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The impact of body posture on self-image and psychosocial functioning during adolescence

Postawa ciała a obraz siebie i funkcjonowanie psychospołeczne w okresie adolescencji

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Abstract

Adolescence is the time when not only the self-image and self-esteem, but also the physiological body posture is intensely formed. A self-image may be described as a mental construct used by an individual to perceive, describe, understand and present oneself. It is subject to changes throughout life; however, developmental changes (such as maturation, pregnancy, aging) and difficult situations (such as health conditions, psychological crises, accidents) have a particular impact on its development. Disturbances in the above-mentioned areas are of great importance for child's development and entering into adulthood. The aim of this paper is to present the relationship between abnormal body posture, self-image, self-esteem and social functioning of adolescents. We used the available literature to describe the specifics of puberty and factors influencing physical and mental development of adolescents as well as to characterise the most common bone deformity in this group, i.e. idiopathic scoliosis. We also presented the results of scientific research confirming that the discussed spinal deformity and the method of treatment may have a great impact on the quality of life, body perception, mental state and self-esteem of patients. Therefore, we believe that rehabilitation of children with postural defects or deformities, such as scoliosis, should be comprehensive, including the presence of a psychologist in the therapeutic team. At the same time, it seems worth implementing correction and shaping of correct body posture among children with low self-esteem or lack of self-acceptance.

Keywords: body posture, idiopathic scoliosis, postural defect, body image, self-esteem, adolescence

Streszczenie

Okres adolescencji to czas, w którym intensywnie kształtują się obraz siebie i samoocena, ale również fizjologiczna postawa ciała. Obraz siebie jest mentalnym konstruktem, jakim posługuje się człowiek w celu postrzegania, opisywania, rozumienia i prezentowania własnej osoby. Podlega on przemianom w trakcie całego życia, jednak szczególny wpływ na jego kształtowanie mają zmiany rozwojowe (np. dojrzewanie, ciąża, starzenie się) oraz sytuacje trudne (np. choroby, kryzysy psychiczne, wypadki). Nieprawidłowości w zakresie wymienionych obszarów mają ogromne znaczenie dla rozwoju dziecka i jego wkraczania w dorosłe życie. Celem artykułu jest przedstawienie związku między nieprawidłową postawą ciała, jego obrazem i samooceną a funkcjonowaniem psychospołecznym młodzieży. Na podstawie dostępnej literatury opisano specyfikę okresu dojrzewania i czynniki wpływające na rozwój fizyczny oraz psychiczny adolescentów, scharakteryzowano również deformację kostną występującą najczęściej wśród młodzieży – skoliozę idiopatyczną. Przedstawiono wyniki badań naukowych potwierdzające, że omawiana deformacja kręgosłupa oraz sposób jej leczenia mogą mieć negatywny wpływ na jakość życia, postrzeganie swojego ciała, stan psychiczny i samoocenę chorych. W związku z powyższym autorki postulują, że rehabilitacja dzieci z wadami postawy czy też deformacjami, takimi jak skolioza, powinna mieć charakter kompleksowy, uwzględniający obecność psychologa w zespole terapeutycznym. Jednocześnie warto wdrożyć korekcję i kształtowanie prawidłowej postawy ciała wśród dzieci, które borykają się z niską samooceną czy też brakiem samoakceptacji.

Słowa kluczowe: postawa ciała, skolioza idiopatyczna, wada postawy, obraz ciała, samoocena, adolescencja

INTRODUCTION

Adolescence is a period of puberty when the child's body changes into an adult body. It occurs between 12 and 18 years of age. The period of adolescence is the time when not only the self-image (including the perception of one's own body and self-esteem), but also the physiological body posture is intensely formed. Disturbances in these areas are of great importance for child's development and entering into adulthood. The aim of this paper is to present the relationship between abnormal body posture, self-image, self-esteem and social functioning of adolescents.

ADOLESCENCE AND BODY POSTURE FORMATION

Body posture is defined as the position and the relative arrangement of individual body parts in relation to one another. An ideal vertical position allows maintaining body balance with only small energy expenditure. Factors such as mechanical and emotional aspects, race and inheritance, flexibility, muscle strength, visual acuity and motor habits significantly affect body posture. Its appearance is continuously altered as a result of constant changes in position as well as tactile and visual perception[1].

There are several critical periods for postural genesis during the human life, when the highest prevalence of postural defects is observed. These include the so-called school period stage at the age of 7 years and the stage of pubertal growth spurt[2]. Since body posture is dynamic, its changes may reflect the effects of different stimuli, including those related to lifestyle. Excessive use of mobile phones or computers by teenagers, and thus spending hours in a hunched posture, contributes to both neck and lumbar pain as well as postural defects[3].

Postural defects are described as deviations from generally accepted characteristics of correct body posture appropriate for age, gender and body build. Postural defects may be classified as simple (the so-called errors) and complex[4]. The most common causes of postural defects include impaired support function, muscular dysfunctions and impaired pelvic stabilisation. They may also develop in the course of different neurological disorders (such as flaccid paralysis, spastic paralysis, myopathy) or cardiovascular and respiratory conditions. Most postural defects are progressive. The most common postural defects observed in children include round, flat, concave or concave-round back, platypodia (flat feet), and other foot and knee defects, such as valgity and varus deformity[5].

Juvenile idiopathic scoliosis is currently believed to be one of the most common skeletal deformities affecting humans and usually manifesting in the form of a hump. It accounts for 80–90% of deformity cases and is up to 6–7 times more common in girls vs. boys[6]. Scoliosis is observed in 2–3% of the general population, including 0.1–0.3% of cases qualified for surgical treatment. Although clinical symptoms of scoliosis have been well described, the epidemiology is still unclear. It is assumed that the aetiology is multifactorial and includes genetic and hormonal factors as well as factors associated with impaired muscle tone and the balance between the anterior and posterior spinal column[7].

DEVELOPMENT OF THE BODY IMAGE AND ITS CONSEQUENCES

The image of one's own body is not only a sensual image of shapes and sizes as well as the form of one's own body, but it also includes feelings in relation to the above-mentioned features or individual elements of the body. It manifests in the cognitive (the perception of and the beliefs about one's own body), emotional (feelings about the body) and expressive (the way of treating the body) dimension[8,9]. Body image development begins already during the prenatal period and takes place in several stages (Tab. 1).

Puberty is a period of particular interest in the functioning and the image of the body. During this period, the body image is a result of interactions between ideas and beliefs about oneself and information from the environment, which is based on, among other things, opinions of meaningful people (parents, and later sexual partners), comparing oneself with others, cultural messages sent by e.g. mass media[10]. It should be noted that there are some gender-related differences in the development of body image. While it is relatively stable among boys, it often becomes negative in the course of psychophysical development in girls, which has a number of adverse consequences[11].

Body symmetry is one of factors that have a particular impact on physical attractiveness[12]. Studies confirm that a symmetrical female body is considered as more attractive, regardless of the gender of respondents[13]. Dissatisfaction with one's own body, its appearance in particular, has negative consequences in both men and women, adversely affecting their self-esteem, well-being, quality of life and interpersonal relationships. It may lead to eating disorders and depression or even self-destructive behaviours, particularly among women and girls[14].

Prenatal period	About 2 years	4–5 years	9 years	Puberty
Maturation of the CNS and inflow of information from proprioceptors	Able to distinguish oneself from others	Learning about individual parts of the body	Extensive knowledge of the body and the ability to assess its size	Development of the emotional attitude to the body

CNS – central nervous system.

Tab. 1. Stages of body image development

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SELF-ESTEEM AS A DETERMINANT OF FUNCTIONING

Self-esteem is an integral part of the self-image. It is a collection of all opinions and judgments directed towards one's own self. Regulation, which allows an individual to distinguish themselves from a given group and determine their own meaning in society or assess their abilities, is one of its main functions. An individual is able to estimate their own value and their emotional attitude towards their own characteristics, abilities, flaws and possibilities through the prism of self-esteem[15].

The self-worth, i.e. the global self-esteem, consists of partial self-assessments regarding behaviour or individual actions subject to the evaluation process. Depending on the selected criterion: accuracy, stability, certainty or value, the self-esteem may be accurate/inaccurate, adequate/inadequate, stable/unstable, certain/uncertain, positive/negative[16].

As in the case of body-image, the development of self-esteem takes place in several stages (Tab. 2).

Due to the specificity of the development period, the regularity and long-term impact or the extent of self-knowledge acquired by the child, it seems that school plays an extremely important role in this regard. Evaluative messages transmitted to the child by teachers and peers may be direct or indirect. They can either strengthen and increase or decrease the child's self-esteem[17]. It should be noted, however, that the development of self-image, and thus the formation of self-esteem, begins already at birth, and its course is influenced by all events, emotions and social interactions experienced throughout life[18]. Acceptance of one's own appearance is an inseparable element of self-esteem, and the example of adolescents clearly shows how important it can be for shaping global self-esteem[19].

POSTURAL DEFECTS AND MENTAL STATE AND LIFE QUALITY AMONG ADOLESCENTS

Quality of life is an individual's perception of their position in life in the context of the culture and value systems, their standards, goals, expectations, and concerns. The dimensions of life affecting its quality include physical and mental capabilities, personal development, self-fulfilment and, particularly, health. Health-related quality of life is defined as a subjective assessment of physical and mental health, social functioning, with a particular emphasis on the functional status, emotions and behaviour[20].

The oldest preschool group	School age	Adolescence
Able to perceive oneself from the point of view of positive and negative traits, but unable to critically analyse one's own behaviour	An important role of self-esteem in behaviour regulation	Capable of independent and critical self-reflection. Confrontation with the judgment and opinions of other people

Tab. 2. Stages of self-esteem development

The concept of health-related quality of life may be also referred to children. Developmental age problems are multidimensional and relate to physical and mental health (including self-esteem, self-acceptance, experiencing positive and negative emotions) as well as social relationships (including relationships with parents and peers, ability to make contacts). Stress is a factor that significantly affects the quality of life. It is an inseparable element of a disease, particularly at the stage of diagnosis and treatment.

Postural defects are associated with abnormalities in the trunk (visible not only for those affected, but also for others), pain and impairment of everyday functioning. The appearance of the body, which is altered by the disease, may affect the self-perception and self-esteem of the affected individual. Undoubtedly, adolescent idiopathic scoliosis (AIS), which significantly affects the psychosocial functioning of an individual, is one of such diseases. The diagnosis and treatment of AIS are associated with stress and anxiety. The attitude of parents/legal guardians towards the affected child is particularly important in this case. Accepting and observing the child for the state of well-being and functioning as well as appropriate responses to child's behaviour significantly reduce the risk of negative consequences of scoliosis in the form of mental disorders[21].

Berliner et al. assessed the quality of life among patients with scoliosis depending on the Cobb's angle[22]. The authors analysed such aspects of life as functioning/activity, pain, self-image, mental health and satisfaction with treatment. They showed that patients with Cobb's angle of less than 40° experienced significantly less pain as well as had a better self-image and quality of life. A study, which included over 1,200 people (77% of women, 23% of men) who did not have an established diagnosis of scoliosis, but only a suspicion of pathology, showed no significant effect on the psychological well-being. The study confirmed that adolescent idiopathic scoliosis is not a real problem affecting the everyday functioning before the diagnosis and treatment initiation[23].

A number of reports point to the relationship between the mode of treatment in scoliosis and the well-being and life quality of patients. One of the studies, which included almost 300 women diagnosed with adolescent scoliosis, showed that the stage of disease contributes to pain and mental health, with Cobb's angle of more than 50° being the cut-off point. It was also shown that patients with orthopaedic corsets experience less pain than those qualified for surgical treatment. It was also found that patients after surgeries had a significantly better self-image than those awaiting the procedure[24]. Other authors also confirmed that adolescent girls after surgical treatment of scoliosis have an improved self-image compared to those receiving conservative treatment based on physical exercise with or without orthopaedic corset. However, better physical and psychosocial function outcomes were reported for patients receiving conservative treatment[25]. Misterska et al. showed in their studies that a gradual improvement in body

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perception, particularly in the shape of the trunk, as well as in the subjective assessment of physical appearance is observed among women receiving conservative treatment using an orthopaedic corset[26]. Similar findings indicating improved life quality were reported for patients receiving surgical treatment[27].

CONCLUSIONS

The period of pubertal growth spurt is an important time in the process of postural genesis. An increased prevalence of postural defects and skeletal deformations, primarily in the form of adolescent idiopathic scoliosis, is observed in this period, promoting a negative image of one's own body. A failure to meet social standards regarding appearance may lead to lower self-esteem or even severe mental disorders. In the light of the available knowledge, there seems to be no doubt that children with postural defects should receive comprehensive care, including a psychologist in the therapeutic team. Physiotherapists should be also made aware of the fact that it is not only the shape of the body that needs improvement, but also the self-image of children. Correction and shaping of the correct body posture among children with low self-esteem or lack of self-acceptance also seem justified.

Conflict of interest

Authors do not report any financial or personal connections with other persons or organizations, which might negatively affect the contents of this publication and/or claim authorship rights to this publication.

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