

Investigation of eating behaviors in high school students

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Summary. *Study Objectives:* The aim of this study was to investigate the eating behaviors of high school students. *Methods:* A cross-sectional study was designed as a research method. The sample of the study consisted of a total of 236 (115 female and 121 male) high school students. As data collection tools, “the eating behavior scale” was used. Since the data were normally distributed, the independent sample t-test was used. *Results:* The mean age of females and males were 16.40 and 16.69, respectively. There were statistically significant differences between both healthy eating behavior scores and unhealthy eating behavior scores according to gender ($p < 0.05$). According to gender, eating behaviors did not find statistically different ($p > 0.05$). While there was no difference between the healthy eating behaviors of the students according to their sporting status ($p > 0.05$), the score of unhealthy eating behaviors, sportsmen’s score was significantly lower ($p < 0.001$). There was no statistically significant difference in sporting status compared to sports in eating behaviors ($p > 0.05$). *Conclusion:* While healthy and unhealthy eating behaviors of high school students vary according to gender, it was concluded that general eating behaviors are similar. In addition, it was determined that the students who are engaged in sports have worse eating behaviors than those who do not do sports. It has been considered that all high school students and especially sports students need to change their eating habits with the help of their parents or their instructors.

Key words: Nutrition, Eating behavior, High school students

Introduction

Seen in childhood and adolescents, it is important in terms of public health because all nutrition-related diseases, especially in obesity, prepare for the development of complications with chronic and metabolic diseases in the later years of life (1). Nutritional knowledge is one of the factors affecting the nutritional status and habits of individuals, families, and societies (2). The World Health Organization defines the 10-19 age group as an adolescent period. This period is the last phase in which lifelong eating habits and food preferences are shaped (3). The nutritional status of people is influenced by many factors ranging from production to consumption. They can be counted as many other social and cultural features such as genetic characteristics, age, nutritional status and other forms of life, social and

environmental conditions, stress, working conditions, and family support (4). One of the reasons for inadequate and unbalanced nutrition during the development period is the inadequacy of nutritional knowledge. It is accepted that children’s nutritional knowledge develops first in the family environment and is formed by the influence of their teachers and environmental factors both in pre-school and school years (5).

Balanced nutrition occurs when a person is taken in different ratios from different food ingredients to meet their energy and nutritional requirements (6). Sufficient energy should come from sources that provide carbohydrates, protein, fat and micronutrients, and a wide range of foods (7). When nutrition information is given to children, they have information about the nutrients necessary for their growth and development (8). In this period, as well as unhealthy nutritional

behaviors due to awareness, drinking more water, eating more fruits, less sugar, and consuming less fat also develop healthy eating behaviors (9). Nutritional habits such as the type of food eaten, skipping meals, long or short periods between meals, and food consumption in a meal indicate that it has an impact on human metabolism and health (10). Healthy eating means to prevent the preference of energy-intensive nutrients naturally. It has been reported that individuals make about 200 choices per day on foods and a small part of them are made consciously (11). The level of education in the literature has been reported to be effective in realizing health behaviors. Even personality traits change positively with education. The level of hopelessness of students may increase the stress level (12,13). Stress level may adversely affect nutritional status. Achieving healthy eating behaviors during childhood and children's development period increases the likelihood of individuals continuing these behaviors later in life (14). Nutrition style is the most important and modifiable lifestyle determinant of human health. Physical, biochemical, psychological, and social growth, development, and maturation processes are important in children's developmental period. Nutrition is important here (15, 16). Research shows that the feeding behavior gains in the children's development period continue in later ages and continue at adulthood (17). In addition, both the predisposing factors that cause eating disorders in adolescents can impair the physical, mental and social health of the developing children due to other disorders and may adversely affect the academic success of the school. Nutritional programs applied in schools and teachers' knowledge and attitudes about this issue have the potential to increase academic performance and quality of life with the participation of children in education while reducing the risk of many diseases (18). In a study conducted by Çebi et al. (2020), it was determined that students who received sports training do not consume healthy food and have habits that are not suitable for sports nutrition (19). Especially in the research about the nutritional habits of young people in our country; it is stated that there are very serious problems with nutrition during this period (20).

In this context, it was aimed to investigate eating behaviors in high school students. Also, according to the participation in sports, the eating behaviors of the students were tried to be determined.

Materials and Methods

Participants

A cross-sectional study was designed as a research method. The sample of the study consisted of a total of 236 (115 female and 121 male) high school students, participated in the study voluntarily. The mean age of females and males were 16.40 and 16.69, respectively.

Data Collection Tools

In addition to personal information, the eating behavior scale was applied to collect data. The questionnaires were filled voluntarily. Missing questionnaires were not included in the evaluation. The eating behavior scale was developed by Özdoğan (2013) to determine eating behaviors for the 13-19 age group. There are 58 items on the scale. The scale consists of two sub-dimensions: the healthy eating behaviors and the unhealthy eating behaviors. There are 29 healthy eating behaviors questions and 29 unhealthy eating behaviors questions on the scale. A 10-point Likert-type scale is used in the response. One of the "never (0)" and "always (10)" points or one of the numbers is marked according to the food behavior status and it is considered the number of points that are marked. The criteria for evaluating the eating behavior scale were ≤ 145 points poor, 146-290 fair, 291-435 good, and ≥ 436 points very good (21).

Statistical Analysis

IBM SPSS 22.0 for windows was used for the statistical analysis. Results were presented as mean and \pm standard deviation (SD), after investigating normality distribution by the Shapiro-Wilk test. Comparisons among the groups were performed using the independent sample t-test. A p-value < 0.05 was considered statistically significant

Results

The comparisons of some descriptive statistics according to gender are given in Table 1. The mean ages of male and female students are similar ($p > 0.05$).

Table 1. Comparison of age, height, and body weights of students according to gender.

Variables	Gender	N	Mean	SD	t
Age (Year)	Female	115	16.40	0.84	1.21
	Male	121	16.69	0.42	
Height (cm)	Female	115	155.92	8.32	-11.36**
	Male	121	166.25	9.03	
Body weight (kg)	Female	115	56.04	8.65	-10.12**
	Male	121	63.27	9.90	

**p<0.001, SD: Standard deviation

Table 2. Comparison of eating behavior scores according to gender

Variables	Gender	N	Mean	SD	t
Healthy eating behaviors	Female	115	148.04	30.40	-2.96*
	Male	121	158.64	32.84	
Unhealthy eating behaviors	Female	115	120.26	41.35	-1.99*
	Male	121	110.56	44.03	
Eating behaviors	Female	115	153.54	33.108	-1.02
	Male	121	157.61	39.58	

*p<0.05; SD: Standard deviation

Table 3. Comparison of healthy and unhealthy nutrition scores according to the state of sports

Variables		N	Mean	SD	t
Healthy eating behaviors	Sportive	130	154.92	31.44	1.42
	Non-sportive	106	149.10	38.10	
Unhealthy eating behaviors	Sportive	130	109.21	42.36	-4.63**
	Non-sportive	106	132.57	45.85	
Eating behaviors	Sportive	130	153.60	29.55	-1.56
	Non-sportive	106	160.44	44.89	

**p<0.001; SD: Standard deviation

The mean body weight and height are higher in males (p <0.001).

The comparisons of eating behavior scales' scores according to gender are given in Table 2. The sub-dimension healthy eating behavior scores, which are higher in males, are statistically significant according to gender (p <0.05).

The comparison of eating behavior scales' scores according to the state of doing sports are given in Table 3. The unhealthy eating behavior scores of those who do sports and those who do not do sports are statistically significant (p <0.001).

Discussion and Conclusion

Nutritional behavior and physical activity level control body weight. By controlling and favorably promoting these two factors, both childhood obesity and life risk factors in adults can be limited and delayed (22). The mean age of females was 16.40 and males was 16.69 in high school students who participated in the study. There was no statistically significant difference between the ages of high school students (p > 0.05), and there were statistically significant differences between height and body weights (p <0.001). It is expected that high school male students will have higher height and body weights than female students.

Healthy eating and lifestyle habits are shaped in the secondary school and high school ages and become permanent. These habits are necessary for the protection and development of health. It has been determined that children who are overweight and obese during childhood and adolescence have health problems such as asthma, type 2 diabetes, hypertension, orthopedic and psychosocial complications, sleep apnea (23). In various studies, it was found that individuals consumed fast food and snack foods, foods with high fatty carbohydrate content, and did not pay attention to food variety (24, 25). Karasu (2006) found a significant difference between female and male high school students' nutrition knowledge scores (26). In another study, the nutritional knowledge of females was found to be higher than males (27). Johnson et al. (2002), in their study, stated that females have healthier eating habits than males (28). Şener and İmamoğlu (2018) found no significant difference between females and males in terms of meat or alternative nutrition, vegetable and fruit choices, cereal choices, mixed size, and total nutrition scores according to gender in a study conducted by different university students (29). In our study, there were statistically significant differences between both healthy eating behavior scores and unhealthy eating behavior scores of female

and male high school students according to gender ($p < 0.05$). Demirezen and Coşansu (2005) evaluated the dietary habits of the 11-17 age group of 638 students and 99.8% of the students found different degrees of risk in terms of their dietary habits. This risk level is higher in males than females. Nutritional risk levels also increased with age group. In general, it was determined that adolescents in the study group had a risk in terms of their eating habits and the risk behaviors were higher in male students (30). Özdoğan (2013) found a pre-test score of 172.8 and a final test score of 170.8 in the scale development study. Again, the pre-test score in unhealthy eating behavior was 126.5 and the final test score was 134.8. According to Özdoğan (2013), it was determined that the difference between the average nutrition knowledge points by gender was not statistically significant. In our study, the eating behavior of female and male high school students according to gender was not found statistically different ($p > 0.05$). However, in studies on nutrition knowledge, behavior, and habits 42.7% of the girls 'adolescents' nutrition information was found fair, 39.3% was poor and 16.9% was good (31). Similarly, Şanlıer et al. (2009) studies found that female students' nutritional habits, behaviors, and nutritional knowledge scores were higher than males and the difference was statistically significant (32). In this period, foods with high sugar and fat content and unhealthy food consumption in the package called junk food are the most frequently encountered nutritional errors (33). Unhealthy food consumption is a risk factor for cardiovascular diseases, obesity, and metabolic diseases in the future (34). It is recommended to consume at least 5 portions of vegetables and fruits a day to reduce the risk of developing chronic diseases such as diabetes, cancer, and cardiovascular disease during adulthood (35). Urer (2005) in his research on nutrition knowledge and habits of students, the students' nutritional information is insufficient, however, they showed that there was a slight difference in terms of nutritional knowledge and habits between those who had studied and never studied this course (36). In a study conducted by İmamoğlu et al. (2010), they found differences in the nutrition scores of the students in various branches of sports who are active in physical education and evaluated this situation as the nutritional levels of the athletes were below

the required level and they had the wrong eating habits (37).

Regular and customary sports activities can increase physical activity and physical crispness (38). Duman (2011) found that athletes' eating habits should be improved in his study of 10-18 age group swimmers. He also concluded that gaining healthy lifestyle habits throughout life will have positive effects both on growth and development, on health in adulthood, and on their performance (39). In other words, children with regular sports and developmental nutrition behaviors and habits are quite bad. Sport can produce differences in different areas (40). Nutritional status and eating habits are one of them. Demirözü et al. (2012) found that nutritional education and training material had positive effects on nutrition knowledge and behavior (38). In our study, while there was no difference between the healthy eating behavior scores of students according to the sporting status ($p > 0,05$), the score of those who did sports in unhealthy eating behavior scores was significantly lower ($p < 0,001$). There was no significant difference in the eating behavior of the sporting situation ($p > 0.05$).

As a result, while healthy and unhealthy eating behaviors of high school students vary according to gender, it was concluded that general eating behaviors are similar. In addition, it was determined that the students who are engaged in sports have worse eating behaviors than those who do not do sports. It has been considered that all high school students and especially sports students need to change their eating habits with the help of their parents or their instructors.

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