

Socio-Ecological Factors Related to Eating Behavior and Obesity in Students

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The prevalence of obesity in adolescents has increased over the past three decades. Recent evidence has shown that in developed countries, about one in five teens is obese (Abdelghaffar *et al.*, 2020). In Iran, the prevalence of overweight and obesity is 23% (Moghimi-Dehkordi *et al.*, 2020). Improper eating behaviors and obesity are major concerns in adolescence that can be associated with the risk of many chronic diseases in adulthood. In fact, the main axis and key to obesity in adolescents is bad eating habits. In fact, due to faster growth and development in adolescence than other periods, nutritional needs and nutrient consumption in this period are important for growth and development and health. Many eating habits, physical, mental, and intellectual development are formed in childhood and adolescence (Noh and Min, 2020).

Therefore, determining important and influential factors on eating behaviors and controlling these factors in order to create a proper nutritional behavior is important (Mann *et al.*, 2021).

Many studies have shown that parental eating behaviors and dietary rules in the family and outside the family, along with adolescent individual factors, are influential factors on eating behaviors in children and adolescents (Cha, 2018, Mann *et al.*, 2021, Úbeda-Colomer *et al.*, 2019).

In fact, adolescents in this period are looking for identity, acceptance and are trying hard to gain independence and are interested in participating in group activities. Therefore, inappropriate meals, eating less, eating out, and changing diet programs are a dietary habit of adolescents that can be affected by family, peers, mass media, environment, and social factors (Killian *et al.*, 2020).

In the review of adolescents eating behaviors, articles have been often cited inappropriately and it has been shown that adolescents show more unhealthy eating behaviors as they age, since they avoid eating more at home. Breakfast and lunch are often the most missed meals. Social and school activities, parents' jobs, lack of fresh and ready food at home, school away from home, a lot of

radio and television commercials about sweet and high-calorie foods, children's reluctance to eat snacks, lack of snack eating habits in some families, craving for certain foods can also cause teens to avoid snacking in the evening (Aleong, 2018, Marzban and Khabiri, 2021, Marzban *et al.*, 2019).

Therefore, in this period, choosing the type of food is much more important than the time and place of eating, since adolescents prefer to eat ready-made and fast foods (high-calorie and low-value) instead of the main meal or snacks. Prepared foods that are low in folic acid, iron, calcium, riboflavin, vitamin A, and vitamin C actually provide more than 50 percent of the calories in restaurant food, and foods advertised in the mass media, television, magazines, and most foods are high in fat and simple carbohydrates, more than 65% of which are drinks and sweets (Fasihah, 2020).

In addition, the lack of a sense of urgency (necessity) for future health in adolescents may be one of the reasons for the lack of attention to nutrition during this period (Mann *et al.*, 2021). An unhealthy diet during this period can negatively affect growth and development, and this can probably continue into adulthood and be associated with a high risk of overweight, obesity, diabetes, high blood pressure, cancer, and cardiovascular disease. Based on the findings of previous studies in this field, various personal, social, and family factors and the living environment and parents are highly correlated with the development of healthy and unhealthy behaviors in adolescents (Pourabdian *et al.*, 2020). Therefore, a better understanding of the various factors affecting diet and eating behaviors over a specific period of life (adolescence and early adolescence) can be helpful in conducting research and even future interventions to improve eating and healthy eating behaviors in this age group (Xiao *et al.*, 2020).

According to studies, the factors that adolescents see as influential factors in their food choices can be classified into three levels:

Level one: factors that have a high impact on adolescent food choices, including hunger and

appetite, having pleasant food, necessary time (for teenagers and parents) to prepare food, and ready-made and fast food (Fasihah, 2020).

Level 2: moderately influential factors, including physical access to food, parental influences on eating behaviors (including family culture and religion), and beneficial effects of food, and situational factors (AlAbdulKader *et al.*, 2020).

The third level: includes factors that have less impact on adolescent eating behavior, such as mood, body image, habits, cost, and media. It is best to research and practice programs in this age group on issues related to adolescent health, such as the relationship between healthy eating behaviors and school-based successes, exercise, appearance and healthier and tastier food choices, and environmental changes. It is recommended to focus on healthy and attractive meals at the school cafeteria and teen-friendly skills (how to make a nutritious breakfast in two minutes or less) (Khatod, 2020). Therefore, it is better to prepare healthy foods that are attractive and tastier and the media advertise more healthy foods. Food factories are recommended to design attractive packaging for healthy foods.

Parents are advised not to buy unhealthy foods at all and to make natural juices and fruits on the table and available to teenagers (Mohajeri *et al.*, 2020). Teach your teenagers about eating healthy foods. Establish a program to use healthy fruits and vegetables in fast food restaurants, place fruit and vegetable packages in the school buffet (carrots, raisins, bananas, etc.), and establish healthy restaurants in the community. Considering important priorities for this age group can also be an effective method (Delaney *et al.*, 2021).

Therefore, it can be said that the growth and health of a teenager is not only dependent on the individual, and therefore in future plans to improve eating behaviors in adolescents, in addition to adolescent participation, a wide range of factors should be considered. These factors include environmental factors (home, school, classmates, neighborhood, physical access to food) healthy and unhealthy, family dietary rules, TV viewing habits,

parental support, religion, family culture and tradition, and psychosocial factors, such as self-sufficiency, barriers and benefits experienced by adolescents, attitudes, socioeconomic factors, and behavioral and personal factors.

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