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Agata Pietrzak

ORCID: 0000-0001-8763-2809
Jagiellonian University

Childhood Obesity from a Psychosocial Perspective. The Role of Nutrition Education

KEYWORDS ABSTRACT

childhood obesity,
nutrition education,
emotional eating,
obesity prevention,
psychosocial
interventions,
coping with difficult
emotions

The aim of this paper is to draw the readers' attention to psychosocial aspects of excessive weight gain in children, with a special emphasis on the importance of nutrition education. The article indicates the appropriateness of extending educational programs by adding the knowledge of psychosocial mechanisms that affect obese children and implementing proper interventions. This text is of a theoretical and informative nature, and it constitutes a kind of introduction and invitation to further deliberations on this subject.

The first part of the article presents current data related to obesity among children, terminological explanations and obesity classification used in clinical practice. Then, the author describes the phenomenon of emotional eating with an explanation of the main theories concerning the occurrence of this mechanism and emotional conditions affecting childhood obesity.

The further part of the study describes psychosocial consequences of obesity in the form of negative attitudes towards obese children in the school environment. The importance of nutrition education in the prevention of obesity is explained, and the appropriateness of extending it to psychosocial interventions is presented. In the summary,

reference is made to the advantages of educational programs designed by interdisciplinary teams for the physical and mental health of children, including the important role of psychologists and teachers.

Introduction

There is no doubt that the issue of obesity is one of the main problems of the modern world. For many years, WHO experts have been warning that obesity is becoming an increasingly common disease of civilization which causes serious health problems among people of various age groups. It is particularly alarming that the problem of obesity is getting more and more popular among the youngest members of the society.

According to the report of the International Obesity Task Force prepared in 2004, more than 22 million children under 5, and 155 million schoolchildren all around the world are severely overweight, which suggests that the problem refers to one in ten children in the world.

The general world data concerning this phenomenon is also alarming. At present, it is estimated that, each year, about 85 thousand obese children are added to the statistics (Szanecka, Malecka-Tendera 2006).

In Poland, the data concerning the occurrence of obesity among children differs depending on sex and age group. The results of the all-Polish research carried out by the Institute of Mother and Child indicate that the problem of obesity refers to almost 1/3 of Polish 8-year-olds (Fijałkowska, Oblacińska, Stalmach 2017).

It is worth mentioning that obesity in a child's experience has painful consequences that do not only refer to health, but also include social and psychological aspects. Obesity is the source of serious stress for a child, and it influences such aspects as the way of perceiving oneself, relationships with peers, and emotional functioning. Obese children often see themselves as unattractive and not as fit as their peers with a proper body-build, which may lead to labelling and discrimination of overweight children in the school environment. It is very important to become aware of the seriousness of psychological and social consequences of childhood obesity, and to improve one's knowledge of the subject. It is because working with children is often focused on reducing his/her weight, without taking into account the psychosocial factors.

The objective of this work is focusing on the psychosocial aspects of childhood obesity, with a special emphasis on the meaning of nutrition education. The author indicated the need to extend educational programs by adding the knowledge of psychosocial mechanisms that affect obese children, and to implement proper interventions in this respect.

Definition, division and criteria concerning obesity

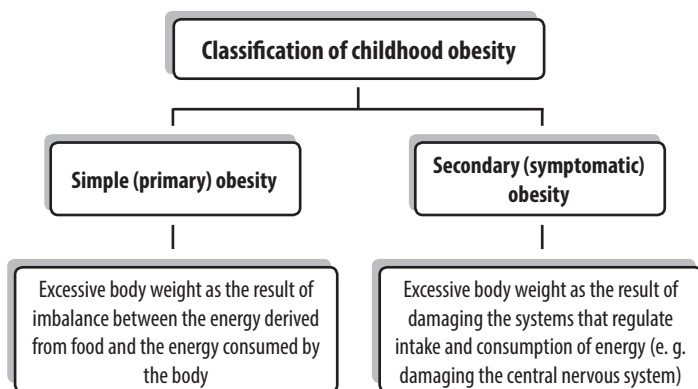
Before we consider the psychosocial aspects of childhood obesity, we will explain some terms related to the subject and present the classification of obesity used in medical practice.

Medical books define obesity as “a systemic, chronic metabolic disorder resulting from distorting the balance between receiving and consuming energy” (Kupczak-Wiśniowska et al. 2017: 45), and “a disorder of the energy metabolism homeostasis leading to the increase in body fat” (Chalcarz et al. 1997: 27).

The scale of the phenomenon is so high that the World Health Organization (WHO) officially announced obesity as a global epidemic, considering it as one of the most serious threats to people’s health. It is worth emphasizing that WHO (2006) unequivocally specifies obesity as a state that results in worsening one’s health or causing the risk of health deterioration, both in case of adults and children.

There are many classifications of obesity. In medical practice, the most popular criterion of classification is the kind of reason for becoming overweight. On this basis we can distinguish simple or secondary obesity (Pyrżak, Fajęcka-Dembińska 1995: 39). Simple obesity results from the excessive energy intake and too little consumption. This disproportion leads to the increase in weight. The second kind of obesity (secondary) is based on genetic factors and it may result from hormonal imbalance or organic diseases (Juruć, Bogdański 2010: 211). Simple obesity constitutes about 90% of all cases of obesity among children, and it is the most popular kind of obesity in this age group (Woynarowska 2010: 179).

Fig.1. Classification of childhood obesity used in medical practice



Source: The author’s work on the basis of the book by Pyrżak, Fajęcka-Dembińska 1995.

Two phases can be distinguished in the development of obesity, both among children and adults – the dynamic and the static phase (Woynarowska 2010: 179). In the dynamic phase, the number of fat cells and their size is increasing, i. e. body fat is being gathered. This phase is characterised by the positive energy balance, as a result of which a person puts on weight. The static phase includes the body's response to the new balance between energy intake and consumption which is now on a higher level (Woynarowska 2010: 179). It means that the resources of energy that had been stored are maintained on a constant level. This internal system of regulation aims at providing the balance of energy, which, in the bodies of obese people, is related to maintaining a higher weight. That is why, it is so difficult for them to lose weight.

In the books on the subject it is indicated that the highest risk of developing excess weight among children and youth refers to the period between the first and second year of life, and to the period of adolescence (Leksy 2013: 85). These are critical moments in a child's life, which means that during those periods the risk of increasing body fat is higher than in other periods (Oblacińska 2013: 9). It is believed that in further years of life the number of fat cells does not change, but their sizes increase. Barbara Woynarowska (2010) adds that the more fat cells we have, the larger the risk of a high increase in body fat is.

There are different forms of evaluating the level of obesity. The most popular methods are based on assessing the proportion of our height and body weight. In order to do this, we use as follows:

- growth charts: graphic presentation of physical development standards for children and youth;
- standard charts: the difference between the height and the body mass;
- calculation of the percentage of the correct body mass as compared to the current height of the body;
- Quetelet's BMI (Body Mass Index) – the body mass divided by the square of the body height (Wnuk, Gomuła, Szwarz-Woźniak 2013: 105).

Other methods used as the criteria of obesity:

- measuring the thickness of skin and fat folds using a skinfold caliper,
- WHR (Waist-to-Hip circumference ratio): waist measurement divided by hip measurement (Wnuk, Gomuła, Szwarz-Woźniak 2013: 105).

While evaluating childhood obesity, it is extremely important to take into account the specific features of the developmental period, calendar age, height increase, maturity, and the placement of body fat (Grzywacz 2014: 65). In case of children, growth charts are mainly used. Such charts take into account the child's age and sex, as well as weight and height indicators. Also, they often refer to the thickness of skin and fat folds which show the child's fatness.

Emotions related to eating

Due to the constantly increasing problem of overweight and obesity among children, as well as both physical and psychological consequences of this phenomenon, more and more scientific studies are dedicated to searching for the sources of childhood obesity. According to the authors, the reasons why children eat too much and become obese include genetic, environmental-cultural and psychological factors (Pietrzykowska, Wierusz-Wysocka 2008).

Scientists agree that the factors which determine obesity are very varied and influence one another, which results in increasing body mass. It is worth emphasizing that, contrary to the popular opinion, childhood obesity is not just the issue of nutrition and lifestyle, but it is also strongly connected with psychological factors (Izdebski, Rucińska-Niesyn 2009). Let us now analyse an obese child's eating habits more closely and try to recognize the role food plays in his/her functioning.

It is believed that the function of eating is satisfying the body's need for energy. However, we should take into account the fact that nowadays food has stopped playing its basic function and it is no longer only used to keep one's organism alive. Eating has become a complex psychological activity which aims at satisfying various psychological needs and helping one to cope with negative emotions such as sadness, pain or anger (Makara-Studzińska, Buczyjan, Moryłowska 2007).

Scientific analyses confirm the existence of a phenomenon called *emotional eating*, which is reflected in the tendency to "eat" negative emotions or bad mood. This is an intuitive response of the body to psychological discomfort, which consists in reducing unpleasant emotions with the support of food (that usually contains a lot of fat and sugar) (Kozłowska et al. 2017).

In the works on this subject we can find some alternative explanations related to the mechanisms responsible for eating under the influence of emotions. There are three main theories that explain the reasons for emotional eating:

1. Eating as diverting attention – eating is the way in which we divert our attention from negative emotions. This makes it possible for us to focus on the available stimulus from the environment and forget about unpleasant feelings. This theory is also specified as the escape from negative self-consciousness.
2. Eating as a regulator of emotions – eating results in the increase in good emotions and helps us control what we feel. Our level of dopamine and serotonin increases, which improves our mood and sense of pleasure. Eating is treated as a reward and consolation.
3. Eating as a "mask" (*masking theory*) – eating makes it possible for us to divert attention from other problems. We focus on the discomfort caused by

overeating, which makes it possible for us not to pay attention to the actual source of stress (Kozłowska et al. 2017: 60).

From the point of view of our subject, the studies carried out by Killgore (2006) are also important. According to this research, good emotional states reduce our tendency to eat high-calorie food, while negative emotional states increase our desire to eat highly caloric and fat products.

Also, eating may be a form of coping with stress. The research has confirmed that psychological stress is connected with increased amounts of food that is being eaten, especially food that contains a lot of fat (Greeno, Wing 1994).

In light of the above information, it is worth emphasizing that eating may be a way of easing various tensions and stressful situations in a child's life. Food causes a temporary relief and becomes the source of good mood. This dependency is confirmed in the books on the subject in which the following conditions that facilitate the development of childhood obesity are mentioned: emotional problems, improper family relationships such as parents' divorce or separation, as well as stressful lifestyle related to high tension, e. g. overly high expectations of teachers and parents (Sikorska-Wiśniewska 2007). Children's excessive eating may also result from a negative image of oneself, low self-esteem, increased level of fear, as well as the sense of emotional rejection and the willingness to escape from the outside world (Makara-Studzińska, Buczyjan, Moryłowska 2007: 394). Such negative psycho-emotional factors are mitigated by the pleasure derived from eating (Sikorska-Wiśniewska 2007: 76). Therefore, for a child, eating becomes a way of deflecting attention from a difficult situation and suffering, which neutralizes the difficulties the child experiences at home or school.

Unpleasant feelings or bad mood create the need to look for consolation in food, which often releases a sense of guilt with which a child copes by reaching for food again. Such a vicious circle may distort the proper functioning of the satiety and hunger centres located in hypothalamus, which may result in the occurrence of a compulsive eating disorder (Sikorska-Wiśniewska 2007: 76).

Psychosocial consequences of childhood obesity

In the context of the above considerations, it is worth analysing the meaning of negative affective states in the occurrence of childhood obesity. The research results we provided indicate that excessive eating is treated as a compensation for unpleasant feelings and failures. In this sense, negative emotions lead to obesity, so they are reasons why it occurs. However, we should pay attention to the fact that many scientists interpret bad mood and worse emotional functioning as the result of obesity, and psychosocial problems are specified as the most frequent consequences of obesity among

children and adolescents (Cogan, Ernsberger 1999; Tabak 2006). This thesis is supported by the fact that obesity is a disorder that influences the way obese children are perceived both by themselves and by other people (Radoszewska 1994). A sense of being unattractive often causes problems related to psychological functioning, such as low self-esteem, a sense of loneliness, frustration and problems with making contacts with oneself (Radoszewska 2000). Overweight determines a negative attitude towards oneself, which, in turn, is connected with sadness or regret.

It is worth noting that scientific research confirms worse emotional functioning of obese children, but it still fails to unequivocally determine the direction of that connection (Liberska, Boniecka 2013). We still do not know whether negative emotional states are the reason or the consequence of childhood obesity. This ambiguity itself reflects the challenge that has to be faced by the researchers who aim at understanding the complex factors related to a child's obesity and psychological wellbeing.

In light of the above considerations concerning psychosocial consequences of childhood obesity, we should also focus on the hurtful role of prejudice and negative attitudes towards obese children presented by their social environment. Obese children are often blamed for their weight as, according to the common opinion, criticizing overweight is justified and may motivate children to try to lose weight. However, the authors mentioned below conclude that criticising overweight does not support reducing childhood obesity; on the contrary: it generates painful damages in obese children's self-evaluation and self-esteem. The research carried out by Ewa Małecka-Tendera and her team (Małecka-Tendera et al. 1989) indicates that obese children are often discriminated against among peers, which, in consequence, may lead to serious emotional disorders that require psychotherapy. Also, the research by Martha Jablow (Jablow 1993) proves that overweight children often experience psychological suffering. The author adds that children hurt more than adults after being criticized, which increases their sense of helplessness and low self-esteem.

Negative attitudes towards overweight children start as early as at the preschool age and become more intensive among primary school children (Eisenberg et al. 2003). Children quickly notice that some of their friends are different, which often results in rejecting obese children. Children do not want to play with fat friends, regarding them as lazy, stupid, ugly and messy (Puhl, Latner 2007). Such a negative approach to overweight children may lead to persecution which takes the form of verbal violence (children are ridiculed or nicknamed) or physical violence (hitting, pushing or kicking) (Leksy 2013: 89-90). In consequence, obese children are absent from school more often than other children (Geier et al. 2007). They avoid games and other activities because they fear that, because of the way their body is built, they will be ridiculed and mocked. Isolation from the environment results from the lack of trust in the world and becomes a way to avoid further abuse. Children close

themselves in the family environment, which increases their sense of being different and rejected by friends.

Surprisingly, even teachers and educators are not free from prejudice against obese children. Employees of educational institutions are usually strongly involved in caring about children's feelings, but they are not fully resistant to adopting social attitudes of those who criticize obese people. Sometimes they reinforce negative behaviours in an unconscious manner or through unequal treatment of their students. The research by Kerry O'Brien and other scientists (O'Brien et al. 2007) confirms that teachers' expectations of overweight children were lower than expectations of thinner students.

Nutrition education and psychosocial mechanisms

Specialists agree that the most effective way of treating diseases is prevention. The main preventive actions should focus on the proper energetic balance among children and youth. Thus, a particularly important aspect of obesity prevention is *nutrition education* which constitutes one of the main elements of pro-health education and mainly consist in distributing information on healthy eating.

One of the most frequently quoted utterances concerning nutrition education is the definition suggested by Isobel Contento (Contento 2018). According to the author, nutrition education is a "combination of educational strategies supported by the environment, focused on making it easier for people to voluntarily choose food and undertake nutrition actions that facilitate health and wellbeing." Thus, the main objective of nutrition education is helping consumers in undertaking specific, conscious behaviours or actions that support their proper development, health and wellbeing.

We should especially emphasize the fact that, until now, nutrition education has been carried out by specialists in nutrition, dieticians or medical service employees. Recently, this approach has been extended by the psychological perspective related to the active role of psychologists and the development of psychodietetics. At present, we recognize the increasing need to reinforce children's self-esteem and self-image, which is an important aspect both in prevention and treatment of obesity (Contento, 2018).

Wojnarowska (2017) emphasizes that nutrition education is particularly significant in the period of childhood and early youth. It is the period of shaping nutrition habits and preferences which are later implemented in a person's adult life, when it is more difficult to change them.

The basic source of factors that determine shaping pro-health attitudes and food preferences is the family (Wojnarowska 2017). The family environment provides

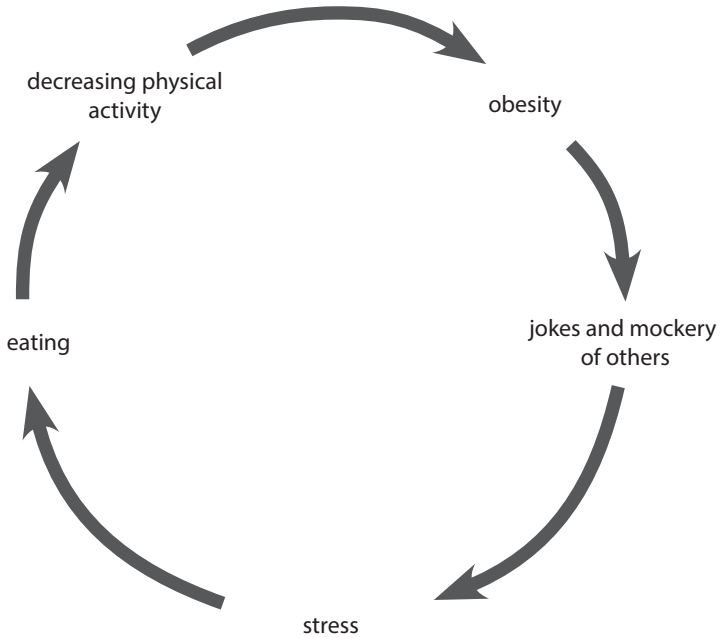
children with opinions, values and attitudes towards healthy lifestyle, giving them some patterns to imitate. According to the opinion of Woynarowska (2010), school should support parents' efforts in shaping good eating habits in children. Such a support can be fulfilled through pro-health nutrition education in which students learn to apply knowledge and skills related to proper nutrition in everyday life. Nutrition education should take into account the current results of scientific research and the child's individual needs (Woynarowska 2010: 191). Such interventions should include preparing a detailed health education curriculum concerning healthy eating in preschools and schools, as well as activities aiming at increasing student's physical activity.

However, it is worth remembering that in fighting obesity it is very important to properly recognize psychosocial mechanisms that influence children and their weight gain. Working with an obese child should include teaching him/her self-control, helping them control their appetite, and supporting them at the moments of psychological breakdown (Jarosz 2010).

Woynarowska (2010) suggests that obese students should be offered specific pro-health education that would take into account psychological factors. The objective of the classes which have an individual or group form, is to increase the competences for:

- losing weight and maintaining proper body mass;
- dealing with stress and negative emotions in a way that eliminates "escaping into eating" and breaking free from the "vicious circle" mechanism (Fig. 2);
- accepting one's otherness in case treatment fails; coping with negative reactions of other people; adopting a "friendly attitude" towards one's look (Woynarowska 2010: 191).

Fig. 2. The “vicious circle” of obesity.



Source: The author's own work on the basis of Woynarowska, 2010.

Research results show that nutrition education effectively influences the improvement of eating habits, reducing the risk of obesity among children. This is confirmed by, inter alia, the analyses of Jonas de Silveira and his colleagues (de Silveira et al. 2013), in which it was proved that interventions of school nutrition education effectively reduced children and youth's body mass index, especially in case of campaigns that lasted longer than one school year.

It is particularly worth paying attention to the research carried out by Veronika Brezinka (Brezinka 1992). The results suggest that children from the group in which additional psychological interventions were applied, achieved much higher weight reduction than children from the groups in which there were no such interventions. The psychological interventions included, e. g. teaching children how to solve problems and make decisions. These conclusions are an important argument for the importance of a reliable diagnosis of psychological sources of excessive eating in dealing with childhood obesity. Thus, it is increasingly advisable to take into account psychosocial

interventions other than diet and physical exercises that are to reduce obesity among children and youth.

Conclusion

At the moment, obesity is considered to be one of the biggest threats for human health. It is believed that the problem of excessive body mass mainly results from the imbalance between energy intake and expenditure. However, we should pay attention to the fact that this is not the only factor that influences the development of obesity, and the reasons for excessive eating often include complex and subconscious psychosocial mechanisms.

Nowadays, food is an easily accessible form of easing unpleasant emotions. Unfortunately, eating only helps to ease the symptoms, but it does not eliminate the reasons for the situation that occurred and related negative emotions. A child who is not taught how to deal with negative feelings tries to regulate his/her inner tensions through eating. That is why, actions aiming at excessive body mass reduction are often unsuccessful. What is more, they are an additional source of stress for a child and, paradoxically, may lead to the increase in his/her improper eating habits.

It is good to treat the issue of childhood obesity as a holistic problem, taking into account psychosocial influences exerted on the child. Nutrition education should be an inseparable element of obesity prevention among children that involves psychological interventions in the form of enhancing the child's self-esteem, reinforcing resistance to stress and improving the ability to cope with negative emotions. Such educational campaigns would also be helpful in teaching overweight children how to cope with the difficulties they experience at school. This would be an important step towards preventing stigmatization and peer violence which affects obese children. Thus, the cooperation of dieticians, teachers, doctors and psychologists seems necessary to work out a proper form of working with a child and his/her family, and to design educational activities adequate to their needs. Not only does participation in such educational interventions result in reducing body weight, but it can also facilitate a permanent change of one's eating habits that may result in maintaining the correct body mass. Complex care and involvement of an interdisciplinary team seem necessary in this area.

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ADDRESS FOR CORRESPONDENCE

Agata Pietrzak
Jagiellonian University
e-mail: agata_dz@wp.pl