EATING HABITS AND PHYSICAL ACTIVITY OF GRADE9 AND12 STUDENTS IN BALIKESİR SCIENCE SCHOOL

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Summary

In this study was to investigate the effect of the nutrition and physical exercise habits change on overweight in Balikesir Science High School students. Eighty-five volunteered students (46 girls and 39 boys), were participated in this study. The participants' nutrition habits and physical characteristics were analyzed in 15 years old (grade 9) then compared to 18 years old (grade 12) values. The study results showed that increased in body weight, height and body mass index (BMI) in grade 12 compared to grade 9., whereas waist/hip ratio was not significantly increased. The participation in physical activity and physical activity duration was declined in grade 12 ($p=0.000$, $p=0.004$ respectively). When evaluated the questions scores, the nutrition habit risk score was increased except question 2 and 5. In addition, boys more participated in physical activity than girls ($p=0.001$) while in grade 12, this physical activity participation level more than decreased in girls compared to boys ($p=0.04$). In conclusion, this study results indicated that in grade 12 or 18 years old, bad nutrition habits increased and physical exercise participation level decreased with school and exam factors.

Key words: Nutrition habits, Physical activity, Risk of adolescent obesity

Introduction

In adolescence period, the majority of young people are at risk of developing excessive weight gain due to unhealthy and unbalanced feeding. Especially between the ages of 15–17, psychological and cognitive developmental imbalances and poor nutrition/malnutrition seen in young people lead to serious health problems such as overweight and obesity (Önder et al., 2000). With the influence of urbanization, the type of fast-food (fat-rich) diet has been increased and with the decrease in physical activity the prevalence of obesity has been increased. At the same time, such factors: industrialization in food production and consumption of ready-made food has become widespread and has superseded traditional food consumption, and the reduction of natural farming, has led to uniform and unhealthy eating habits. In addition, socio – economic conditions and other demographic factors affect the eating habits and preferences during childhood and also play an important role in increasing the body-mass index. In previous studies, it has been seen that those who had depression in childhood had higher Body-Mass Index (BMI) values than those who had not depression (Pine et al., 2001).

When studies have been analysed/examined, nutrition style and habits in childhood increase the risk of weight gain and obesity in adolescent and adult period. In this study that we have planned taking this into consideration, feeding habits of 15 (9th grade) and 18 (12th grade) years students of Balikesir Science High School have been evaluated. In this process, the possible effects of changing dietary habits on body-mass index (BMI) and risk of weight gain have been investigated.

Methods

85 students ((46 girls and 39 boys [15 years]) who study at Balikesir Science High School attended the study voluntarily after getting the necessary permission from their school management and their parents. The participants' nutrition habits and physical characteristics were analyzed in 15 years old (grade 9) then compared to 18 years old (grade 12) values. The nutrition habits data were evaluated via questionnaire and dietary pattern were evaluated with the Dietary Pattern Index (DPI). DPI was developed by Demirezen et al., 2005. The participants body weight, height, body mass index (BMI) and DPI was evaluated in grade 9 then compared to

in grade 12 values. Also, the physical activity habits were determined by the interview method. In the evaluation of the data was made with SPSS program and *paired-sample t-test* was applied in comparison of grade 9 and grade 12 differences. Comparison of two groups were used *independent-sample t test*. The significance level was taken $p \leq 0.05$.

Results

When the results of the study have been evaluated, it has been detected that the risk scores for height, weight, BMI and eating habits is increasing as the age of the students increasing ($p = 0.001$) (Table 1). On the other hand, there is no significant increase in waist and hip ratio index has been found, however it has found that there is an important decrease in participation in any sport activity and activity participation time at the 18 age ($p = 0.000$, $p = 0.004$, respectively) (Table 2). The answers of the questions on the nutrition scale is examined, it has been noted that the risk scores of the age 18 has increased significantly in the other questions, except from the 2nd and the 5th questions, when compared to the age of 15. When the percentage answers given to the questions examined, it has been detected that the biggest change has been in the preference of food groups such as hamburgers, fries and pizza with “fatty and sugary foods”, which has become more popular; whereas consumption of red meat, fruit, vegetables and legumes is less preferred (Table 2). When sex-specific differences are compared (Table 2), it has been seen that boys participated more in activities than girls ($p = 0.001$). However, at 18 years of age this participation was significantly decreased both in girls and boys ($p = 0.001$), especially in girls, participation in physical activity decreased more than boys ($p = 0.04$). BMI values were not significantly different at 15 years of age for girls and boys, but significantly higher for boys at 18 years of age than girls ($p = 0.04$). No statistically significant

difference was found when comparing diet and food preferences in girls and boys.

Discussion

In this study, according to the nutrition profile of the students, male and female students have been found to be in the moderate risk group in terms of their nutrition profile, but this risk score has been found to be close to upper ratio at 18 years of age. It has been found that when adolescents reach the age of 18, their diet preferences change, with sugary and fatty foods, fried potatoes, hamburgers and so on, however; they consume less healthy food groups. At the same time, while there is no change in the number of students' main meals, the number of snack time has increased to 4. Another important finding of the study is that while at age 15, participation in physical activity is 82% for males and 52% for females, this ratio decrease 42% and 7% respectively at age 18. The World Health Organization (WHO), defines the 10–19 age as an “adolescent period”. According to 2008 Turkey Demographic and Health Survey data, 29% of our population has been constituted by adolescent age group (Pekcan, 2012; Tezcan et al., 2009). Also, we found that the boys more participated to physical activity than the girls in this study. In consistent with other studies found that the physical activity level was low compared the boys (Chen et al., 2003; Geçkil, Yıldız, 2006; Bebiş et al., 2015;). Giulliano et al. 2016)

Conclusion

The frequency of adolescent obesity in our country is lower than in other countries. However, the deterioration of eating habits in this period has led to the increase of high-calorie, oily, fast-food, snacking and sedentary behaviours, increase of eating frequency and development unhealthy eating behaviours.

Tables

Table 1. Physical and nutrition characteristics of the subjects

	15 years old (n=85)	18 years old (n=85)	p
	Mean (Sdt)	Mean (Sdt)	
Height (cm)	1.66 (0.07)	1.69 (0.09)	0.001
Weight (kg)	63.7 (13.3)	68.6 (15)	0.001
Body Mass Index (kg/m ²)	22.8 (3.8)	23.6 (3.9)	0.001
Waist/hip ratio (cm)	0.79 (0.06)	0.79 (0.05)	0.77
Nutrition risk score	9.42 (2.94)	11.04 (3.74)	0.001
Main meal a day	2.87 (0.33)	2.90 (0.29)	0.32
Snack a day	3.83 (0.91)	4 (0.89)	0.004

Table 2. Distribution of the nutrition and exercise habits of the subjects

	15 years old (n=85)		18 years old (n=85)	
	%		%	
	Often	Always	Often	Always P
Consuming oily and sugary foods,	%30	%3.5	%39	%8.2 0.009
I add salt to food,	%27	%7.1	%26	%7.1 1.000
Consuming more than 3 cups of cola per day,	%2.4	%3.5	%10.6	%14.1 0.001
Beef, mutton and made from them, salami, sausages and etc. I eat,	%21	%5	%26	%9 0.01
Hamburger, french fries, pizza, etc.,	%19	%2.4	%22.4	%6 0.18
Fruit and vegetable dishes, bulgur, dry beans, chickpeas, lentils, such as dry legumes with the food consumed,	%2.4		%8.2	0.01
Exercise habits				
	15 years old		18 years old	
	Yes	No	Yes	No
Participating of physical activity	%66	%34	% 22	%77
Duration of physical activity (hour)	3.66 (1.81)		1.88 (1.23)	
	Girl	Boy	Girl	Boy
Participating of physical activity	%52	% 82	%7	% 41
Duration of physical activity (hour)	2.58	3.40	1.00	2.18

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