

Investigation of Eating Behaviors of Sports at Fitness Centers

SEMRA ÇETİN*, CUMA ECE*

*Sakarya University Physical Education and Sport faculty, Sakarya/ TÜRKİYE

ABSTRACT

The aim of this study is investigate the behaviors of eaten those who do sports in fitness centers. The scale of eating behavior was filled by 255 those who do sports in fitness centers. T-test was used for statistical procedures. It was average age of females 24.51 year and males 24.92 year. There were statistically significant differences between both healthy eating behavior scores and unhealthy eating behavior scores of female and male according to gender ($p < 0.05$). Statistically significant difference was found between nutritional habits scores according to age groups ($p < 0.001$).

Result: Healthy and unhealthy eating behaviors of participants between the ages of 18-36 who go to fitness centers to do sports are varies according to the gender and age group. It has been determined that the 18-24 age's participants have bad eating habits. It is recommended that participants who go to fitness centers to do sports should be informed about nutrition. Consultancy service can be provided on nutrition in sports centers. Or, the participants should be directed to nutritional counseling.

Keywords: Nutrition, Eating behavior, Fitness center, Sport

INTRODUCTION

With the effect of modern life, sedentary life has begun with the decrease in physical activity, and the increase in energy intake by increasing food and beverage consumption causes obesity (Attila, 2006). Nutritional knowledge is one of the factors affecting the nutritional status and habits of individuals and families (Şanlıer and Ersoy 2005). Nutrition 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 (Molnar, 2000). Unhealthy food consumption in the package called junk food are the most frequently encountered nutritional errors (Zhang, 2015, Baiköğlu et al., 2019).

Nutritional status of people; it is influenced by many factors. They can be counted as many other social and cultural features such as genetic characteristics, age, stress, nutritional status and other forms of life, social and environmental conditions, working conditions and family support (Pekcan 2008, İlkin et al. 2018). 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 (Elmacioğlu, 1995.). Balanced nutrition occurs when a person is taken in different ratios from different food ingredients to meet their energy and nutritional requirements (Padavinangadive et al., 2017). Sufficient energy should come from sources that provide carbohydrate, protein, fat and micronutrients and a wide range of foods (Potgieter et al., 2011). Unhealthy food consumption is a risk factor for cardiovascular diseases, obesity and metabolic diseases in the future (Tappy, 2010). Healthy eating means to prevent the preference of energy-intensive nutrients naturally. The level of education in the literature has been reported to be effective in realizing health behaviors (Walker et al., 1988). Nutrition style is the most important and modifiable lifestyle determinant of human health (Hockenberry and Wilson 2010, Arlı et al., 2012). Studies show that nutritional behavior gains start from childhood and continue in advanced ages (Neumark-Sztainer et al., 2011). Accomplishment in training can be achieved by the transformation of some criteria to high

performance that are physical and physiological power, technical ability, mentality tactics, experience and motivation (Soyguden and İmamoğlu, 2017). Eating right habit should be added to these factors. Correct eating habits for those who do sports; adapts to high levels of health, increased lean body mass, low fat percentage and training. Many situations that affect the people, such as performance enhancement, preventing weight loss and excessive weight gain, preventing the disorders caused by electrolyte losses in the body, proper functioning of the digestive system, renewal of energy resources during the recovery period, can be achieved with a balanced diet (Atan and İmamoğlu, 2020; Sarioğlu et al., 2012). Misplaced eating habits, knowledge and insufficiencies can also lead to wrong weight loss practices Today, people try to change their eating habits in order to prevent many diseases such as obesity, cardiovascular diseases, hypertension and diabetes and to increase the quality of life, while at the same time trying to protect from the sedentary phase, which is the return of the age (Ceylan et al., 2018). The aim of this study is investigate the behaviors of eaten those who do sports in fitness centers.

METHOD

Participants and collecting: In this study, the scale of eating behavior was filled by 255 those who do sports in fitness centers. The questionnaires were filled in before the training sessions in the fitness centers on different days. People between the ages of 18-36 were included in the study. In this research, those attending different sports centers in Ankara City center created the research material. It was taken into account that the men and women included in the study regularly go to sports centers. Participants wish to go to sports centers 3 days a week. Before starting the study, the sports complexes that will be included in the study and allow the study to be carried out were determined and the participants were informed in line with the purpose of the study. Data In addition to personal information, eating behavior scale was applied to collect data. Those with chronic diseases and those outside the specified age limits were not included in the study. Participation in the study was done according to the

voluntary principle. Missing questionnaires were not included in the evaluation.

Eating behavior scale: Scale; It was developed by Özdoğan (2013) to determine eating behaviors for the 13-19 age group in Turkey. There are 58 items in the scale. There are 29 healthy eating behaviors questions and 29 unhealthy eating behaviors questions in the scale. 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. The criteria

for evaluating the eating behavior scale were ≤ 145 points poor (bad), 146-290 fair, 291-435 good, and ≥ 436 points very good (Özdoğan, 2013).

Statistical analysis: SPSS 25.00 package program was used for statistical operations. Kolmogorov-Smirnov test was used to test whether the data were distributed normally and the data were found to be in normal distribution. T-test was used for statistical procedures. Statistical significance level was determined as 5%.

RESULTS

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

	Gender	N	Mean	St. deviation	t-test
Age (Year)	Female	110	24.51	1.60	1.09
	Male	145	24.92	1.70	
Height (cm)	Female	110	158.91	8.39	-11.23**
	Male	145	170.22	8.17	
Body weight (kg)	Female	110	59.19	8.14	-10.29**
	Male	145	72.21	8.13	
Body Mass Index (kg/m ²)	Female	110	23.41	3.62	2.98*
	Male	145	24.98	4.12	

* $p < 0.05$ and ** $p < 0.001$

Table 2. Comparison of eating behavior scores according to gender

	Gender	N	Mean	St. deviation	t-test
Healthy eating behaviors	Female	110	151.81	25.40	-2.93*
	Male	145	142.79	23.80	
Unhealthy eating behaviors	Female	110	101.24	31.31	-3.04*
	Male	145	120.3485	32.14	
Eating behaviors	Female	110	160.55	26.56	-2.83*
	Male	145	138.44	27.42	

* $p < 0.05$

Table 3. Investigation of eating behaviors by age category

	Age	N	Mean	St. deviation	t-test
Healthy eating behaviors	18-24	135	136.27	22.43	5.13**
	25-36	120	158.33	22.13	
Unhealthy eating behaviors	18-24	135	120.48	20.31	-4.28**
	25-36	120	101.10	24.05	
Eating behaviors	18-24	135	137.59	28.15	-5.19**
	25-36	120	161.41	23.55	

** $p < 0.001$

Healthy and unhealthy eating behaviors of participants between the ages of 18-36 who go to fitness centers to do sports are varies according to the gender and age group. It has been determined that the 18-24 age's participants have bad eating habits. It is recommended that participants who go to fitness centers to do sports should be informed about nutrition. Consultancy service can be provided on nutrition in sports centers. Or, the participants should be directed to nutritional counseling.

DISCUSSION AND CONCLUSION

Most of the participants in this study were university students. Many studies report that young students, especially athletes, do not have an adequate and balanced diet, and that their nutrition education and nutritional knowledge are insufficient (Aksu et al., 2020; Sarıoğlu et al., 2012; Yıldırım et al., 2021). Healthy eating and lifestyle habits are necessary for the protection and development of health (Martin, 2007). Regular eating habits in adults can

limit and delay obesity and life risk factors (Ortega et al., 2008). In this study, the average age is 24.92 years for men and 24.51 years. Average height is 170.22 cm for men and 158.91 cm for women. Body weights were found to be 72.21 kg in males and 59.19 kg in females. Body Mass index values were calculated as 24.98 kg / m² for males and 23.41 kg / m² for females. There was no statistically significant difference between the ages of the participants ($p > 0.05$). A statistically significant difference was found between the height, body weight and body mass index of the participants ($p < 0.05$ and $p < 0.001$). It is expected that male will have higher height and body weights than female. The normal Body mass index are between 20 and 22.90 (Hsu et al., 2018). According to this study, participants are in normal health due to their body weight.

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 (Martin, 2007). 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 a study conducted by different university students. 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 (Howard, Reeves, 2005; Sweeting, West, 2005). Johnson et al. (2002), in their study, stated that females have healthier eating habits than males. In another study, nutritional knowledge of females was found to be higher than males (Beech et al., 1999). In this study, there were statistically significant differences between both healthy eating behavior scores, unhealthy eating behavior scores and eating behaviors of female and male according to gender ($p < 0.05$).

Demirezen and Coşansu (2005) found different degrees of risk in participants in terms of eating habits in their study. It has been stated that the risk level of this nutritional habit is higher in men than in women. Özdoğan (2013) did not find a statistically significant difference between the average nutritional habits scores by gender in her study. İmamoğlu et al. (2010) found differences in nutrition scores of students in various sports branches active in physical education. In this study, statistically significant differences were found in eating behaviors of male and female in terms of gender ($p < 0.05$). Healthy eating behaviors scores and total scale eating behavior scores are higher in females than males, while unhealthy eating behavior scores are higher in males.

Akyol and İmamoğlu (2019) stated in their study that male and female students are at risk of high eating habits. 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. In this study, eating behavior scale score was 160.55 in female and 138.44 in male. Women's eating behavior is better than men. Many factors can have an impact, such as women paying more attention to their diet than men and wanting their bodies to look more beautiful.

In this study, eating behavior scores were determined as 137.59 points for the 18-24 age group and 161.41 points for the 25-36 age group. In this study, a statistically significant difference was found between nutritional habits scores according to age groups ($p < 0.001$). The healthy eating total eating behavior score of the participants in the 25-36 age group was higher than those in the 18-24 age group. Unhealthy eating behavior scores are higher in the 18-24 age group than in the 25-36 age group. It can be said that those in the 25-36 age group pay more attention to healthy eating than those in the 18-24 age group. Demirözü et al. (2012) stated in their study that there were positive changes in the eating behaviors of children who were given nutrition education. In a study conducted by Çebi et al. (2020), it was found that students who received sports training do not consume healthy food and have habits that are not suitable. According to this study, there is a greater need for nutrition education, especially for the 18-24 age group. The criteria for evaluating the eating behavior scale are 145 points and below bad, 146-290

points medium level (Özdoğan, 2013). In this study, the total eating habits scores of the 18-24 year old participants were below 145. The scores of the 25-36 age group are between 146-290 points. Therefore, it can be said that the eating habits of the participants who go to the fitness centers are bad for the 18-year-olds and medium for the 25-36-year-olds. Participants should change their eating habits in a positive way. They can be given training on nutrition or attend seminars. It may even be suggested that fitness centers have consultants on nutrition. Ceylan et al. (2018) the study, it was seen that the visual and written media were effective as well as the habits of the family on the eating habits of the women.

REFERENCES

1. Aksu, A., Altun, S., İmamoğlu, O., & Karacabey, K., Investigation of Eating Behaviors in Young Wrestlers, *Postmodern Openings*, 2020, 11(2): 163-174.
2. Akyol P., İmamoğlu O. The Nutritional Habits of the University Students According to Gender, *SPORMETRE*, 2019, 17(3): 67-77
3. Arlı, M., Şanlıer, N., Küçükömürler, S. and Yaman, M. Mother and child nutrition, Fifth Edition, Pegem Academy. Ed. From. Ser. Tic. Ltd. Ltd. Şti., Detay Press, 249 p., 2012, Ankara.
4. Atan T., İmamoğlu O. Nutritional Habits According to Gender, Stage of Exercise Behavior and BMI. *Turkish Journal of Sport and Exercise*, 2020; 22(3): 505-512.
5. Attila, S. Kronik ve Dejeneratif Hastalıklarda Beslenme, *Halk Sağlığı Temel Bilgiler*, 2006: 818-827.
6. Baikoğlu, S., Dal, S., Güvendi, B., Yurtseven, C. N., & Gençtürk, U. (2019). Analysing the Effects of an 8-Week Exercise Program Applied to Sedentary Individuals on Body Composition, Self-Confidence and Social-Physical Anxiety Levels. *Journal of Education and Training Studies*, 7(8), 73-78.
7. Beech, B.M. Rice, R. Myers, L. Johnson, C. and Nicklas, T.A. Knowledge, attitudes, and practices related to fruit and vegetable consumption of high school students. *Journal of Adolescent Health*, 1999, Vol: 24, p. 244-250.
8. Ceylan C., Dönmez N., Keskin E. Determination of dietary habits in women who continue to the fitness centers in Konya, *Akademik Bakış Dergisi*, 2018, 70:88-109.
9. Çebi M., Eliöz M., Yamak B., İmamoğlu O., Aksoy Y. Investigation of food consumption frequency in sports faculty students. *Progress in Nutrition*, 2020; 22(2): 507-514
10. Demirezen, E., Gülhan C. Evaluation of Nutritional Habits in Students of Adolescent Age. *Evaluating Dietary Pattern in Adolescence* Stud, 2005, 14(8):174-178
11. Demirözü B.E., Pehlivan A., Çamlıgüney A.F. Nutrition knowledge and behaviors of children aged 8-12 who attend sport schools, *Social and Behavioral Sciences*, 2012, 46: 4713 - 4717
12. Elmacioglu, F. Evaluation of the nutrition and eating habits of pre-clinical students. *Nutrition and Diet Journal*, 1995, 24: 263-271.
13. Hsu, CC., Wahlqvist, ML., Wu, IC., Chang, YH., Chang, IS., Tsai, YF., Hsiung, CA. Cardiometabolic disorder reduces survival prospects more than suboptimal body mass index irrespective of age or gender: a longitudinal study of 377,929 adults in Taiwan. *BMC Public Health*, 2018; 18(1), 142.
14. Hockenberry, M. J., and Wilson D. *Won gilds nursing care of infants and children*. MosbyCo, 9th edition, 1888 p., 2010, Canada.
15. Howard S, Reeves S. The Snacking Habits of Adolescents: Is Snack Food Necessary to Meet Dietary Recommendations? *Health education journal*, 2005, 64: 1: 51.

16. Ilkim, M., Tanir, H., & Özdemir, M. (2018). Socialization Effect of Physical Activity in Students Who Need Special Education. *Asian Journal of Education and Training*, 4(2), 128-131.
17. İmamoğlu O., Ağaoğlu Y.S., Eker H. The investigation of nutritional habits of department of physical education and sports students in different cities, *Journal of Physical Education and Sport Science*, 2010,12(4):1-12.
18. Johnson, F., Wardle, J. and Griffith, J. The Adolescent food habits checklist: safety and validity of a measure of healthy eating behavior in adolescents. *European Journal of Clinical Nutrition*, 2002, 56 (7): 644-649.
19. Martin, L., Milot, A. Assessing the diet, exercise, body image, and weight of adolescents: a guide for out of school time program practitioners. Research-to-resultsbriefs. http://www.childtrends.org/files/child_trends (Last accessed on 3/3/2011), 2007.
20. Molnar D. Livingstone B. Physical activity in relation to overweight and obesity in children and adolescents, *Eur J Pediatr*, 2000, 159: 45-55
21. Neumark-Sztainer, D., Wall, M., Larson, N. I., Eisenberg, M.E. and Loth, K. Dieting and disordered eating behaviors from adolescence to young adulthood: findings from a 10-year longitudinal study. *Journal of the American Dietetic Association*, 2011, 111: 1004-1011.
22. Ortega, F. B., Ruiz, J. R., Castillo, M. J. & Sjöström, M. Physical Fitness in childhood and adolescence: A powerful marker of health. *Int J Obes (Lond)*, 2008; 32 (1):1-11.
23. Özdoğan, Y. Study on Development of Scale for Eating Behavior and Nutritional Information of Adolescents, Ankara University, Institute of Science, Department of Home Economics (Nutrition Sciences) Ph.D. Thesis, Ankara, 2013.
24. Padavinangadi, A., Xuan, L.Z., Chandrasekaran, N., Johari, N., Kumar, N., & Jetti, R. The impact of eating and exercise frequency on weight gain - a cross-sectional study on medical undergraduate students. *Journal of Clinical and Diagnostic Research*, 2017, 11 (2):1-3.
25. Pekcan, G. Determination of nutritional status. T. C. Ministry of Health General Directorate of Primary Health Care, Department of Nutrition and Physical Activity, Ministry of Health Publication No. 732, Klasmat Typography, 2008: 50, Ankara.
26. Potgieter, S., Labadarios, D., & Labuschagne, I. Body composition, dietary intake. *SAJSM*, 2011, 23 (3):74-79.
27. Sarıoğlu O, İmamoğlu O, Atan T, Türkmen M, Akyol P. Examination of the nutritional habits of students in different branches of physical education, Selçuk University Journal of Physical Education and Sport Science, 2012;14(1):88-94.
28. Sweeting, H., West, P. Dietary Habits and Children's Family Lives. *Journal Human Nutrition Dietetics*. 2005,18: 93.
29. Soyguden A., İmamoğlu O. Technical Analysis of 12th World Universities Wrestling Championship Greco-Roman Style Competition, *Baltic Journal of Sport & Health Sciences*, 2017, 4(107): 28-37
30. Şanlıer N., Ersoy, Y. Nutrition principles for mother and child. First Edition, Morpa Culture Publications, Yaylacık Press, 2005: 216, İstanbul
31. Şanlıer N., Konaklıoğlu E., Güçer E. The Relationship between Nutrition Knowledge, Habits and Behaviors of Young People and Body Mass Indexes. *GU, Journal of Gazi Faculty of Education*, 2009, 29(2): 333-352
32. Şener O.A., İmamoğlu O. A survey on the individual nutrition habits of university students, Sports and wellness research for all (Editors: Süleyman Gönülateş, M. Ali Öztürk), 2018: 357-369.
33. Tappy, L., Lê, KA., Tran, C., Paquot, N. Fructose and metabolic diseases: new findings, new questions. *Nutrition*, 2010, 26 (11-12): 1044-9.
34. Yıldırım Y., Müftüoğlu N.E., İmamoğlu O., Investigation of sports-trained students' eating habits according to some parameters before and during the coronavirus outbreak, *Progress in Nutrition*, 2021, 23(1):1-8, DOI 10.23751/pn.v23iS1.11522
35. Zhang, Z., Gillespie, C., Welsh, JA., Hu, FB., Yang, Q. Usual Intake of Added Sugars and Lipid Profiles. National Health and Nutrition Examination Survey, 2005-2010. *Journal of Adolescent Health*, 2015, 56 (3): 352-9.