

RESEARCH ARTICLE

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Evaluation of the Attitudes of the Students of the Faculty of Health Sciences towards Healthy Nutrition and Physical Activity

ABSTRACT

Objective: The foundations of a healthy life are laid during youth, and healthy nutrition and regular physical activity are not only two key determinants of health but also two main factors decreasing age-related health risks. Universities are the ideal environments for increasing this awareness and educating university students that constitute the majority of young population on healthy behavioral choices. This study aimed to evaluate the factors affecting the attitudes of the students of the Faculty of Health Sciences (Department of Physiotherapy and Rehabilitation and Department of Nutrition and Dietetics) at a foundation university towards healthy nutrition and physical activity.

Methods: The total number of students in the Department of Physiotherapy and Rehabilitation and Department of Nutrition and Dietetics was 467. The study aimed to reach the whole universe and was conducted with 339 students (73%) that consented to participate. Study data were collected via face-to-face surveys that covered the sociodemographic data form, demographic data questions of the modified survey by the University of North Florida on Diet and Exercise and the survey including the Body Image Scale. The study received an approval from the Scientific Researches Ethics Council of the School of Medicine of Trakya University (TÜTF-BAEK 2019/163). Study data were analyzed using SPSS 25.0 program. Significance level was $p<0.05$. Chi-square analysis was used for group comparisons as the data were categorical variables.

Results: While the Cronbach's α coefficient was 0.91 in the original Body Image Scale, it was 0.959 in our study. In addition, while prediction point was 135 in the original scale, it was 134.5 according to our ROC analysis. 49.6% of students stated that they did not exercise; 27.1% of those associated it with "lack of time" while 17.1% cited "lack of willpower". 54% of students considered their diets unhealthy. There was a statistically significant difference between lack of exercise and gender ($p<0.05$). 81% of females did not exercise at all while 19% of males did not exercise. Among students whose body image perception was below average, the number of those not exercising ($n=52$) was higher than those exercising ($n=36$), and this was statistically significant ($p<0.05$).

Conclusions: According to results of this study, university students should be provided with awareness programs on healthy nutrition and exercise to promote healthy lifestyle behaviors.

Keywords: Exercise, Body Image, Dietary Habits.

Sağlık Bilimleri Fakültesi Öğrencilerinin Sağlıklı Beslenme ve Fiziksel Aktiviteyle İlgili Tutumlarının Değerlendirilmesi

ÖZET

Amaç: Sağlıklı yaşamın temelleri gençlik döneminde atılır. Dengeli beslenme ve düzenli fiziksel aktivite sağlığın önemli iki belirleyicisi olmanın yanında yaşlanmayla ilgili sağlık risklerini azaltmada etkili iki temel unsurdur. Üniversiteler bu farkındalığı artırmak için ideal ortamlardır. Bu çalışma Sağlık Bilimleri Fakültesi öğrencilerinin sağlıklı beslenme ve fiziksel aktiviteyle ilgili tutumlarını etkileyen faktörlerin değerlendirilmesi amacıyla yapılmıştır.

Gereç ve Yöntem: Beslenme ve Diyetetik, Fizyoterapi ve Rehabilitasyon bölümlerinde toplam 467 öğrenci bulunmaktaydı. Evrenin tamamına ulaşılması hedeflendi. Sadece 339 (%73) öğrenci çalışmaya katıldı. Veriler; sosyo-demografik veriler, Modifiye Edilmiş North Florida Üniversitesi Diyet ve Egzersiz Anketi'nin demografik içerikli soruları ve Beden Algısı Ölçeği'ni içeren anket formu ile yüz yüze toplandı. Verilerinin analizinde SPSS 25.0 programı kullanıldı. Anlamlılık düzeyi $p<0,05$ alındı. Bulgular: Çalışmada kullandığımız Beden Algısı Ölçeğinin orijinalinde 0.91 olan Cronbach α katsayısı çalışmada 0.959 olarak hesaplandı. Ayrıca orijinal ölçekte 135 olarak hesaplanan kestirim noktası yapılan ROC analizi sonucunda 134.5 olarak bulundu. Öğrencilerin %49,6'sı egzersiz yapmadığını belirtirken bunların %27,1'i bu durumu zaman kısıtlılığına %17,1'i ise irade zayıflığına bağlamaktaydı. Öğrencilerin %54'ü sağlıklı beslenmediğini düşünmekteydi. Egzersiz yapmama ile cinsiyet arasında istatistiksel olarak anlamlı farklılık saptandı ($p<0,05$). Beden algısı ortalama değerinin altında olan öğrencilerde egzersiz yapmayanların sayısının ($n=52$) yapanlardan ($n=36$) yüksek olması istatistiksel olarak anlamlı bulundu ($p<0,05$).

Bulgular: Çalışmada kullandığımız Beden Algısı Ölçeğinin orijinalinde 0.91 olan Cronbach α katsayısı çalışmada 0.959 olarak hesaplandı. Ayrıca orijinal ölçekte 135 olarak hesaplanan kestirim noktası yapılan ROC analizi sonucunda 134.5 olarak bulundu. Öğrencilerin %49,6'sı egzersiz yapmadığını belirtirken bunların %27,1'i bu durumu zaman kısıtlılığına %17,1'i ise irade zayıflığına bağlamaktaydı. Öğrencilerin %54'ü sağlıklı beslenmediğini düşünmekteydi. Egzersiz yapmama ile cinsiyet arasında istatistiksel olarak anlamlı farklılık saptandı ($p<0,05$). Beden algısı ortalama değerinin altında olan öğrencilerde egzersiz yapmayanların sayısının ($n=52$) yapanlardan ($n=36$) yüksek olması istatistiksel olarak anlamlı bulundu ($p<0,05$).

Sonuç: Çalışma sonuçları doğrultusunda üniversite öğrencilerine sağlıklı beslenme ve egzersiz konulu farkındalık programları sunularak sağlıklı yaşam biçimi davranışları teşvik edilmelidir.

Anahtar Kelimeler: Egzersiz, Beden Algısı, Beslenme Alışkanlıkları

INTRODUCTION

The foundations of a healthy life are laid during youth, and healthy nutrition and regular physical activity are the two key determinants of health (1,2,3). Diet and physical activity are the effective factors in minimizing age-related health risks (4). Chronic diseases, which are the leading causes of death, affect both adults and the young (5). Studies reported that behaviors such as unhealthy diets, physical inactivity, tobacco use and excessive use of alcohol pose health risks starting from early ages (6,7). Particularly university students, who are one of the first groups that pass from adolescence to adulthood, leave their families and become exposed to external effects in the process, which also requires from them to make individual decisions (8).

As the first years of university coincide with adolescence, the visible acceleration of growth and development along with the changing lifestyle can affect the dietary habits of university students. According to studies, university students in Turkey are undernourished and malnourished, and this is due to two main reasons (9). These are lack of information (9) and lack of economic means (8). Eating junk food, dieting excessively, and consuming high-calorie and low-nutrition foods due to these reasons lead to unhealthy nutrition (10).

Eating out more and particularly consuming fast-food may lead to undernourishment and malnutrition, and negative body image may cause various eating disorders (1). Body image is the dynamic idea that someone has of what their own body looks and feels rather than the external evaluation of others (11-13). Each person has a different and separate idea of his or her own body image, and this idea covers body shape, size, mass, structure, functions, whole body and body parts (14). It can also be affected by environment, cultural messages and social appearance standards (11,12).

According to a study examining social factors, media has a big impact on body image (15). Moreover, media is reported to be a strong contributing force due to the time the population (especially adolescent population) spends using various aspects of it, including internet, television, magazines, video games, and smart phones (16). There are increased presentations of idealized beauties in the mass media. Thinner bodies are considered to be acceptable for females while heavily muscular bodies are presented as likeable for men. Since university students face a new social environment that is in less contact with their families and open to prevalent and dominant social models and representation, body image dissatisfaction is triggered in people whose body images do not fit those (17).

Another risk factor for the health of university students is the lack of physical activity (18). Due to its increased prevalence and negative

health effects, physical inactivity is a major public health problem that should be fought against (19-22). A study in 2012 reported that the rate of diseases preventable by physical activity were 9.3% for coronary heart diseases; 11.5% for type 2 diabetes; 16.6% for colon cancer; 16.3% for breast cancer; and their overall rate was 15.0% (23). Another study in 2004 reported that while students were aware of the benefits of exercise, only 35% exercised regularly (10).

Physical activity affects our psychological and physical health in all stages of our lives (24) and young people with insufficient physical activity is a risk group for hypertension, diabetes, obesity, coronary heart diseases and some types of cancer (25).

University students constitute the majority of young population and can change their behaviors with environmental influences (26). Students should be healthy, physically active (2) and eat well (6) to succeed in their academic studies.

According to studies, universities are the best environments to raise awareness and educate students on healthy behavioral choices such as healthy diets, regular physical activity and weight control (25,6). Positive changes made by university students in their exercise and dietary habits will continue in their adulthood (10,8). Therefore, it is important to identify their behaviors related to eating and exercising and help them improve those in a health way at university (26).

Due to all those reasons, this study aimed to evaluate the factors affecting the attitudes of the students of the Faculty of Health Sciences (Department of Physiotherapy and Rehabilitation and Department of Nutrition and Dietetics) at Istanbul Esenyurt University towards healthy nutrition and physical activity. In line with this purpose, the study will contribute to science and society by creating awareness that healthy nutrition and exercise can prevent chronic diseases caused by poor diets and sedentary lifestyle, which are important community health problems, and to literature by setting an example for new studies.

MATERIAL AND METHODS

There were 467 students in the Faculty of Health Sciences (Department of Physiotherapy and Rehabilitation and Department of Nutrition and Dietetics) of a foundation university, where the study was conducted, in the 2019-2020 academic year. The study aimed to reach the whole universe and was conducted with 339 students (73%) that consented to participate. Study data were collected via face-to-face surveys that covered the sociodemographic data form, demographic data questions of the modified survey by the University of North Florida on Diet and Exercise and the survey including the Body Image Scale. The study received an approval from the Scientific Researches Ethics Council of the School of Medicine of Trakya

University (TÜTF-BAEK 2019/163). Study data were analyzed using SPSS 25.0 program. Significance level was $p < 0.05$. As the data were categorical variables, chi-square analysis was used for group comparisons. While the Cronbach's α coefficient was 0.91 in the original Body Image Scale, it was 0.959 in our study. In addition, while prediction point was 135 in the original scale, it was 134.5 according to our ROC analysis.

RESULTS

According to the distribution of demographic variables, 73.2% of participants were female. 87% were in the age range of 17-22.

Department of Physiotherapy and Rehabilitation had 178 students. Department of Nutrition and Dietetics had 161 students. 65.5% of students stayed at houses, and 33.3% stayed at private and state dormitories. Of those staying at houses, 48.7% lived with their parents, and 36.6% lived with friends. The allowance of 68.7% was 1000 TL and below.

According to the distribution of the variables of smoking and alcohol consumption, 75.8% of students did not smoke and never smoked before. 19.5% consumed alcohol and 95.4% of those consumed alcohol 0-7 times a week (Table 1).

Table 1. Distribution of the variables of smoking and alcohol consumption

	Variables	Number (N)	Percentage (%)
Do you smoke	No, I don't smoke. I have never smoked.	257	75.8
	I smoke	60	17.7
	I used to smoke. I quit it.	22	6.5
How many cigarettes do you smoke per day	1-5	19	5.6
	6-10	24	7.1
	11-15	9	2.7
	16-20	8	2.4
	21 and more	1	0.3

H1: There is a significant relationship between gender and breakfast consumption.

In our study, breakfast was the most commonly skipped meal. 12 participants never have breakfast while 112 participants always have breakfast. Of those having breakfast, 75.9% were female and 24.1% were male. There was no statistically significant relationship between gender

and breakfast consumption ($p > 0.05$). 50.4% of students stated that they exercised.

25.7% stated that its frequency was 0-2 times a week (Table 2). When we questioned students on why they exercised, the most common response was "staying fit" (25.1%) with 85 participants, and the second one was "losing weight" (13.3%) with 45 participants.

Table 2. Distribution of the variable of exercising

		Number (N)	Percentage (%)
Do you exercise	No	168	49.6
	Yes	171	50.4
What is the frequency of your exercise	0-2 times a week	87	25.7
	3-4 times a week	62	18.3
	5 or more times a week	23	6.8

49.6% of participants did not exercise. Their reasons for not exercising included lack of time (27.1%), lack of willpower (17.1%) and lack of motivation (14.2%).

In addition, 54% of participants considered their diets unhealthy. Of those with healthy diets, 73.1% stayed at houses, 3.2% stayed at state dormitories and 23.7% stayed in private dormitories.

According to the distribution of snacks consumed in a day, the foods consumed most by students were chips, crackers, hazelnuts, peanuts (53.9%); ice cream, cookies, candies (14.3%); fast food (16.7%); chocolate (5%); raisins, roasted chickpeas, walnuts (6.9%) and others (2.9%).

H2: There is a significant relationship between gender and emotional eating.

There was a statistically significant relationship between male and female participants in terms of emotional eating ($p < 0.05$). The number of females that exhibited emotional eating habits ($n = 40$)

was significantly higher than the number of males ($n = 4$).

H3: There is a significant relationship between gender and waist circumference classification.

There was no statistically significant relationship between male and female participants in terms of waist circumference classification ($p < 0.05$). The ratio of females was higher in the risk and high-risk groups but it was not statistically significant.

Participants were divided into two groups according to their body image satisfaction (low or high) based on the results of the Body Image Scale. According to this, 74% of participants were satisfied with their body images (Table 3).

Table 3. Body image satisfaction

	Number	Percentage (%)
Body image satisfaction is low	88	26.0
Body image satisfaction is high	251	74.0
Total	339	100.0

H4: There is a significant relationship between gender and genital appearance satisfaction.

29 participants out of 339 did not reply this question. Evaluations were made with the replies of 310 participants. There was a statistically significant difference between gender and genital appearance satisfaction ($p < 0.05$). The number of females who were dissatisfied with genital appearance ($n=64$) was higher than the number of males ($n=49$) and this was statistically significant ($p < 0.05$). The females who were highly satisfied with genital appearance constituted 28.8% of total female participants. The males who were highly satisfied with genital appearance constituted 55.7% of total male participants. Moreover, 40 participants did not answer the “my sexual activities” part in the Body Image Scale, and 37 of them were female. 29 participants did not answer the “my sexual organs”

part, and 26 of them were female. Similarly, 32 participants did not answer the “my sexual potency” part, and 31 of them were female.

H5: There is a significant difference between gender and exercising.

There was a statistically significant relationship between gender and exercising ($p < 0.05$). 81% of females and 19% of males never exercised. There was no statistically significant relationship between exercising and class ($p > 0.05$). 171 participants exercised while 168 participants did not.

H6: There is a significant relationship between exercising and the departments of students.

The number of students that exercised was higher in the Department of Physiotherapy and Rehabilitation, and this was statistically significant (Table 4).

Table 4. Distributions of exercising students by departments

Variables	Exercising						
	No		Yes		Total		
	n	%	n	%	n	%	
Department	Physiotherapy	77	45.8	101	59.1	178	52.5
	Nutrition	91	54.2	70	40.9	161	47.5
	Total	168	100	171	100	339	100
	Test values	$p=0.015 \chi^2=5.949 \text{ sd} = 1 \text{ } p < 0.05^*$					

DISCUSSION

Studies reported that eating and physical activity behaviors of university students affect both their academic success and whether they will develop chronic diseases in the future (6-8).

An examination of the dietary habits of adolescents reported that they skipped meals and the skipped meals were usually breakfast and lunch (27). Studies reported that breakfast played a big role in nutrition, and skipping breakfast had a negative effect on students’ school success (28,1). A study on the memory and blood glucose of university students reported that memory function correlated with blood glucose concentrations, and breakfast consumption facilitated this process (29). Another study covering female university students in 2010 found that 44.1% of them had breakfast every day (30). In the study by Sakamaki et al. (2005), 66.8% of males and 82.3% of females reported eating breakfast regularly (31). A study made in 2015 found that 72.1% of females and 64.7% of males skipped meals (32). According to Chi-square analysis, there was no significant relationship between skipping breakfast and gender. We had similar results in our study as we found that breakfast was the most commonly skipped meal and there was no statistically significant relation between eating breakfast and the variables of gender and place of residence ($p > 0.05$). That means, according to our study, a person’s gender or

place of residence is not a determinant for eating breakfast.

The relationship between gender and snacking:

In terms of exhibiting emotional eating habits, the number of females ($n=40$) was significantly higher than the number of males ($n=4$). According to Mudd (2002), females have a different psychological and mental structure and they are the more emotional party in the society (33). The study by Akdevelioğlu (2019) found that emotional eating score was significantly higher in females than males, and this result was parallel to our finding (34). In addition, the higher levels of snacking in females can be caused by the decreased blood glucose, which starts in females two weeks before the menstruation period, and the associated emotional exhaustion.

Obesity has become a severe health problem in recent years. The rate of obesity is generally higher in females than males in our country, which is also the case throughout the world (35). Our study found that the number of female students was higher than the number of male students in the risk and high-risk groups in terms of waist circumference classification, but this result was not statistically significant.

Our study found that genital appearance satisfaction was lower in female students than male

students. There was not a similar finding in the studies on university students according to our literature review. However, body image in females is generally more affected by the social standards of appearance, and gender-related cultural stereotypes and roles are adopted particularly for females along with gender characteristics. In addition, media considers thinner bodies as acceptable and desirable stereotypes and popularizes this body image. In that context, a failure to fit into this body image triggers a body image dissatisfaction in females, which in turn causes the abovementioned result.

In our study, students that did not reply the questions related to “my sexual activities”, “my sexual organs” and “my sexual potency” in the Body Image Scale were mostly female. This indicates that female students were shier than male students in replying sexuality-related questions. In our opinion, this derives from gendered social and cultural norms.

A study examining the relationship between gender and physical activity found that vigorous, moderate and total physical activities were higher in males than females (36). The study by Savcı et al. (2006) examined the physical activity levels of university students and found that males had higher scores than females in vigorous, moderate and total physical activities as well as walking (37). Another study made in 2015 among university students in 23 countries found that males exercised more intensively than females in all countries except for six countries (38). They reported that Turkey was among the exceptional countries. However, studies made among university students in Turkey reported that the habit of exercising regularly was lower

among females than males. Various studies made in our country and other countries found that physical activity level was higher in males than females (39,40). One study made with 2729 Australian college students found that 47% of females and 32% of males were insufficiently active (41). Our results were similar to the results of those studies.

In terms of physical activity levels among the students of different departments included in our study, the number of students that exercised was higher in the Department of Physiotherapy and Rehabilitation, and this was statistically significant ($p<0.05$). The importance of exercise is taught for four years in health-based departments such as the Department of Physiotherapy and Rehabilitation so this result supported the idea that the level of exercises increases as knowledge on its benefits increases.

CONCLUSION

Our study indicated that most students skipped meals, that breakfast was the most commonly skipped meal, and that most students did not exercise. According to those results, university management has a big role to play in creating positive effects on students' lives. Environmental conditions play an important role in physical activity so we recommend increasing the number of sportive and social areas where students can perform different physical activities. University cafeterias can become more attractive with healthy and affordable menus. In addition, healthy lifestyle behaviors should be promoted by providing seminars and awareness programs on health nutrition and exercise.

REFERENCES

1. Arslan SA, Daşkapan A, Çakır B. Üniversite öğrencilerinin beslenme ve fiziksel aktivite alışkanlıklarının belirlenmesi. TAF Preventive Medicine Bulletin. 2016;15(3):171-180.
2. Kohl HW, Cook HD. Educating the Student Body: taking physical activity and physical education to school. NW Washington: The National Academies Press; 2013.
3. Mackie, Dr Don. Food and nutrition guidelines for healthy children and young people. Ministry of Health. Wellington; 2012.
4. Vural PI, Bakır N. Meslek Yüksekokulu öğrencilerinin sağlıklı yaşam biçimi davranışları ve etkileyen faktörler. Acıbadem Üniversitesi Sağlık Bilimleri Dergisi. 2015;6(1): 36-42.
5. Jin M, An Q, Wang L. Chronic conditions in adolescents. Experimental and Therapeutic Medicine. 2017;14(1): 478-482.
6. Yahia N, Wang D, Rapley M, Dey R. Assessment of weight status, dietary habits and beliefs, physical activity, and nutritional knowledge among university students. Perspectives in Public Health. 2016;136(4):231-244.
7. Haenle MM, Brockmann SO, Kron M, Bertling U, Mason RA, Steinbach G, Boehm BO, et al. Overweight, physical activity, tobacco and alcohol consumption in a cross-sectional random sample of German adults. BMC Public Health. 2006;6(233):1-12.
8. Tuğba G. Sağlıklı beslenme kavramı ve üniversite öğrencilerinin beslenme alışkanlıklarına yönelik tutum ve davranışları [yüksek lisans tezi]. [Adana(TR)]: Çukurova Üniversitesi Sosyal Bilimler Enstitüsü; 2011.
9. Mustafa S, Öngel K, Çalışkan S, Yağlı MA, Has M, Gonca T, Kurt Y. Süleyman Demirel Üniversitesi öğrencilerinin beslenme alışkanlıkları. Süleyman Demirel Üniversitesi Tıp Fakültesi Dergisi. 2011;18(2):43-47.
10. Silliman K, Rodas-Fortier K, Neyman M. A survey of dietary and exercise habits and perceived barriers to following a healthy lifestyle in a college population. Californian Journal of Health Promotion. 2004; 2(2):10-19.
11. Croll J. Body image and adolescents. Guidelines for adolescent nutrition services. Oxford: Oxford University Press; 2005. p. 155-165.

12. Anbar H. Lise öğrencilerinde vücut algısı değişkeninin çeşitli değişkenlerle ilgisinin incelenmesi ve vücut algısı ölçeğinin geçerlik güvenirlik çalışması [lisans tezi]. [Ankara(TR)] Ankara Üniversitesi Dil Ve Tarih Coğrafya Fakültesi Psikoloji Bölümü; 2013.
13. Samonds RJ, Cammermeyer M. Perceptions of body image in subjects with multiple sclerosis: a pilot study. *Journal of Neuroscience Nursing* 1989;21(3):190-194.
14. Arslangüray N. Üniversite öğrencilerinde beden imajının yordayıcıları olarak bağlanma stilleri ve toplumsal cinsiyet rolleri [yüksek lisans tezi]. [Ankara(TR)]: Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü; 2013.
15. Mills JS, Shannon A , Hogue J. Beauty. Body image and the media [Internet]; 2017 [cited 2020]. Available from: <https://www.intechopen.com/books/perception-of-beauty>.
16. Parsons AC. Body image differences between university students: Major of Study [research project]. [Ohio(USA)]:Williams Honors College. School of Sport Science and Wellness; 2015.
17. Ferrari EP, Petroski EL, Silva DA. Prevalence of body image dissatisfaction and associated factors among physical education students. *Trends Psychiatry Psychother* 2013;35(2):119-127.
18. Yargic MP, Kurklu GB. Are adolescent sports fans more physically active than the sports indifferent. A self-reported questionnaire study. *Royal Society for Public Health* 2019;140(2):117-123.
19. Üçok K, Genç A, Şener Ü, Akkaya M, Mollaoğlu H. Investigation of physical activity level of medical school students. *European Journal of Basic Medical Sciences* 2010;1(1):33-38.
20. Wells JC, Hallal PC, Reichert FF, Menezes AM, Araújo CL, Victora CG. Sleep patterns and television viewing in relation to obesity and blood pressure: evidence from an adolescent Brazilian birth cohort. *International Journal of Obesity* 2008;32:1042-1049.
21. Çakır B. Sağlıklı Yaşam: gündelik hayatta karşılaştığımız sağlık risklerini azaltabilir miyiz. *Ankara Medical Journal* 2017;17(3):179-188.
22. Gonzalez K, Fuentes J, Marquez JL. Physical inactivity, sedentary behavior and chronic diseases. *Korean Journal of Family Medicine* 2017;38(33):111-115.
23. Lee IM, Shiroma EJ, Lobelo F, Puska P, Blair SN, Katzmarzyk PT. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *The Lancet* 2012;380(9838):219-229.
24. Kızar O, Kargün M, Togo OT, Biner M, Pala A. Üniversite öğrencilerinin fiziksel aktivite düzeylerinin incelenmesi. *Marmara University Journal of Sport Science* 2016;1(1):63-74.
25. Garipağaoğlu M, ELİUZ B, Esin K, Çağatay P, Nalbant H, Solakoğlu Z. Tıp Fakültesi 1. sınıf öğrencilerinin beslenme durumlarının değerlendirilmesi. *İstanbul Tıp Dergisi* 2012;13(1):1-8.
26. Milanovic Z, Sporis G, Trajkovic N, Vracan D, Andrijasevic M, Pantalici S, Baic M. Attitudes towards exercise and the physical exercise habits of University of Zagreb students. *Annales Kinesiologiae* 2013;136(4):57-70.
27. Ermiş E, Doğan E, Erilli NA, Satıcı A. Üniversite öğrencilerinin beslenme alışkanlıklarının incelenmesi: Ondokuz Mayıs Üniversitesi örneği. *Spor ve Performans Araştırmaları Dergisi* 2015;6(1):30-40.
28. T.C Sağlık Bakanlığı Temel Sağlık Hizmetleri Genel Müdürlüğü. T.C Sağlık Bakanlığı. Türkiye'ye Özgü Beslenme Rehberi. Ankara: Hacettepe Üniversitesi Beslenme ve Diyetetik; 2004.
29. Benton D, Sargent J. Breakfast, blood glucose and memory. *Biological Psychology* 1992;33(2):207-210.
30. Ozdogan Y, Ozcelik AO, Surucuoglu MS. The breakfast habits of female university students. *Pakistan Journal of Nutrition* 2010;9(9):882-886.
31. Sakamaki R, Toyama K, Amamoto R, Liu CJ , Shinfuku N. Nutritional knowledge, food habits and health attitude of Chinese university students –a cross sectional study-. *Nutrition Journal* 2005;4(4):1-5.
32. Onurlubaş E, Doğan HG, Demirkıran S. Üniversite öğrencilerinin beslenme alışkanlıkları. *Gaziosmanpaşa Üniversitesi Ziraat Fakültesi Dergisi* 2015;32(3):61-69.
33. Mudd EH. Women's conflicting values. *Journal of Marriage and Family Living* 2002;8(3):50-65.
34. Akdevelioğlu Y, Yörüsün TÖ. Üniversite öğrencilerinin yeme tutum ve davranışlarına ilişkin bazı faktörlerin incelenmesi. *Gazi Sağlık Bilimleri Dergisi* 2019;4(1):19-28.
35. Aktaş İ, Erhan E. Spor yapan ve spor yapmayan bireylerin benlik saygısı ve risk alma düzeylerinin incelenmesi (Erzurum ili örneği). *Sportif Bakış: Spor ve Eğitim Bilimleri Dergisi* 2015;2:40-51.
36. Genç A, Şener Ü, Karabacak H, Üçok K. Kadın ve erkek genç erişkinler arasında fiziksel aktivite ve yaşam kalitesi farklılıklarının araştırılması. *Kocatepe Tıp Dergisi* 2011;12:145-150.
37. Savcı S, Öztürk M, Arıkan H. Üniversite öğrencilerinin fiziksel aktivite düzeyleri. *Türk Kardiyoloji Derneği* 2006;34(3):166-172.
38. Pengpid S, Peltzer K, Kassean HK, Tsala JPT, Sychareun V, Falk Müller F. Physical inactivity and associated factors among university students in 23 low-, middle- and high-income countries. *International Journal of Public Health* 2015;60(5):539-549.
39. Acree L, Longfors J, Fjeldstad A, et al. Physical activity is related to quality of life in order adults. *Health and Quality of Life Outcomes*. 2006;(4)37:1-6.
40. Shibata A, Oka K, Nakamura Y, Muraoka I. Recommended level of physical activity and health-related quality of life among Japanese adults. *Health and Quality of Life Outcomes* 2007;5(64):1-8.
41. Leslie E, Owen N, Salmon J, et al. Insufficiently active Australian college students: perceived personal, social, and environmental influences. *Prev Med* 1999;28(1):20-27.