



Review paper

Body image and nutritional status

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Abstract

The necessity to look for effective methods of prevention and treatment of obesity causes that more and more attention is paid to the psychological factors that may play an important role in the pathogenesis of this disease. Correct self-perception, in relation to the size of own body, is extremely important in maintaining mental and physical health, as the visualization of the body image and its proper perception are extremely important in the process of shaping proper eating habits.

Self-perception of the body size is defined as the image of its size, shape and generally understood form, obtained by means of the senses as well as the overall feelings about the body and accompanying its perception. It can be affected by personality traits, cognitive-behavioural factors, individual experiences and socio-cultural impact.

As self-perception of body size and its acceptance is one of the factors causing emotional disturbances which may be resulting in eating disorders and nutritional status disturbances, its assessment should be a part of daily clinical practice in diagnosing patients with nutritional status disturbance.

The aim of this article is to describe the current state of knowledge about the theory of body image visualization and the methods of assessment of self-perception of the body size and its acceptance.

Key words: body image, obesity, bulimia, anorexia, self-perception.

Introduction

The image of the body is defined as the image of its size, shape and generally understood form, obtained by means of the senses as well as the overall feelings about the body and accompanying its perception [1].

Many factors affect self-perception, including personality traits, cognitive-behavioural factors, individual experiences and socio-cultural impact. These trends create patterns that are attractive and determine what physical characteristics are socially desirable and which are considered unattractive or inadequate and are associated with bad qualities [2,3]. The consequence of determining undesirable features may be the stigmatization of obese people by modern culture. This can lead to the internalization of negative information and result in the feeling of strong mental discomfort in relation to one's body [4].

Patterns of attractiveness are also strengthened by mass media, which provide information on the most desirable physical characteristics of men and women in the society.

In addition, mass media suggest certain ways of making changes in the way of life, so that the body corresponds to the accepted standards of attractiveness and meet social expectations. Izydorczyk *et al.* have shown that the influence of mass media on the self-perception of the body is the highest in groups of teenage girls and young women. These women often function in accordance with the image of “I am ideal” body (what I would like to look like, and not what I look really like), which leads to low self-awareness about their appearance [3]. This is explained by the self-objective theory that constant focus on the external appearance can lead to weakening of the perception of signals from one's own body. The consequence of this is the decrease in the sense of value and concentration only on the physical appearance [5]. The lack of an internally regulated image of one's own body may be the cause of excessive concentration on the opinions of other people as an important factor in the self-assessment of own body image. It should also be stressed that the deficit of the “carnal self” in the person's mind may have a significant impact on



inadequate self-perception, despite positive signals from the environment (as in the case of people suffering from bulimia or early stages of anorexia) [6].

In accordance with some studies, there is a relationship between the body self-perception and early experiences between the child and the guardian. The relationship between a mother and a child enables the internalization of feelings of reciprocity and affirmation resulting in the development of a sense of self-acceptance and self-efficacy. An internalized and comprehensive sense of self is created by the experience of the body and its forms. The lack of empathy and inappropriate responses from the caregiver (for example humiliation) result in low self-esteem. Low self-esteem can then be strengthened in the process of socialization. However, the feeling of shame can be also transferred to the body, which begins to be perceived as inadequate or inappropriate. This leads to the construction of an actual body image that matches the false “carnal self” [7]. Everyday experiences (for example social comparisons or a specific way of dressing) are related to the internal dialogue of a person, activating emotions associated with the body image and motivating to take specific actions aimed at either avoiding social situations or taking actions aimed at the change in the appearance of the body [8].

David Garner and Paul Garfinkel divide the perception of one's own body into disorders of body perception (and the resulting inability to correctly estimate the size of one's body) and abnormalities in the emotional attitude towards the body. Emotional attitude disturbances including dissatisfaction with one's own figure, lack of acceptance of one's own body, rejection and devaluation of the body [1]. David Garner defines dissatisfaction with the figure as “dissatisfaction with the shape and body parts that are usually perceived as obese”. This disturbance may be a risk factor for dangerous behaviours increasing body mass control and lead to eating disorders [4]. Women are usually frequently dissatisfied with appearance. Therefore, female gender is recognized as a risk factor in disorders of self-perception of the body [9].

As self-perception of body size and its acceptance is one of the factors causing emotional disturbances which may be resulting in eating disorders and nutritional status disturbances, the aim of this article is to describe the current state of knowledge about the theory of body image visualization and the methods of assessment of self-perception of the body size and its acceptance.

The theory of self-perception

Self-perception includes the realization of one's own feelings, emotions, attitudes by deducing them from observing one's own behaviour in specific circumstances [4]. Correct self-perception, in relation to the body size, is extremely important in maintaining mental and phys-

ical health. Incorrect self-perception of the body size is common in young people and may be associated with the development of serious eating disorders.

Body image or visualization of the body image is the internal perception of the external appearance. In other words, it is our own image of the external appearance and thinking how others see and receive us. Disturbances in the visualization of one's body may be associated with numerous psychological and physical problems, such as anorexia, bulimia, occurrence of phantom pain in patients after amputations or in patients with anosognosia (neurological disorder consisting in the lack of awareness of the disease or part of the body) [10]. The term “body image” was first used in 1935 by an Austrian neurologist and psychiatrist Paul Schilder. However, the beginning of research on the psychological aspects of the body visualization dates back to the 1940s, when Burgess and Wallen attempted to evaluate self-attractiveness in a group of 350 married couples [11]. In 1962, Burch [12] hypothesized that impaired visualization of the body image and perception of stimuli, especially the feeling of hunger and inefficiency and effective action in response to the expectations of the environment, is one of the three main psychological features of subjects diagnosed with anorexia nervosa. Improper visualization of the body size and the lack of acceptance of the external appearance in subjects diagnosed with anorexia nervosa have also been described in other studies [13,14]. The occurrence of similar disturbances has also been found in subjects diagnosed with bulimia [15].

The role of self-perception in eating habits determination

Proper perception of the body image is important in the process of shaping proper eating habits. Disturbances of self-perception may shape extremely different behaviours. For example, the perception of a person with normal body mass as an overweight person may cause pro-health behaviours such as a properly balanced diet and physical activity. On the other hand, it may cause exaggeration in these activities and the development of bulimia or anorexia. In the case of an obese person, this type of self-perception disturbances may be a motivating factor for more effective pro-health actions. While perceiving oneself as a person with a lower body mass than is actually the case may cause neglecting the recommendations of a healthy lifestyle and to develop obesity in the future and the related diseases. In contrast, an overweight person may cause the problem to go unnoticed and failure to act to normalize body mass.

Factors influencing self-perception

Factors affecting self-perception of the body size can be divided into biological and socio-cultural ones. Biolog-

ical factors include gender and changes in body mass in the past. It has been shown that body visualization disturbances more frequently occur among women than men. This is probably associated with differences in the psyche, external appearance and hormonal changes that women undergo during puberty, menstrual cycle, pregnancy or perimenopausal period [10]. It has also been shown that the proper shape of the body image is significantly affected by changes in body mass and the possible occurrence of obesity in childhood and adolescence [16].

Socio-cultural norms create a picture of beauty and ideal figure from an early age. This ideal is usually unattainable for the average person, we can change the colour of the eyes, hair, body mass, work on musculature but we have no influence on some features, for example height. It seems that the pattern of beauty is formed already in early childhood. It has been described a two-year-old girl who asked: "When your hair grows, would you like to have it like your mom?"; replied: "I would like to have hair like a Barbie doll" [17].

This example illustrates a strong influence of mass media on patterns in such a small child. From the early childhood years, we are attacked from everywhere with unnatural ideals of beauty. Press, TV, fashion shows are outdoing themselves in creating slimmer and younger ideas. Fallon *et al.* [18] present the analysis of the ideals of beauty in the fashion world at the turn of the last hundred years. She showed that in 1894, the ideal woman should be 162 cm tall and body mass 63 kg, and already in 1975 its height increased to 172 cm, and body mass decreased to 53.5 kg. The tendency for a decrease in ideal mass and height increase was maintained in the next twenty years. In a study published in 1991, teenagers identified the ideal body mass for women as 45.4 kg and height as 170 cm [19]. It seems that it may be related to the fashion created for the morbidly slim female figure.

Garner *et al.* [20] revealed that within 25 years (1972-1997), the level of dissatisfaction with one's figure increased twice in women and in men almost three times. Interestingly, the part of the body that caused the greatest dissatisfaction among the respondents was the abdomen (71% of women and 63% of men).

Another important factor affecting the level of satisfaction with the body image is the race. It has been shown that black women are characterized by a greater acceptance of their figure, even though they are overweight, moreover, they have a greater sense of attractiveness and a lower propensity to use different types of slimming diets than white women [21,22].

Based on the most commonly used measurement methods, we can distinguish four components of the own body's perception disturbances. They include: 1) visualization of the body image in obese people (body image); 2) satisfaction with its weight (weight satisfaction), i.e. willingness to weigh several kilograms more or less; 3) estimat-

ing the body size (size perception accuracy); 4) satisfaction with own appearance (appearance satisfaction) [23].

Methods of assessment of body image visualization

To assess visual disturbances of body size, more than 40 different scales are used [24]. However, only 4 of them are standardized for obese people. The scales that is used most commonly is the Figure Rating Scale in the adaptation of Stunkard, which has a simple picture pattern and does not need to be translated [25].

The other three scales are: Contour Drawing Rating Scale [26] showing 9 female and male schematic figures, ranking from underweight to overweight; Breast/Chest Rating Scale [27] depicting 5 male and female upper body diagrams; Body Image Assessment [28] in which the subject chooses between 9 figures of different sizes.

In addition, there is a scale dedicated to children. Collins [29] showing 7 figures of boys and girls of various size.

The connection between the lack of self-acceptance and stress eating

The level of self-acceptance of the body seems to have a significant impact, not only on the psychological aspects of our lives, but also on behaviours related to the amount and type of food taken, and thus the change in body mass. A low level of body acceptance may be a factor motivating both to undertake pro-health measures and to reduce body mass, as well as a depressing factor and may cause treatment discontinuation when the results are unsatisfactory. Lack of self-acceptance can also be the cause of the phenomenon of "eating stress" and vicious circle of obesity development (Figure 1). This phenomenon only intensifies the basic problem which is excessive body mass and

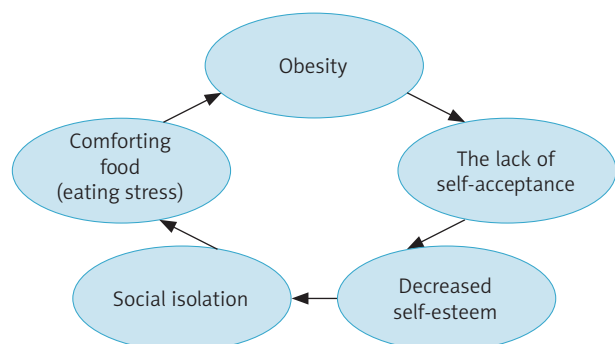


Figure 1. A vicious circle of eating disturbances and obesity development

may result from an unaware desire to punish yourself for not meeting the expectations set for yourself [30].

Conclusions

Self-perception of body size and its acceptance is one of the factors causing emotional disturbances which may be resulting in eating disorders and nutritional status disturbances. Therefore, the assessment of self-perception of the body size and its acceptance should be a part of daily clinical practice in diagnosing patients with nutritional status disturbance.

Disclosure

The authors report no conflict of interest.

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