa kluczowe: poczucie koherencji, konfirmacyjna analiza czynnikowa, SOC-29, adolescencja

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SENSE OF COHERENCE AND PSYCHOLOGICAL INDICATORS OF BIO-PSYCHO-SOCIAL HEALTH. A STUDY AMONG ADOLESCENTS.

Abstract

According Antonovsky's theory of salutogenesis, people with a strong sense of coherence are characterized by an active attitude towards their own health and make internal attributions about the causes of health and health-related activities. Experience associated with the period of adolescence are of particular importance for the development of sense of coherence. The objective of this study was to verify the admissibility of three hypotheses about the positive impact of the sense of coherence on better health in the psychological, somatic and social aspects. A representative sample of 469 adolescents took part in the study. The statistical techniques of Causal Modeling were applied to test the goodness of fit between the covariance matrix of the empirical data and the theoretical models of the causal influence of sense of coherence on health. Strong causal relationships were shown between the psychological hierarchical construct of "sense of coherence" and indicators of mental, somatic and social health. The sense of manageability was found to be the strongest causal predictor of indices of mental health and somatic health, whereas the sense of meaningfulness was found to be most strongly causatively related to the indices of social health.

Key words: sense of coherence, mental health, adolescence, causal modeling

Introduction

The paradigm of the psycho-bio-social approach to health issues, disseminated due to the commonly accepted the World Health Organization's (WHO) definition stating that: "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (in: Woynarowska, 2007) – justifies a multidisciplinary approach to diagnosis and treatment processes. Currently, health is understood not only as maintenance or recovery of a lost state of biological homeostasis, but as a dynamic, physical mental and social well-being in the aspects in its genesis and prevention activities, affecting the health care system and health policy. Sheridan and Radmacher (1998) indicate that A. Antonovsky's salutogenetic theory (1979, 1987) is one of the most influential paradigms of health is – as oriented towards systemic pro-health action. It is close to the socio-ecological model of health, with a strong emphasis on individual responsibility for health, reflected in the lifestyle understood as a total of health-related behaviors (cf. Woynarowska, 2007).

In the salutogenetic approach, health and disease, are the poles of a continuum, on which a person can be located, depending on the level of the personality trait called "sense of coherence' and available generalized resistance resources. These two elements direct the attribution of meanings to commonly occurring stressors (requirements, which cause a state of tension), and mechanisms of coping with them, that is, finding the optimal ways of exerting influence on the surrounding social system, physical environment and one's own organism through the above-mentioned generalized resistance resources (Antonovsky, 1997).

Not all the stressors need to evolve into stress, i.e. negative emotional states. Stressors can sometimes play a favorable, developmental function, they can mobilize and release energy, an important role is played here by subjective evaluation of events (positive, negative, ambivalent) and competences to develop new ways of functioning in the face of these stressors. As Pasikowski (2008) noted, Antonovsky focused on the stress arising from daily life, distinguishing between psychosocial and physical-biological stressors, and short-term (acute) and long-term (chronic) stressors. The stressors such as critical life events (exams, changing schools, accident) can either contribute to achieving better health or impede the process of coping with the demands. The collapse of health occurs when the person's energy as well as available resources and capabilities are not sufficient to manage the demands. Then, tension turns into stress which manifests itself by disorders.

Commenting on Antonovsky's (2008) works, Sęk (1987) notices that the "sense of coherence" components are subject to processes of evolution over the individual life, depending on the experience gained in life. Therefore, greater stability and cohesion of our life experiences (when new experiences are in accordance with the previous ones), greater repeatability and continuity of events in human life, greater socio-cultural stability, as well as the absence of sudden, unexpected, unfortunate and traumatic life events (the balance between overload and underload) – are all associated with a greater sense of comprehensibility and an increased sense of predictability.

According Antonovsky (1987), a person with a strong sense of coherence is characterized by an active, subject-oriented attitude towards their own health and makes internal attributions about the causes of health and health-related activities. Continuing the Antonovsky's thought, Pasikowski (2008) argues that man, living and developing in the course of the transaction with the requirements of his own culture, acquires knowledge and develops both the personal and environmental resources. These resources can be related to health by constituting health-related beliefs and competence, as well as the health potential itself.

According to the author of the theory of salutogenesis, the sense of coherence, both in general and in its components, directly depends on factors such as membership in a particular social class and socio-historical conditions. Social origin, life history, gender, genetic endowment and personal happiness have all combined a set of factors conducive to the development of a strong sense of coherence. These factors determine the range of generalized resistance resources available to the person and deliver the prototypical patterns of experience. It turned out that the consistency of experience is a factor in the formation of a "sense of comprehensibility"; the proper balance between the processes of underload and overload determines the "sense of manageability", and participation in deciding on the outcome has an impact on the "sense of meaningfulness."

Experience associated with the period of adolescence are of particular importance for the development of sense of coherence, and the are quite commonly referred to as the period of "storm and stress." Regardless of the culture, the main problem that young people face is the problem of "integrating their behavior," "shaping" well-defined personality within the intelligible social reality, enjoying the refreshing sense of reality from the awareness that the individual style of coping with one's own experiences is an efficient variant of the method which other people use to cope with their experiences, and possessing the awareness of one's own efficiency in this area (Erikson, 1959, p. 89, in: Antonovsky, 1995). During this period of life, one of the most important questions concerns the relationship between the individual consciousness and the quality of the socio-cultural context supporting or disturbing the acquisition of life experiences.

Antonovsky (1995, p. 102) distinguishes three basic cultural paths followed by young people: (1) complex, open society, proposing a wide repertoire of acceptable, realistic options, (2) integrated culture or subculture, homogeneous and relatively closed, (3) the socio-cultural context leading to destruction and confusion, which makes it impossible to discover any meaning in life. The gender role is imprinted in each of theses contexts as the prototype of all social roles through which an adolescent should express his/her identity and shape their world-view, for example, by observing what a given culture proposes, organizing this information and attributing meanings to them and realizing what place the individual occupies in this system. Each of the three cultural pathways provide a different set of information.

Blau (1967, in: Antonovsky, 1995, pp. 103-104) described one of the variants of the effective path to a strong sense of coherence in the period preceding adulthood, indicating that the compact structure of the family, the strong bonds of love and mutual dependency between mother and child, the superior role of education as the value, and achievements as the objective, clear self-identification, the right to emotional expression limited by suppression of physical aggression, the pattern of delaying gratification, the mobilization of family resources for the benefit of children, the struggle for self-sufficiency – all this prevents teenagers from paralyzing dependency on the peer group, frequently caused by premature emancipation of the child and too permissive attitude of those from his/her environment.

The second important cultural path, leading to a strong sense of coherence in adolescence, involves historically rooted, homogeneous, socially and culturally isolated groups, living in modern society, even fully participating in some respects in the life of these societies, but in another, deeper area – preserving their autonomy. The path of human life is strewn with dangers that must be avoided, challenges which must be faced, and skills that must be learned. Valuable prizes are waiting for those who deserve them, and most are capable of earning them. Deviations from the fixed track are treated seriously. Therefore, the young man has the feeling that he/she is taken seriously, and can count on forgiveness. Some drop out along the way, thanks to which others feel privileged.

However, according to Antonovsky, not every closed, homogeneous community promotes acquisition of life experiences that lead to the formation of a strong sense of coherence. There are communities that reassure the young people in the belief that life is terrible, that they are doomed to evil and destruction, to the eternal feeling of worthlessness and helplessness, that their every thought and doubt is dangerous, that only one, single specific model of behavior is permissible, and that even the death cannot free them from it.

Thus, according to Antonovsky (1995), there are many different patterns of experience in adolescence. These patterns favor the formation of a next basic layer of the attitude towards the world, characterized by a sense of comprehensibility, manageability and meaningfulness. Depending on the patterns of experience, the paths leading to health and effectively coping with stress are directed. Generalized resistance resources are important because they provide real life experiences conducive to the development and maintenance of a strong sense of coherence. On the other hand, generalized resistance deficits are important to the extent that they provide experiences that undermine the sense of coherence.

Therefore, Antonovsky (1995) formulates the question - how and why a strong sense of coherence promotes health? In his opinion (ibidem, p. 144) people with a strong sense of coherence cope well with tension and manage to stay in good health or even improve it. They are also more likely to accurately assess the nature and extent of an instrumental problem, that they will treat the problem as a challenge, that they will select those resources from the repertoire that are better suited to the problem, and they will use them in a rational way (ibidem, p. 146). Thus, there is a causal relationship between the sense of coherence, pro-health behavior and health. In other words, people with a strong sense of coherence often behave in a manner more beneficial to health than people with a weak sense of coherence. Antonovsky also puts forward the hypothesis that: the power of sense of coherence has direct physiological consequences and in this way it affects the condition of health, since the process of coping may increase hormone levels, causing direct tissue damage or affecting the organism's resistance to disease.

On the one hand, people with a strong sense of coherence often avoid going into stressful situations caused by external factors and they more frequently come to the conclusion that the stimulus is not a stressor, however, on the other hand when the person with a strong sense of coherence will already be in a stressful situation there is less chance that he/she will ignore or distort the problem, i.e. the information reaching the brain. There is therefore a greater likelihood that the messages sent to the peripheral organs are accurate. Such person will pay close attention to the feedback loop between the peripheral organs and the brain, and most importantly, the brain will choose those resources from a wide repertoire of the organism subsystems of from the external environment which are adequate in a given situation. Antonovsky (1995, p. 151) believes that the central nervous system is crucial to the relationship between stressors and disease. We must be constantly aware that we are dealing with the process during which tension does not need to turn into stress, but it may even exert a beneficial effect on health. He also raises the question (ibidem, p. 152) whether the stressors give rise to problems of a specific instrumental and emotional nature. He suggests an answer that people with a strong sense of coherence mobilize their own and others' emotional and cognitive resources as well as material resources to cope with these problems. They also mobilize neuroendocrine and neuroimmune resources through the central nervous system in order to protect the organism from being hurt. According to this model, sense of coherence is an attribute of man, or - if one prefers - of the brain. It is the way of responding to stimuli characteristic of a person. Were it not for an emphasis on the existence of the feedback loops, such an approach would suggest that we are dealing with a unidirectional impact of the mind on biological processes.

Methodology

Research Problem and Hypotheses

Accepting the background of the theory of salutogenesis, it was decided to verify the admissibility of three hypotheses about the positive impact of sense of coherence on better health in the psychological, somatic and social aspects.

The SOC-29 questionnaire, developed by Antonovsky (1987/1995), in the hierarchical model version as proposed in this volume by Januszewski (2011), was used for the diagnosis of sense of coherence (the exogenous variable according to the terminology of Structural Equation Models (SEM). The reader will find its broader description and definitions of new variables.

As demonstrated in Januszewski's (2011) article, "sense of coherence" can be considered as admissible personal construct of a hierarchical structure, composed of three major psychological subconstructs: (1) "the sense of comprehensibility" as a basis for the organization of (a) the accuracy of cognitive assessment of events and problems, prediction accuracy of human behavior, effective control over the temporal perspective; (2) "the sense of manageability" which organizes: (d) multi-dimensional control over the development of the »situation«, (e) social understanding and interaction, (f) self-protection from negative emotions, (3) "the sense of meaningfulness" directing: (g) the general affirmation of life and strong motivation for action, (h) the general faith in the meaningfulness of the future, (i) a general concern for the environment and the positive dynamic of changes.

For measurement of the endogenous variables (the terminology following SEM) respective to the above mentioned aspects of health, the following were used: (1) *Borderline Personality Organization Questionnaire* (BPOQ) developed by Januszewska (2006), which allows measurement of two psychological hierarchical structures: "a weak sense of self-identity" which consists of: (a) the defense mechanism of splitting, (b) impaired object relations, (c) generalized anxious tension, and "inadequate sense and control of reality" which comprises: (e) insufficient control of impulsivity, (f) primary forms of thinking (g) defense mechanisms of primitive idealization and projection, (2) *The Giessen Physical Complaint List for Children and Adolescents* (GSCL-C) developed by Brähler and Scheer (1983), which allowed the measurement of somatic symptoms experienced in the following areas: Exhaustion, Gastric Complaints, Pains in Limbs, Circulatory Problems, and Cold Symptoms - quite often reported during medical visits and in psychological offices in connection with the occurrence of personality crises, and in the case of difficulties in coping with stress, (3) *Psychological Inventory of Aggression Syndrome* (Polish: *IPSA-II*) developed by Gaś which enables measurement of eleven different indicators of aggression. However, for the purpose of this study, the following types of aggression were isolated this questionnaire: (a) instrumental aggression, (b) revenge and retaliation desire, (c) frustration-related aggression (acting out) (d) self-aggression (acting in).

For all the endogenous, before the start of building and testing the structural causal models (Causal Modeling), GSCL-C and IPSA-II questionnaires were subjected to confirmatory factor analysis (CFA for preliminary treatment aimed at developing such tools that satisfy the standards of the significance, correctness and admissibility criteria according to SEM. The confirmatory models for measuring aspects of physical and mental health (GSCL-C and BPOQ) were presented elsewhere (Januszewska, 2009). The aspect of social health was measured using the IPSA-II scale. It was hypothetically assumed that the low scores obtained in the tools used here to measure the endogenous variables, indirectly allowed the measurement of psychological indicators of the mental, somatic and social life aspects of health.

Sample

The empirical data presented in this the article were collected from a sample of adolescents (N=469) aged from 13 to 18. The sample meets the criteria of stratification due to gender and age ranges ($\chi^2=0.70$, df=5, $p\leq0.983$). All subjects were students of junior high schools or high schools. They came from complete families, they had one or two siblings in an age similar to themselves. The financial situation of (the middle class status was predominant) was secured by the professional work of the parents. None of the respondents had specific somatic disorders, substance abuse, academic failures or forms of social maladjustment. The sample was considered representative and homogeneous in terms of the basic socio-demographic criteria.

Results

Sense of Coherence and Mental Health

Figure 1 presents the diagram of the structural causal model which provides the empirical arguments enabling verification of the hypothesis of the causal influence of sense of coherence (the exogenous variable) on mental health. An assumption was made that a lack of clear neurotic and quasi-psychotic symptoms, which are typical for a personality disorder known as borderline personality (the endogenous variable) - can be regarded as a clear sign of better personality integration, better adaptation processes and focus on personal development.

χ^2/df=1.824 **RMSEA** =**0.045** **GFI** =**0.956**
df =73 RMSEA LO=0.033 AGFI =0.928
p =0.0001 RMSEA HI =0.057
PCLOSE =**0.733** Hoelter N=286
(0.05)

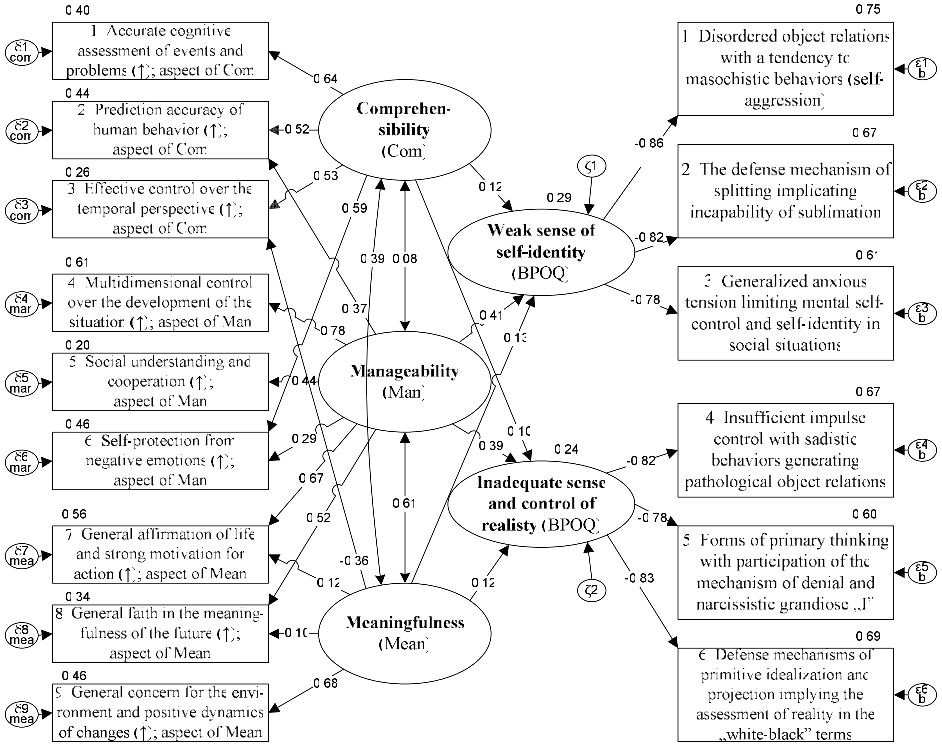

Figure 1. The causal structural model. The path model the impact of sense of coherence on mental health (the opposite to borderline personality organization). Sample N=469, aged 13-18, boys (46%) and girls (54%); (standardized coefficients).

The causal model of the overall sense of coherence[3] effects on mental health (the opposite to borderline personality) is correct and acceptable – according to the results in all the tests (χ^2/df, RMSEA, PCLOSE, GFI) of the fit between the covariance matrix of the scores (S) to the theoretical model (Σ). Particular importance can be attributed to the results of the GFI=0.956 (Goodness of Fit Index) and AGFI=.928

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[3] I am skipping here the formal and content analysis of the exogenous part of the causal model. Its content remains in accordance with the description reported in the article by Januszewski (2011) in this volume. The Reader will find the interpretation criteria of the goodness of fit tests (cf. footnote 1).

(Adjusted Goodness of Fit Index) tests, which are clearly close to the value of 1, providing arguments for a very strong and accurate prediction model.

Analyzing the estimated parameters of the model, it is worth emphasizing that the variance of the scores observed in the three main constructs of sense of coherence allows for explanation of 29% of the variance of in scores in the substructure defining the "strength and maturity of self-identity", and of 24% in the variance of the scores in the substructure defining the "appropriate sense and control of reality". The resultant combined percentage (it can only be estimated with certain approximation) was contained in the range from about 30 up to 50% - which means it is very high.

The estimants (γ_{ij}) that determine the strength of the causal effects between the exogenous (ξ_i) and endogenous (η_i) constructs were contained in the range from 0.10 to 0.41, although it is worth emphasizing that the greatest strength of influence comes from the sense of manageability (0.41 and 0.39). For the two other constructs - the sense of comprehensibility and meaningfulness - the effect is about three times weaker. It should be noted, however, that "the sense of manageability" fulfills the organizing role in relation to the skills associated with: (a) the multi-dimensional control over the development of the »situation«, (b) social understanding and cooperation, and (c) self-protection from the consequences of excitation and negative emotions such as: anger, fear, sadness. It is worth recalling, however, that both in the confirmational model of sense of coherence and in that analyzed here (the causal model), it is difficult to defend the view that the "sense of manageability" construct is completely autonomous. In both cases, correctness and acceptability were achieved only when additional shares were included coming from the areas of the psychological space typical for the other two constructs of sense of coherence (cf. λ_{xi} estimants relating to the ξ_i influence on X_i), for which the strongest path (0.67) have been identified for the affirmation of life and the strength of motivation for action, slightly weaker (0.52) for the general faith in the meaningfulness of the future, and (0.37) for the accuracy of predicting human behavior. Thus, the personal construct of the "sense of manageability" remains under strong interactive influence of the sense of comprehensibility and meaningfulness constructs. Thus, it is this regularity that translates into the relationships recorded in the endogenous part of the model. All estimants (λ_{yi} relating to the η_i influence on Y_i) are negative, high and with the values very similar to each other (from -0.78 to -0.86). A similar phenomenon occurs in the area of determination coefficients which are their derivatives (from 0.60 to 0.75).

The analysis of the causal link between the hierarchical psychological construct of "sense of coherence" and mental health, which is operationalized as a qualitative opposite to the measure of the structural features used to define borderline disorder (with some substantive implications of this extrapolation) - may indicate that the emerging image of mental health encompasses: (1) shaping the "awareness and the importance of a mature sense of self-identity," which is expressed in the desire to integrate thoughts and behavior, ability to sublimate consisting of smooth, relatively free from anxiety, transition from the concrete to symbolic functioning level and vice versa, creating and maintaining symmetrical social relationships free from overt and disguised aggression, based on multidimensional symbolic communication, striving to identify possible social consensuses by conscious valuing and self-control, (2) formation of "an adequate sense and control of psychological reality", which is expressed by: nurturing accurate cognitive assessment of the surrounding reality, free from: fantasy, different types of projection, a tendency to idealize certain people, expressing omnipotence in relation to others or directly devaluing them, that is, in fact, applying the defense mechanism of splitting in its both forms (splitting of the ego, splitting of the object).

Sense of Coherence and Somatic Health

Figure 2 presents the diagram of the structural causal model which provides the empirical arguments enabling verification of the hypothesis of the causal influence of sense of coherence (the exogenous variable) on somatic health. An assumption was made that a lack of clearly reported physical complaints which are indicative of the diseases of the main somatic system (the endogenous variable) - can be regarded as a clear sign of better somatic health.

The natural homeostasis of the organism, usually guaranteed by feedback loop mechanisms, is disrupted as a result of acting stressors. When their intensity, duration, specificity or non-specificity force the organism to maintain balance on an elevated level (heterostasis) - is highly probable that various body systems become overloaded, and in consequence disease can occur (cf. Selye, 1960, 1978). For measurement of the endogenous variable *The Giessen Physical Complaint List for Children and Adolescents* (GSCL-C) was used.

χ^2/df=2.147 **RMSEA** =**0.053** **GFI** =**0.956**
df =61 RMSEA LO=0.041 AGFI =0.925
p =0.0001 RMSEA HI =0.066
PCLOSE =**0.318** Hoelter N=248
(0.05)

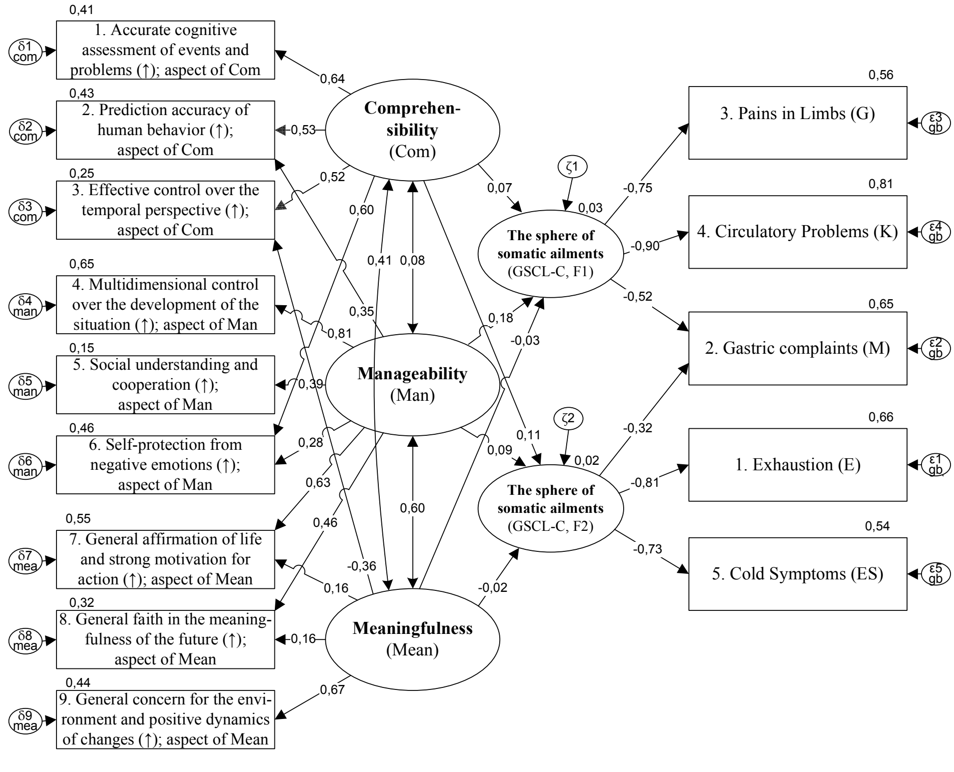

Figure 2. The causal structural model. The path model of the impact of sense of coherence on somatic health (the opposite to GSCL-C). Sample N=469, aged 13-18, boys (46%) and girls (54%); (standardized coefficients).

The scores obtained on this questionnaire allowed the parametric measurement of subjectively perceived somatic symptoms, i.e.: (1) Exhaustion - a general feeling of fatigue, exhaustion, lack of strength, rapid depletion of energy, feeling hot, excessive need for sleep, feeling of the weight or tiredness in the legs, (2) Gastric Complaints - experienced stomach and abdomen pains, vomiting, nausea, frequent defecations, diarrhea, (3) Pains in Limbs - pain in the hands, knees, neck, shoulders, legs, feet, frequent cramps of the arm or hand, (4) Circulatory Problems - dizziness, blurred vision, flashing before the eyes, a sudden darkness before the eyes, staggering and loss of balance, feeling light-headed, attacks of pharyngeal discomfort, (5) Cold Symptoms - frequent cough, rhinitis, stuffy nose, cold hands and/or feet, sore throat, being cold.

The authors of the questionnaire emphasize that elevated scores are an "organism response" in the context of endangered homeostasis, subjectively experienced as deterioration of well-being, a derivative of the autonomic nervous system (ANS) response. This response is more likely to occur in people who are diagnosed as high on neuroticism, acute stress reactions (especially distress) and intense emotional reactions. The symptoms measured by the GSCL-C questionnaire were isolated and grouped on the basis of clinical observations and exploratory factor analysis was next used to establish the scales measuring the groups of symptoms listed above (cf. Brähler, Scheer, 1983). The variant of the solution presented by the authors for this tool, based on the results of exploratory factor analysis – failed to be confirmed by confirmatory factor analysis (I am skipping detailed formal and substantive interpretation). When searching for an acceptable solution, acceptability of the hierarchical two-factor solution was demonstrated (cf. Januszewska, 2009)[4], with factors tentatively called GSCL-F1 and GSCL-F2. Within the F1 area, somatic symptoms associated with the cardiovascular system, the skeletal system, and also partly related to the digestive system. Exhaustion, cold symptoms and symptoms from the digestive system played the dominant role in the F2 area.[5]

The causal model of the overall sense of coherence effects on somatic health (the opposite to the intensity of reported complaints) is correct and acceptable – according to the results in all the goodness of fit tests. Generally, the relationships observed in the exogenous part of the model (cf. λ_{xi} estimants relating to the ξ_i influence on X_i) have a similar form to those obtained in the previous causal model.

In the structural part of the model (γ_{ij} estimants), in which the most important hypothesis is subject to verification (the significance of the causal influence of the exogenous constructs (ξ_i) on endogenous (η_i) ones), three patterns can be observed: (1) the estimants (-0.02) and (-0.03) are not statistically significant ($p \geq 0.05$), thus marginalizing the role of the "the sense of meaningfulness" construct as a possible factor

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[4] Analyzing the form of the "somatic complaints" model, it is worth noting that its best fit was achieved assuming two equal factors of the second-order in the hierarchy. They were tentatively named GSCL-F1 and GSCL-F2. The correlation coefficient (0.83) between the constructs representing two groups of symptoms - is quite high and demonstrates about 69% of common variance in the scores. The values of all path coefficients are quite high. The highest - for symptoms from the circulatory system (0.86) and exhaustion (0.84). Similarly high figures were obtained for the indexes of prediction accuracy: 73% and 71% for the symptoms from F1 and F2, respectively.

[5] It is also worth noting that the systems and organs loading on factor F1, have their origin mainly in the mesoderm. Systems and organs loading on factor F2, do not have such a clearly-cut origin. Although the systems and organs that developed from the endoderm dominate, but those that developed from the ectoderm and mesoderm are in part present, too.

explaining the quality of somatic health. “The general concern for the environment and positive dynamics of changes” is the only significant effect to which an improvement in somatic health can be linked (λ_{x9}=0.67). The role of the two other components of the sense of meaningfulness is about four times weaker (λ_{x7} and λ_{x8}=0.16), (2) the explanatory status of the other two sense of coherence constructs seems to be similar, although the estimant (γ=0.18) indicates that “the sense of manageability” can serve as an antidote to peripheral exhaustion (cf. Januszewska, 2009), particularly one of its components – “the multi-dimensional control over the development of the »situation«“, playing a key role in the assessment of the interaction between “I” ↔ “event” (λ_{x4}=0.81). The content of this psychological variable comprises efforts to solve current problems and frequent experiences of the states of satisfaction and, indirectly, the systematic refinement of the repertoire of ways, strategies and styles of coping with life problems (cf. Januszewska, 2005). It is thus a variable that, within the general structure of the sense of coherence, seems to play a central role in situations of stress, (3), “the sense of comprehensibility” has the strongest preventive effect (γ=0.11) on the symptoms from the digestive system, exhaustion and cold symptoms (GSCL-F2). The components of this construct: “the accuracy of cognitive assessment of events and problems,” “prediction accuracy of human behavior,” and “effective control over the temporal perspective” have all comparable shares ($\lambda_{x1\ldots3}$ from 0.52 to 0.64), providing the basis for accurate cognitive assessment. Possible care for life hygiene, which appears to be a result of this construct, helps protect the organism against its over-exploitation and exhaustion (λ_{y1}=-0.81) of the central type (cf. Januszewska, 2009).

In relation to this causal model as a whole, it is worth emphasizing that it is significant, correct and acceptable. This provides the basis for confirmation of the hypothesis about the beneficial impact on the sense of coherence on overall better picture and quality of somatic health. However, the space between the constructs ($\gamma_{1\ldots6}$ from -0.03 to 0.18) representing the exogenous (ξ_i) and endogenous (η_i) variables - indicates that a significant source explaining quality of somatic health is beyond the causal influence of the sense of coherence structure.

Sense of Coherence and Social Health

For indirect measurement of the quality of social life, the tool (*Psychological Inventory of Aggression Syndrome* - IPSA-II)[6] was used testing the structure of aggression, which was treated as the endogenous variable in the causal model. Combining the empirical model of aggression presented by the Author of the questionnaire with the theoretical model resulting from the recognized psychological knowledge about aggression (cf. Geen, 2002), a simple confirmational model of the structure of aggression was built. The composition of each factor is made up of 10 items, which together explained 30.92% of variance, Cronbach’s α=0.91, item-total correlations

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[6] (56 items, 11 subscales) by Z. Gaś (1987), which is an improved version of the original IPSA-I (83 items, 10 subscales). This tool, developed in accordance with best standards of classical psychometrics, has proved a very valuable measure of the realm of aggressive behavior in many studies. In this study, an attempt to reproduce the structure of aggression obtained by EFA by using the CFA method, was not successful. The main reasons are: (1) the numerous and high correlations of individual items with many factors, (2) many (17) separate factors explaining a total of 60.3% of variance, but the fifth in the order explained merely 2.98%. For this reason, four strongest factors were subjected to further broader exploration. Their reliability values were as follows: (from the top of the model: I - 18.36%, α=0.78, r (0.36÷0.56), II - 5.64%, α=0.77, r (0.30÷0.48), III - 3.58%, α=0.79, r (0.36÷0.54), IV - 3.34%, α=0.79, r (0.32÷0.56).

(from 0.18 to 0.57). The goodness of fit tests (χ^2/df=1.82, df=2, p≤0.155; PCLOSE=0.272; AGFA=0.978) attest to its accuracy and admissibility, although I believe that the efforts aimed at identification of aggression subconstructs are reasonable in substance.

χ^2/df=1.517 **RMSEA** =**0.036 GFI** =**0.971**
df =52 RMSEA LO=0.018 AGFI =0.950
p =0.010 RMSEA HI =0.051
PCLOSE =**0.935** Hoelter N=358
(0.05)

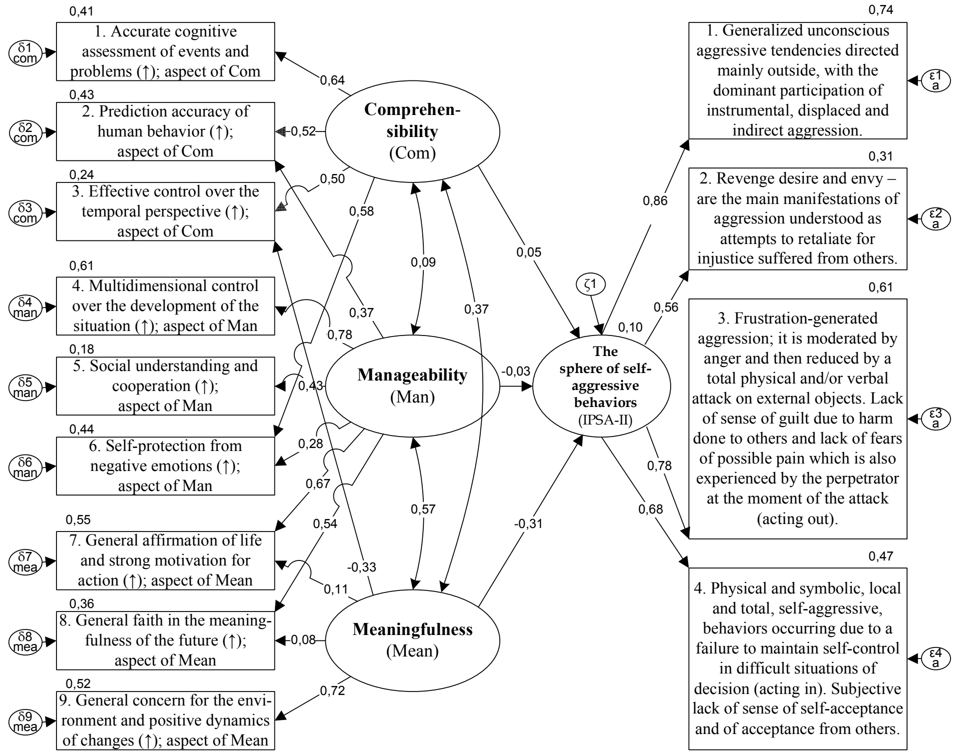

Figure 2. The causal structural model. The path model of the impact of sense of coherence on social health (the opposite to aggression). Sample N=469, aged 13-18, boys (46%) and girls (54%); (standardized coefficients).

The causal model of the overall sense of coherence effects on social health (the opposite to the use of aggression in constructing and maintaining social relationships), is correct and acceptable – according to the results in all the goodness of fit tests: χ^2/df=1.52, RMSEA-HI=0.051; PCLOSE=.935; AGFI=0.950. In particular, the latter test (Adjusted Goodness of Fit Index), which is clearly close to the value of 1, suggests a very strong and accurate predictive value of the sense of coherence on the variance in the sphere of pro-social behaviors.

Analyzing the estimated parameters of the causal model, it is worth noting that the variance of the scores in the three main constructs of sense of coherence allows us to explain 10% of the variance of the scores in the endogenous part of the model. The strongest of the estimants (γ_{13}=-0.31), which seems to be most important for the verification of the main hypothesis about the analyzed problem, has a negative sign. This means that a 1 point increase in the behavior representing the intensity of the exogenous variable (ξ_3) "the sense of meaningfulness", will lead to the increase in the intensity of pro-social behavior (the inverse of the endogenous variable represented by the η_1 construct) by 0.31 of this unit. The shares of the components of this exogenous construct: "general affirmation of life and a strong motivation for action" (λ_{x7}=0.11), "the general faith in the meaningfulness of the future" (λ_{x8}=0.08) and "general concern for the environment and the positive dynamics of changes" (λ_{x9}=0.72) - clearly indicate the key role of the latter variable, reflected in the concern for symbolic values, monitoring of planned qualitative changes, and by attempts to understand the world and interact with it in terms of meta-values (cf. Maslow, 1986). The explanatory participation of the "sense of manageability" (γ_{12}=-0.03) can be interpreted as marginal, of "the sense of comprehensibility" (γ_{11}=0.05) - as significant, although very weak, and because of the positive sign - perhaps as a subtle sign of a critical but constructive attitude, which in the case of some individuals can be interpreted as a defense mechanism (as a sign of aggression). The four paths coefficients between the endogenous construct (η_1) and its indicators ($\lambda_{y1\,\ldots\,4}$) are within the range from 0.56 to 0.86, with the latter, highest value referring to the first indicator, which has been shown in the exploratory factor analysis procedure to have the highest participation percentage (18.36) in explaining the variance of the scores in the area controlled by the aggression questionnaire. The percentages of variance explained by the other three factors are included in the range from 5.64 to 3.34, thus significantly weaker than the first, which can be considered dominant. The psychological image which arises from the content of the items making up the first factor include: the conscious desire to interact and achieve consensus with people in social situations, the active attitude of concern to respect the rights protecting the sovereignty of other people, the good name and other people's property. The content of the items in the second factor (λ_{y2}=0.56) - is conscious arrangement of synergy and social cooperation, and in the situations of possible failures or suffered injustice – refraining from possible attempts or desire to take revenge, or retaliation on the perpetrators, the third factor items (λ_{y3}=0.78) - an effort to maintain full self-control over one's own thoughts, emotions and behavior by working on internal integration achieved primarily through constructive coping with the states of frustration and stress, treating them as essential to secure positive social relationships, at least from the perspective of one's own "I"; the items of the fourth factor (λ_{y4}=0.68) - striving to protect oneself and one's own internal integration as an effect of consciously controlled and adequate self-acceptance.

Conclusions

The aim of this study was an empirical attempt to verify three hypotheses about the positive influence of sense of coherence on health in the mental, somatic and social aspects. The main arguments and hypotheses of Antonovsky 's multifaceted (even holistic) theory of salutogenesis aim to ensure that health should be systemically interpreted in the bio-psycho-social perspective. To prepare the grounds for such an interpretation – it would be necessary to launch a comprehensive research program with the preparation of precise indicators representing a set of research variables, with the defined criteria of formal and substantive analysis within the frames of the bio-psycho-social model of health.

The popularity of the salutogenesis theory and many results of studies conducted using the SOC-29 questionnaire over the last thirty years, which can not all be cited here due to their great number, proved that this paradigm has many supporters throughout the world. They represent medical and social sciences, and their analyses are usually based on classical statistics. In this study, I resorted to more modern and advanced techniques taking advantage of causal modeling (Bollen, 1989; Brown, 2006) contained in the structural equation models (SEM) (Arbuckle and Wothke, 1995/1999, Arbuckle, 2007).

The differentiation of the three main components of the SOC-29 questionnaire helped identify the specific role of the "sense of coherence" subconstructs:

1. A strong causal relationship was shown between the psychological hierarchical construct of "sense of coherence" and mental health indicators, which are measures of: (1) "the awareness and importance of a mature sense of self-identity", and (2) "adequate sense and control of psychological reality", in which the person operates. Among the components, the strongest positive effect was shown for "the sense of manageability" and its subconstructs: "the multi-dimensional control over the development of the »situation«" and "social understanding and cooperation." Beneficial effects of two other major constructs and their components were nearly three times weaker. However, the impact (strongest among all the others) of the psychological subconstruct of "a general concern for the environment and the positive dynamics of changes" - a component of "the sense of meaningfulness" deserves particular attention .
2. A significant causal relationship between the psychological hierarchical construct of "sense of coherence" and indicators of subjectively experienced somatic well-being. As in the previous conclusion, the strongest positive effect was shown for "the sense of manageability" and its components. Also, as previously, a strong influence of the "general concern for the environment and the positive dynamic of changes" was demonstrated.
3. The causal influence of the "sense of coherence" in relation to the quality of social health arising from the creation and nurturing of social relationships - seems to be derived from the root construct "the sense of meaningfulness," and especially, as in the previous cases – "the general concern for the environment and positive dynamics of changes."
4. The attempts to assess the formal and heuristic merits of the three analyzed causal models should be made with caution. Although all three main hypotheses were verified positively, yet the percentage of the explained variance in the areas of the endogenous variables as accounted for by the influence of the exogenous variables - are highly dependent on different psychometric properties of the diagnostic tools measuring the former.
5. It should be remembered that the presented causal models do not entitle us to generalize them to the whole population, as research material comes from a group of young people between 13 and 18 years of age and thus provides the basis to generalize the conclusions only on this group of people.

The obtained results confirm the usefulness of the SOC-29 tool to diagnose the problem of causality between the psychological construct of "sense of coherence" and other constructs which can hypothetically be related to the sense of coherence.

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Poczucie koherencji a psychologiczne wskaźniki zdrowia psycho-bio-społecznego w świetle wyników badań młodzieży

Streszczenie

W myśl salutogemetycznej teorii Antonovsky’ego, osoby o silnym poczuciu koherencji charakteryzują się podmiotową, aktywną postawą w stosunku do własnego zdrowia i dokonują wewnętrznych atrybucji przyczyn swojego stanu zdrowia oraz zachowań zdrowotnych. Doświadczenia związane z okresem adolescencji są szczególnie ważne dla kształtowania się poczucia koherencji. Celem niniejszych badań była weryfikacja dopuszczalności trzech hipotez o korzystnym wpływie poczucia koherencji na stan zdrowia w aspektach zdrowia psychicznego, somatycznego i społecznego. W badaniu udział wzięła reprezentatywna próba 469 nastolatków, Do testowania dobroci dopasowania pomiędzy macierzą kowariancji danych empirycznych a teoretycznymi modelami wpływu poczucia koherencji na stan zdrowia zastosowano techniki modelowania przyczynowego (*Causal Modeling*). Wykazano istotne silne związki przyczynowe pomiędzy psychologicznym hierarchicznym konstruktem „poczucie koherencji” a wskaźnikami zdrowia psychicznego, somatycznego o społecznego. Najsilniejszym przyczynowym predykatorem wskaźników zdrowia psychicznego i somatycznego okazało się poczucie zaradności, natomiast ze wskaźnikami zdrowia społecznego najsilniej przyczynowo związane było poczucie sensowności.

Słowa kluczowe: poczucie koherencji, zdrowie psychiczne, adolescencja, modelowanie przyczynowe