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THE FAMILY AND AN OBESE CHILD

Summary: Obesity in children is a “new” epidemic of the modern society, whose importance is far greater in terms of the consequences it creates than is the problem itself. The etiology of obesity is certainly complex and multifactorial. This paper studies the effects of the family on the occurrence of obesity in children and adolescents in the context of Bronfenbrenner’s bioecological systems theory.

Key words: family, obese child / adolescent, Bronfenbrenner bioecological systems theory

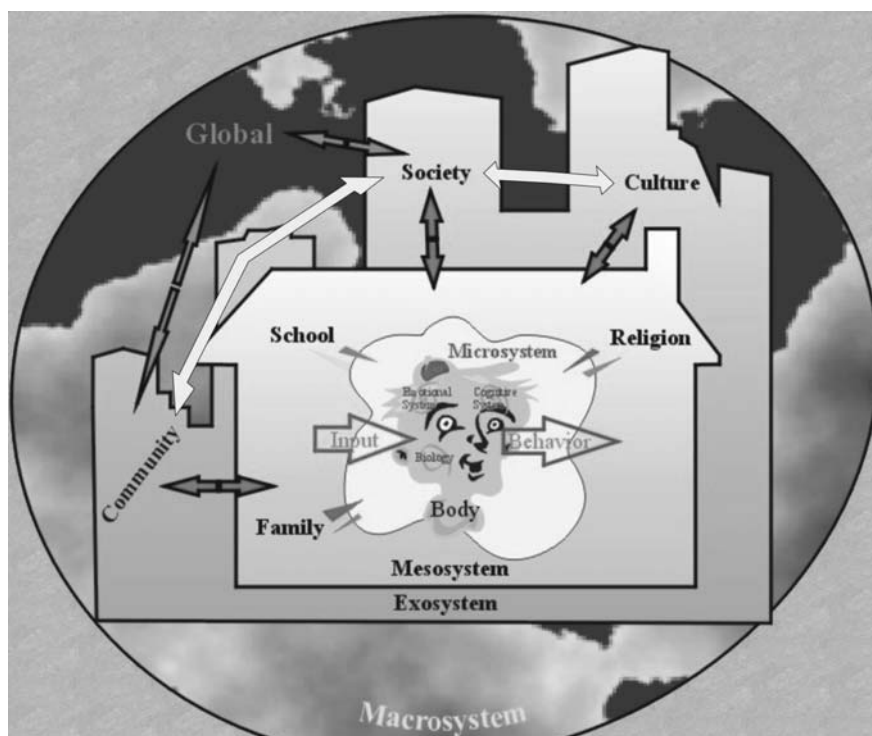
Epidemiological data suggest a “new” epidemic – obesity in children and adolescents. Data from research studies III of the National Health and Nutrition Research in the USA (1999) show that 22% of children and adolescents are overweight and 11% are obese. (1) According to ECOG (European Childhood Obesity Group), in most European countries, there is a growing trend in obesity. By analyzing the results of the research in 22 countries in Europe in children aged about 10, moderate overweight and obesity according to BMI criteria kg / rRT IOTF ranges from 13% in Finland to 36% in Italy, whereas in our country it is 16-17% (2). According to The Yugoslav study of atherosclerosis precursors in school children (YUSAD Study), obesity was diagnosed in 6,315 children aged 9-10 from 12 centers in Yugoslavia according to the NHANES I obesity (BMI > P85), in 20.89% of boys and in 17.25% of girls; moderate obesity was diagnosed in 10 to 12.5% of girls and boys, and obesity in 7.16% – 8.33% of the children (3).

The importance of the problem is not solely focused on the current situation but, if not treated promptly, on the “carrier” problems for the future in terms of serious health problems with a chronic course. It is believed that about 20-40% of obese school-aged children remain obese in adolescence and approximately 80% of them remain obese in adulthood as well. The “accompanying” problems in the future are hypertension, cardiovascular diseases, diabetes (45% of newly diagnosed type 2 diabetic adolescents

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(4), the metabolic syndrome). Furthermore, this becomes not only a health problem of an individual, but it also has its social implications (medical treatment, sick leave, reduced working capacity).

Excessive weight and obesity are the result of an imbalance between intake and energy expenditure. Generally speaking, weight status is defined by body mass index (BMI), the ratio of weight in kg and height in m squared (kg / m^2). It should be noted that the instructions of the Center for Disease Control and Prevention (CDC) in the USA do not describe children as obese, but use the terms such as: “at risk of overweight” when children have a BMI between 85 and 94 percentile for age and gender; children with “excessive weight” when their BMI is around / or 95 percentile for age and gender. However, the authors who deal with this problem describe the children whose BMI is greater than 95 percentile as “obese.” (1) Child nutrition and physical activity have been changing in recent decades. The problem of obesity in children and adolescents is not as simple as seems to be. It is neither simple nor one-sided and in the context of the factors that influence the occurrence of this disorder, the best approach is the bio-ecological one (Bronfenbrenner’s 1986 – bioecological systems theory). “(4.5)



Graph (4)

Paquette D & Ryan J. (2001) Bronfenbrenner's ecological systems theory. www.mentalhealth.samhsa.gov

This theory observes a child's development, and all the consequential events (including obesity) during his growth in the context of the system of relations between the child / adolescent and his environment.

Bronfenbrenner's theory defines complex "layers" of the environment, each of which has an impact on the child's development. These are: Microsystem, Mesosystem, Exosystem, Macrosystem and Chronosystem.

The Microsystem includes relationships and interactions that a child has with its environment. The structures in the microsystem include the family, school, neighborhood, or the child's protective environment (nursery, kindergarten). At this level, the relations have a two-way impact – from the child and to the child (e.g. parental expectations and behavior have an impact on the child and the child also influences the expectations and behavior of the parents). Bronfenbrenner describes this as bi-directional influences, which are stronger at the microsystem level and have a greater impact on the child.

Mesosystem – This layer provides connections between the structures of the child's microsystem (e.g. the child's parents and teachers) Exosystem – This layer defines the broader social system in which the child does not work directly. The structure of this layer affects the child's development interacting with some of the structures of the child's microsystem (eg, parental work hours, family or community-based resources); the child does not have to be directly included in this level and he does not feel positive or negative forces that are involved with his microsystem.

Macrosystem – This layer can be considered as the final layer in the environment of the child. Although it is not a specific framework, this layer includes cultural values, customs and laws. The effects of the macro-defined broad principles have a cascading effect in the interaction in all other layers.

Chronosystem – This layer includes the dimension of time since it is related to the child's environment. The elements within this system may be external, such as the time of death of parents, or internal such as the physiological changes that occur during the child's growth. As the child grows older, he may react differently to external changes and be better able to determine how these changes affect him. Bronfenbrenner's bioecological systems theory focuses on the quality and context of the child's environment.

Bronfenbrenner's ecological framework, which says that multiple factors are influential at different levels or that they promote or enhance the risk for the development of individuals, facilitates understanding of the complex nature of the epidemic of obesity. Within this paradigm, the behavior is identified as a result of the interaction of multiple subsystems through time and across settings, and it is more interdependent than independent of the environment. The maintenance of body weight of the individual is affected by numerous factors at various levels, including the family, community, and the wider social environment. These multilevel environmental factors that influence the occurrence and maintenance of obesity are referred to as "toxic" or

“obesitogenous” by Brownell (4). The factors that result from public decision-making and economic strategies are described as “upstream impacts” (Macrosystem). The “downstream built environment” or physically local (including the availability of areas for recreation and safe pedestrian areas, many shops and accessibility of grocery prices) – the exosystem, affect the individual’s potential to achieve an energy balance. On the other hand, it should be noted that these systems are not static but dynamic within themselves, and interacting with other systems; they are dynamic in both the functional and developmental terms. They change from one form of functioning to another and thus provide new opportunities for numerous interactions. In the context of this theory, the role of the family in the development of obesity in children / adolescents is analysed.

The family is a complex system with its structure and dynamics. (7.8) It is the source and the starting point of each individual in his development in every sense. A child learns a wide range of feelings, and how and when to express them. The first exchange of emotional signals takes place in the family; it is also a source of love and the educational basis for the development of the capacity to love others and form close relationships with them, to develop a good self-image and get along with others in everyday life. The family is there to stimulate the child’s complete cognitive development. The primary parental roles are supervision (control) and nursing (care), bearing in mind that the “standards” are changing over time and in the development phases, “growing up” of the child and the family itself. (7.8) Our self-awareness, self-esteem, self-confidence will depend very much on the quality of the (first) experiences in the family environment and how parents “fulfill” their parental role. Whether we are going to be obese or not also depends on this.

Although it is difficult, in terms of obesity, to distinguish between genetic and environmental factors, it can still be said that in addition to biological heritage, eating patterns are also inherited from the family. The first part belongs to the emotional area – when food becomes a substitute for love, and constantly offering the child food seems to be a “way out” for depressed mothers who are not able to give as much love to the child as they think they should or as much as they think they were deprived of in their own childhood. The Research National Child Measurement Programme (NCMP) in England for 2010/11 showed a high correlation between deprivation and child obesity (multiple, socio-economic) and the connection between childhood obesity and lower cognitive stimulation. Numerous studies have shown that obesity in children is associated with family dysfunction; these are the families with a strengthened cohesion, frequent conflicts, disorganization, lack of interest in social and cultural activities, and parental neglect (9.10.) but there are also studies that do not confirm this. (11, 12)

This area belongs to developmental psychology and psychopathology. However, there are patterns of behavior related to food that are passed on from one generation to another (transgenerational transmission) “outside” psychopathology and that have

an impact on obesity in children and adolescents. This refers to patterns of behavior related to grocery shopping, cooking (fat, type of food), meals (regular or chaotic, eating together, portion size), physical activity, parental attitude to body weight (whether they are on diets themselves, healthy diet). *The family influences the formation of eating behavior (diet and eating habits)*. (13,14,15) The child “learns to love” certain foods (creates habits) in his childhood. This refers to the family. But the family is part of the system affected by other systems. The family is not immune to the changes dictated by the social environment.

Modern times. What do they bring? At the macrosystem level: In the modern society, technologies have changed and there is a great concern for the protection of the natural environment against the damage caused by new technologies. The same applies to the social environment. Economy has moved from the industrial to the technological model, although the workplace patterns have actually remained at the level of factory work ethic. Modern times bring: urbanization and the consequential difficulty in doing physical activity, development and increasing use of means of transport every day, the advances in high technology – TV, computers, together with the new ways of communication – social networks. Modern times – What else do they bring? What are the impacts of the changes in the exo and macrosystems on the family and its functioning? The family (mesosystem) is under the influence of the exo and macrosystems. Parents are expected to work hours after the factory bell because they work in this office of high technology, to have a break during working hours, a vacation – but it is not really so; they work more and more, from 9-18h (children sleep in the morning, and in the evening both parents and children are too tired, and their time together “leaks”). Family life in the modern world comes last and is sacrificed to the needs of the workplace. A traditional family (in its structure and functioning) in which the mother usually does not work, cooks meals, cleans the house and takes care of the children and where there are family meals (lunch, dinner) is becoming a “historical” category. Contemporary economic trends and the new (consumer) system of values dictate a new organization of the family, the necessity of employment of both parents. Their employment greatly affects how the basic parental role (care) develops; in relation to food it means – will the food generally be cooked or will fast food (snack meals) be bought, what will be bought (cheaper junk food or more expensive healthy food), will there be family meals or will they be eventually reduced to a family Sunday lunch? As for the parental role of control – Do parents have control over the child’s extracurricular activities (watching TV – what they watch and how much, games, social networks, going out). Researches in the USA in the last three decades have shown a positive correlation between employment (primarily mothers) and obesity in children and increasing obesity in children in the families where the only parent working is the mother. (16) Child nutrition and physical activity have changed in the last few decades. Urbanization, with the reduction in the surface area provided for children to play is a barrier to physical activity. Children usually drive to school

(by bus) and children's safety is at risk; high technology is everywhere – TV (in the bedroom, how many hours a day they spend in front of the TV), computers, along with video games and social networks. The results of this technological progress are reduced physical activity and a static way of life. Researches in the USA have shown that most efforts to engage adolescents in physical activities (after school or training) fail = 1/3 of them reject the idea and 10% of efforts end in conflicts, whereas only 1 in 5 children practices a kind of physical activity outside school. Even the parental role of control – monitoring the activities of children and the quality of those activities designed is compromised. Much of the contents offered to children and young people on TV is advertising – drinks, snacks, “fancy” fast food restaurants for children. The variety of food offered to children is enormous, and children are also a big consumer group (imitatable, new, interesting). A special and somewhat more specific category in terms of obesity is the category of adolescents. (17) Adolescents are particularly unique in terms of the age-conditioned somatic changes (changes in the “body scheme” due to the growth and development, excess fluid and the feeling of flatulence) but primarily due to psychological changes. Preoccupation with the body image and the changes in the body scheme (especially in terms of dissatisfaction with the new looks, which is often a source of frustration on the one hand and a strong desire to be accepted and liked by peers on the other), and depression as a normative category in adolescence, are the factors that contribute (besides the aforementioned) to the occurrence of obesity in adolescence. We talk about obesity within the eating disorders and depression. Now what? The “danger” has been observed, how to fight it? First of all you should know that this is a public health problem and thus prevention programs need to be organized – at all levels and in all structures and layers. All levels of the society, family, school, the media should be educated. It should be emphasized that this is a problem that requires system solutions and appropriate economic resources. A wonderfully and enthusiastically planned program of healthy eating in a school kitchen in a part of London (in which Jamie Oliver himself participated) is very well-known, but it could not be maintained due to its economic unprofitability. The Government of the USA started a campaign to introduce healthy eating in schools, which was followed by a good media campaign and the involvement of celebrities. Also, the community should be more involved in providing physical activities for children in a safe environment (playgrounds); health system (check-ups, counseling), legal system (taxes, prices), public communication (media) – campaigns. But we will finish off with one seemingly intriguing question – is there a boomerang effect – especially in relation to adolescents – can insistence on healthy eating, taking care of oTT, BMI, the number of calories lead to an increase in eating disorders (anorexia – bulimia-type) in male/female adolescents? (18). The answer is: No. The basis of eating disorders is in psychological problems – only in this field, insisting on a healthy diet, setting limitations and giving instructions in the diet may result in the development of eating disorders. Beyond that healthy eating is part of a healthy lifestyle. And in that context

it is necessary to take actions at all levels – Microsystem, Mesosystem, Exosystem, Macrosystem and Chronosystem.

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