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ORIGINAL ARTICLE / ÖZGÜN ARAŞTIRMA

How does being a medical student determine health promoting behaviors?

Tıp fakültesi öğrencisi olmak sağlığı geliştirici davranışları nasıl belirler?

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ABSTRACT

Objectives: The aim of the study was to determine healthy lifestyle behaviors of the 1st and 6th grade students in a public medical school and the associated factors.

Materials and Methods: Our descriptive study had included students from grades 1 and 6**.** Healthy Lifestyle Behavior Scale II (HLBS II) and a questionnaire for sociodemographic variables were completed by 213 students.

Results: The mean age of participants was 21.6 ± 2.5. 115 (54.0%) were male and 119 (55.9%) were in the first grade. The total mean score of HLBS II was found to be 128.61 ± 16.54. No significant difference was found between the first and sixth year medical students (P>0.05). Subscale mean scores of spiritual development and interpersonal relationship for 6th grade students were higher than the scores of 1st grade students (P<0.05), whereas, average subscale scores of physical activity for 1st grade students were higher than the scores for 6th grade students (P<0.05).

Conclusion: Healthy Lifestyle Behavior Scale II total score of the participants was slightly higher than moderate**.** In order to promote healthy lifestyle behavior, social programs for first grade students and intervention programs for physical activity for sixth grade students are needed.

Keywords: University students, Healthy lifestyle behavior, Health promotion, Medical students

ÖZ

Amaç: Çalışmanın amacı bir devlet üniversitesi tıp fakültesindeki 1. ve 6. sınıf öğrencilerinin sağlıklı yaşam biçimi davranışlarını ve ilişkili olabilecek etmenleri belirlemektir.

Gereç ve Yöntem: Tanımlayıcı tipteki araştırmamıza tıp fakültesindeki 1. ve 6. sınıf öğrencileri dahil edilmiştir. Öğrencilerin 213'ü sosyodemografik değişkenlere yönelik anket ile Sağlıklı Yaşam Biçimi Davranışları Ölçeği II (SYBDÖ II)'yi yanıtlamışlardır.

Bulgular: Katılımcıların yaş ortalaması 21,6±2,5 olup 115'i (%54,0) erkektir ve 119'u (%55,9) 1. sınıf öğrencisidir. Ölçek toplam puanı ortalaması 128,61±16,54 olarak bulunmuştur; birinci ve son sınıflar arasında istatistiksel olarak anlamlı fark saptanmamıştır (P>0,05). Birinci sınıf öğrencilerinin 6. sınıf öğrencilerine göre fiziksel aktivite, 6. sınıf öğrencilerinin ise 1. sınıf öğrencilerine göre manevi gelişim ve kişiler arası ilişkiler alt ölçek puan ortalamaları daha yüksek bulunmuştur (P<0,05).

Sonuç: Çalışmamızda katılımcıların aldığı SYBDÖ II toplam puanının orta düzeyden yüksekçe olduğu söylenebilir. Sağlıklı bir yaşam biçimi geliştirmek amacıyla 1. sınıf öğrencilerine yönelik sosyal programlara, 6. sınıf öğrencilerine yönelik olarak da fiziksel aktiviteyi arttıracak programlara ihtiyaç vardır.

Anahtar kelimeler: Üniversite öğrencileri, Sağlıklı yaşam biçimi davranışları, Sağlığı geliştirme,Tıp öğrencileri

Introduction

Lifestyle is one of the major determinants of individuals' health status and it is well known that physical activity, nutrition, psychosocial factors, smoking, alcohol consumption and illicit drugs play important role in maintaining health and preventing diseases [1]. According to World Health Organization 60% of the quality of health and life is associated with health behavior and lifestyle [2].

Health promotion is the process of enabling people to increase their power of control on his/her own health by making right decisions. Protection from diseases, self-care, individual responsibility, optimal goodness, life quality, health behaviors are components of health promotion [2-4].

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Numerous studies have reported that a significant amount of mortality and morbidity can be prevented by reducing health-risk behaviors. Health promoting behaviors increase well-being and self-actualization of an individual and decrease the risk of having cardiovascular diseases, cancer, diabetes, chronic obstructive lung disease and asthma [2].

Healthy lifestyle has been described as the person's control on behaviors which may affect individual's health, regulating the behaviors that are suitable for health condition while achieving daily activities with the ability of making self-decision and changing these behaviors into a habit [5, 6]. Walker and his colleagues approach to behaviors of healthy lifestyle in the titles of sufficient and balanced nutrition, management of stress, self-actualization, making regular exercise, interpersonal relationships and taking responsibility in order to develop individual's health and protect it [7]. An individual who can turn healthy lifestyle behaviors into a manner and make this a part of his/her own life can maintain well-being, also can be protected from illnesses and may increase his/her health status.

According to World Health Organization's 2002 report, the twenty risk factors are responsible for the half of all the deaths in the World [8]. Of the ten from these risk factors are the cause of one-third of the all deaths occurred around the world every year [8]. In order to improve health, these risk factors should be known and individuals should be protected from risk factors by preventive medicine and public health principles starting from childhood. University students usually are neglected in terms of health promotion activities.

University life is a period where personal responsibilities increase, important changes occur and notably individual's health behaviors also change with acquiring new environments away from home. Previous studies about healthy lifestyles indicate that most university students have impaired health promoting behaviors. They also indicate that there is an increase in behavioral health risks such as tobacco, alcohol and substance abuse, wrong nutrition and insufficient physical activities [9-13]. It has been said that these habits that an individual has gained in this period direct individual's lifestyle behaviors.

Healthcare professionals and particularly doctors have an important role in the achievement of healthy societies and prosecution of this matter. Health promotion and disease prevention are the important components in medical education but the question is to what extent they are engaging healthy behaviors. In this context it is important to determine the evaluation of future physicians' health behaviors.

This study has been conducted on medical faculty students of 1st and 6th grades to define healthy lifestyle behaviors and the associated factors.

Materials and Methods

This descriptive study aimed to provide knowledge about healthy lifestyle behaviors of medical students and to identify differences between first and last year students. The study was carried out on medical school students attending to a public medical school in the province of Istanbul, Turkey between March-June 2015. The sample was not selected. All students who accepted to participate were included in the study. A questionnaire survey was performed with 119 first year and 94 sixth year students who were enrolled in this medical school for the academic year 2014-2015. Data were collected with anonymous personal sociodemographic form developed by researchers and Healthy Lifestyle Behaviors Scale II (HLBS II) developed by Walker et al. The scale consisted of 52 items, which were divided into 6 subscales, nutrition (9 items), health responsibility (9 items), spiritual development (9 items), interpersonal relationships (9 items) and stress management (8 items) and physical activity (8 items) subscales [7]. Turkish adaptation validity and reliability of the scale was done by Bahar et al. [4]. The frequency of reported behaviors was obtained using a self-reporting Likert Scale with a four point response format, "never=1, sometimes=2, frequently =3, routinely= 4". Sum of possible score ranged from 52 to 208 points. When the highest and lowest scores of subscale sections were expressed, the number of questions in those sections was not taken into consideration. A higher score indicated that the subject performed a higher level of indicated behaviors.

Students were informed about the purpose and method of the research, and consent has been obtained ensuring that decisions for participation in the research were informed and voluntary. Individuals have been informed verbally that they can terminate their participation at any stage of the research and they have the right to refuse giving information.

The study was approved by the Marmara University Ethics Committee.

Data were analyzed by Student's t-Test and Mann-Whitney U Test. In comparison of the groups more than two, either ANOVA or Kruskal Wallis Tests were used in statistical analyses; *P* value less than 0.05 was considered as significant.

Results

This descriptive study was carried out on 213 students. Participation rate was 60 % for first year students and 70 % for sixth year students. The ages of the students in the study ranged from 17 to 26 years with a mean age of 21.6±2.5 years. Of the 213 students 115 (54.0 %) were males and 98 were (46.0 %) females. The number of sixth year students were 94 (44.1%) and 119 (55.9%) were first year students. The sociodemographic characteristics of the students were presented in Table I. When the education level of the participants' mothers was examined, it was found out that 75 (35.2%) had primary education or had no primary education; in addition 138 (64.8%) had high school or higher education. When the education level of the participants' fathers was examined, 41 (19.2%) had primary education or had no primary education and 172 (80.8%) had high school or higher education.

Table I. Sociodemograhic characteristics of the students

Sociodemographic Characteristics		N (count)	% (percent)
Grade	1st	119	55.9
	6th	94	44.1
Gender	Male	115	54.0
	Female	98	46.0
The place where the students lived the longest	Province	150	70.4
	District	53	24.9
	Village or other	10	4.7
Place of residence	Private house	111	52.1
	Dormitory	54	25.4
	Family house	48	22.5
Self-perception of socioeconomic status	Best/ good	70	32.9
	Moderate	140	65.7
	Bad/ very bad	3	1.4
Chronic disease state	No	185	86.9
	Yes	28	13.1

Distribution of participants' HLBS II and subscale mean scores were presented in Table II. The highest mean score was spiritual development score (25.91±5.04) and the lowest mean score was physical activity score (17.19±4.89). Total score was found to be 128.61±16.54.

Table II. Distribution of participants' Healthy Lifestyle Behaviors Scale II (HLBS II) and mean subscale scores

	Mean± SD	Minimum-Maximum
Health Responsibility Score	18.85±4.57	11.00-38.00
Physical Activity Score	17.19±4.89	8.00-33.00
Nutrition Score	22.57±3.95	12.00-33.00
Spiritual Development Score	25.91±5.04	12.00-42.00
Interpersonal Relationships Score	24.14±3.77	13.00-34.00
Stress Management Score	19.96±4.70	12.00-53.00
HLBS II Total Score	128.61±16.54	83.00-168.00

SD: Standard Deviation

When the distribution of participants' HLBS II and subscale mean scores according to grade was examined, there was statistically significant difference between 1st and 6th year students for physical activity (*P*=0.03), spiritual development (*P*=0.002) and interpersonal relationship (*P*=0.001) subscales. First year students' physical activity scores were higher than the scores of the 6th year students, whereas 6th year students' spiritual development and interpersonal relationship scores were higher than the scores of the 1st year students (Table III).

There were statistically significant differences in health responsibility (*P*<0.001), nutrition (*P*=0.02) and interpersonal relationship (*P*=0.03) scores according to gender. The scores of the female students were higher than the scores of the male students in these subscales (Table III).The students living in dormitory rather than living at houses had higher scores in health responsibility subscale (*P*=0.001). On the other hand, the students living at houses had higher scores in interpersonal relationship subscale when compared to others (*P*=0.02).

Table III. Distribution of participants' Healthy Lifestyle Behavior Scale II and mean subscale scores according to some variables

		Health Responsibility Score	Physical Activity Score	Nutrition Score	Spiritual Development Score	Interpersonal Relationships Score	Stress Management Score	HLBS II Total Score
		Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD	Mean± SD
Grade	1st	19.1 ±4.6	17.9±5.0	22.6±4.1	24.8±4.3	23.4±3.6	20.1±5.6	127.9±16.6
	6th	18.6 ±4.5	16.3±4.6	22.6±3.8	27.3±5.6	25.1±3.8	19.7±3.2	129.4±16.5
	P value	0.28**	0.03**	0.6**	0.002**	0.001**	0.77**	0.38**
Gender	Male	17.8± 4.2	17.6±5.3	22.0±4.1	26.1±5.6	23.7±3.3	19.4±3.5	126.7±14.9
	Female	20.1±4.7	16.7±4.3	23.3±3.6	25.6±4.4	24.7±4.2	20.6±5.8	130.9±18.0
	P value	<0.001**	0.23**	0.02**	0.76**	0.03**	0.08**	0.07**
Place of residence	Private house	17.9±4.7	17.1±4.9	22.4±3.7	26.8±5.4	24.7±3.8	19.3±3.1	128.2±15.0
	Dormitory	19.9±3.9	16.8±3.9	22.7±4.0	24.9±3.3	23.1±2.9	20.7±7.0	128.2±15.0
	Family house	19.7±4.6	17.8±5.9	22.9±4.4	24.9±5.5	24.1±4.3	20.7±4.5	130.1±21.3
	P value	<0.001***	0.89***	0.49***	0.05***	0.02***	0.15***	0.63****
Self-perception of socioeconomic status	Best/ good	18.6±5.2	17.8±4.5	22.5±4.5	26.9±4.7	25.6±4.2	21.5±6.3	132.9±17.8
	Moderate	19.0±4.2	16.9±5.1	22.7±3.6	25.4±5.2	23.4±3.4	19.1±3.5	126.6±15.6
	Bad/ very bad	16.0±3.5	15.7±4.0	18.0±1.7	26.7±4.0	25.0±1.7	21.0±1.7	122.3±9.8
	P value	0.21***	0.35***	0.08***	0.02***	<0.001***	0.001***	0.007***
Education level of mothers	Primary education and lower	18.3±4.1	16.3±4.7	21.8±4.0	25.1±4.5	23.8±4.1	19.0±3.0	124.3±16.5
	High school and upper	19.1±4.8	17.7±5.0	23.0±3.9	26.4±5.3	24.31±3.60	20.5±5.3	131.0±16.1
	P value	0.224**	0.042**	0.006**	0.287**	0.284**	0.069**	0.005*
Education level of fathers	Primary education and lower	19.1±3.6	15.3±4.3	22.2±4.0	25.1±4.4	23.5±4.0	19.0±3.2	124.3±17.9
	High school and upper	18.8±4.8	17.6±4.9	22.7±3.9	26.1±5.2	24.3±3.7	20.2±5.0	129.6±16.1
	P value	0.485**	0.004**	0.160**	0.657**	0.388**	0.296**	0.062*

SD: Standard Deviation * Student T test was used **Mann-Whitney U test was used
Kruskal Wallis test was used * ANOVA test was used

When comparing HLBS II and subscale scores according to students' self-perception of socioeconomical status, best/ good category had higher scores for spiritual development (P=0.02), interpersonal relationships (P<0.001), stress management (P =0.001) subscales and HLBS II total score (P=0.007) rather than other categories.

The students, whose mothers with high school or higher education, had higher scores for physical activity (P=0.042), nutrition (P=0.006) subscales and HLBS II total score (P=0.005) when compared to other categories. According to education level, the fathers who had high school or higher education degree, had scores higher than the scores of the fathers who had primary education or no primary education for physical activity subscale (P=0.004).

Discussion

In this study, we found that the students' total average HLBS II score was 128.61±16.54. This score was slightly higher than moderate. A high score in HLBS II shows that the individual has adapted more positive healthy behavior in his/her lifestyle. Similar results were found in the other studies in Turkish literature [14-16].

Although, total average HLBS II score of senior students was higher than that of juniors, there was no significant difference between them. Senior students' average subscale scores of spiritual development and interpersonal relationship were higher than the juniors (P<0.05). On the other hand, junior students' average subscale score of physical activity was higher (P<0.05). In 2011 study of Ozyazicioglu et al. on nursing students, no significant relationship between the class-year and the total HLBS II scores and subscale scores had been found [17]. Some studies found that as the nursing students advanced through academic years health related behavior improved [18, 19]. This difference in our study could be explained by three major issues. First, the increase in the education duration, secondly the improvement of the spiritual development

and the interpersonal relationship while working in clinics and patient care, and lastly physical inactivity of senior students as they are in the preparation process for medical specialization examination during their last year.

Despite the fact that, female students' total HLBS II score was higher than male students, there was no significant difference among gender. However, female students' average subscale score of health responsibility, nutrition and interpersonal relationship were found higher than male students (P<0.05). Ozyazicioglu et al., also had similar results as our study [17]. Simsek et al., on junior students, found that there was no significant relationship between the gender and total average scores and subscale scores [20]. This difference in our study could be due to female students' taking responsibility of their health and nutrition, and maintaining good social relationships.

We found that students living in dormitory had significant and higher average subscale scores in health responsibility, while having lower average scores in interpersonal relationships. The students living with their friends and/or alone had higher scores in interpersonal relationships (P<0.05). Unalan et al., in their study showed that students living in dormitory had lower scores in self-actualization and nutrition [14]. Simsek et al.'s study found that students living in the dormitories had higher scores in health responsibility [20]. Based on the findings of our study, it can be said that students living in dormitory have more responsibility to protect and improve their health status. Students living at home with friends have more positive interpersonal relationships.

In this study, we found that when socioeconomical status of the students increased, the HLBS II scores and subscale scores in spiritual development, interpersonal relationship and stress management increased (P<0.05). Cinar et al., showed that students who identified their economic status as being high had higher scale scores in total and in spiritual development and interpersonal relationship [21]. Ilhan et al.'s study showed that the scale scores and interpersonal relationship scores had similar results [15]. Karadeniz et al., indicated that students with high economic status also had high scale scores [16]. Edelman and Mandle's health development model stated that as the economic status increased, level of having positive health behavior rised [22].

The results of our study showed that as the mother's education level increased, HLBS II score and physical activity and nutrition scores also increased. Karaahmetoglu et al., found similar results in relation to nutrition subscale [23]. Duran et al., in their study showed that as the mother's education level increased, health responsibility and physical activity scores also increased [24]. The findings of our research indicated that as father's education level increased, subscale score of physical activity rised (P<0.05). Simsek et al.'s study indicated that there was not a significant relationship between both parents' education levels and HLBS II scores and average subscale scores [20]. Tuğut et al.'s study showed that all subscale scores were higher when the mother and father are high school graduates and upper [25]. This difference in our research was due to higher percentage of mothers and fathers being university graduates with 38% and 58.7% respectively. While in the study of Tuğut et al., the university graduate proportion of mothers and fathers was 8.1% and 21.8% respectively. In general, it is assumed that educated parents may have healthy food, participate much more in sports activities and physically be more active. Thus, children of those parents are expected to have similar nutritional habits, to be more physically active and therefore maintain healthy lifestyle behaviors.

Participation rate of 6th grade students was higher than 1st grade students. This situation could lead to non-response bias [26].The differences between HLBS II scores those who agreed to participate in the survey and those who did not agree were uncertain; however, students with a healthier lifestyle might have had higher participation rates [27,28] and caused to the over-estimation of HLBS II mean scores particularly in the first year students scores.

The study indicates that, junior students with low spiritual development and interpersonal relationships need social programs that will improve these aspects; whereas, senior students, who have low physical activity, should be encouraged to take part in sports activities in their leisure times. The university campus can be designed to enable interpersonal relationships and sport activities. Some changes can be made in the curriculum so that the students can have spare time for social students clubs and social projects.

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