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ASSESSMENT OF THE LEVEL OF PERSONAL HYGIENE KNOWLEDGE AND HEALTH PERCEPTION AMONG UNIVERSITY STUDENTS*

ÜNİVERSİTE ÖĞRENCİLERİNİN KİŞİSEL HİJYEN BİLGİ DÜZEYİ VE SAĞLIK ALGI DÜZEYLERİNİN DEĞERLENDİRİLMESİ

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ABSTRACT

The aim of this study was to determine the level of personal hygiene knowledge in university students and assess the level of health perception. This cross-sectional study was conducted with 946 students studying at a state university in Ankara. A questionnaire which included the Perception of Health Scale and questions to determine socio-demographic characteristics and level of personal hygiene knowledge of students was used to collect data. Data were collected by face-to-face survey method. The students ages ranged from 16 to 39 with years. Median score of the students obtained from the questions on personal hygiene knowledge and from the Perception of Health Scale was 24.0 (Min-Max= 0.0-30.0)and 48.5 (Min-Max=22.0-75.0), respectively. While the most accurately answered question on personal hygiene was "Hands should be washed with generous amounts of soap and water after using the toilet" (95%), the least accurately answered question was "It is beneficial to walk around barefoot at home" (37.2%). In this study, the level of personal hygiene knowledge was determined to be higher in students of medical faculty, women, non-smokers, non-drinkers and those who had previous information on personal hygiene before ($p< 0.05$). A weak positive relationship was determined between the level of personal hygiene level and health perception ($r=0.397$; $p=0.001$). It was determined in the study that the students had a good level of personal hygiene knowledge and medium level of health perception.

Keywords: Hygiene, healthy perception, university students

ÖZ

Bu araştırmanın amacı, üniversite öğrencilerinin kişisel hijyen ile ilgili bilgi düzeyleri ve sağlık algı düzeylerinin değerlendirilmesidir. Kesitsel tipdeki bu çalışma Ankara'da bir devlet üniversitesinde öğrenim gören 946 öğrenci ile yapılmıştır. Verilerin toplanmasında, Sağlık Algısı Ölçeği, öğrencilerin sosyo-demografik özelliklerini ve kişisel hijyen bilgi düzeylerini belirlemeye yönelik soruların yer aldığı anket formu kullanılmıştır. Veriler yüzyüze görüşme yöntemi ile toplanmıştır. Öğrencilerin yaşları 16-39 arasında değişmektedir. Bu çalışmada öğrencilerin kişisel hijyen ile ilgili bilgi sorularından aldıkları ortanca değer 24.0 (Min-Max= 0.0-30.0), Sağlık Algısı Ölçeği ortanca değeri 48.5 (Min-Max=22.0-75.0) olarak saptanmıştır. Öğrencilerin kişisel hijyen ile ilgili en çok doğru bildikleri bilgi sorusu "Tuvaletten çıkınca eller bol sabunlu su ile yıkanmalıdır" (%95) iken, en çok yanlış bildikleri "Evde çıplak ayakla dolaşmak faydalıdır" (%37.2) bilgi sorusudur. Çalışmada tıp fakültesi öğrencilerinin, kadınların, sigara ve alkol alışkanlığı olmayanların ve önceden kişisel hijyen hakkında bilgi alanların kişisel hijyen bilgi düzeylerinin daha yüksek olduğu belirlenmiştir ($p<0.05$). Kişisel hijyen bilgi düzeyi ile sağlık algısı arasında pozitif yönde zayıf bir ilişki saptanmıştır ($r=0.397$; $p=0.001$). Bu çalışmada öğrencilerin kişisel hijyen ile ilgili bilgi düzeylerinin iyi ve sağlık algılarının orta düzeyde olduğu sonucuna ulaşılmıştır.

Anahtar kelimeler: Hijyen, sağlık algısı, üniversite öğrencileri

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INTRODUCTION

Health and its individual perception are affected from health behaviors, personal beliefs, experiences and factors with an impact on an individual's health. While beliefs, attitudes and perceptions play a role in development of health behaviors affecting an individual's health, health perception is defined as a medical approach that focuses on health rather than a disease, protects, maintains and promotes family and public health, and allows early diagnosis.[1] Perception of state of health affects health behaviors and health responsibility.[2,3]

Personal hygiene consists of washing and caring for hair, cleaning face, eyes and ears, cleaning mouth and teeth, cleaning feet, bathing habits, cleaning external genital organs and armpits, cleanliness during and after sexual intercourse, choosing healthy clothes and cleaning hands and nails.[4] Individuals learn hygiene practices from their parents in childhood and usually maintain these habits throughout their life. Social groups to which individuals belong have an impact on hygiene practices and health-promoting behaviors through social learning as well. Therefore, universities as public institutions where social interaction takes place are suitable environments to form the basis of healthy lifestyle behaviors. As a communal life environment, universities are also convenient to implement initiatives targeting health-promoting behaviors.[5] Considering the social and professional role to be taken by university students in the forthcoming years, personal hygiene and health perception have critical importance to lead a healthy life.[6]

In the research conducted to determine the opinions of university students about hand washing, it was determined that the majority of nursing students (71.9%) and all university students outside the health field had knowledge about hand washing. It was determined that although all university students studying outside the health field had knowledge about hand washing, they mostly wiped their hands with wet wipes (68.9%).[7] In a study conducted with university students in Hong Kong, it was found that 27% of the students had health responsibility awareness.[8]

It is therefore required to determine the level of personal hygiene knowledge and health perceptions of university students as a first step in the health promotion process aiming to encourage and maintain health-promoting behaviors in university students. Determining the level of personal hygiene knowledge and health perception in university students is also important to raise healthy generations as well as to protect and improve public health. The aim of the study was conducted to determine the level of personal hygiene knowledge in university students, review some variables that are believed to be associated and assess the level of health perception.

MATERIAL AND METHOD

Population and sample of the study

This is a cross-sectional study conducted on undergraduate students at a public university in Ankara, Türkiye. Population of the study consisted of 3.900 students studying at Engineering, Law, Medical and Dentistry faculties. It was aimed to reach out all students at Engineering, Law, Medical and Dentistry faculties from October 2018 to May 2019 without determining a specific sample. The study was conducted on 946 students (24.3%) who agreed to take part. Students who were not in the classroom and did not want to participate in the research did not participate in the research.

Data collection instruments

The questionnaire form prepared to collect data based on the literature contains the Perception of Health Scale and information questions on personal hygiene, some socio-demographic characteristics of the students, parent and family characteristics, and some variables that are believed to be associated with the level of personal hygiene level. Level of personal hygiene knowledge of the students was assessed with 30 information questions formulated based on literature. A score of 1 was assigned to each question which was answered correctly in the assessment of information questions on personal hygiene. The scores to be obtained ranged between 0 and 30. Higher scores obtained from the information questions denote a high level of personal hygiene knowledge. The Perception of Health Scale (PHS) developed by Diamond et al. in 2007, whose reliability and validity study in Türkiye was conducted by Kadioglu and Yildiz, was used to assess the health perception of the students in the study.[1,9] The PHS was a five-point Likert scale consisting of 15 items and 4 subfactors (center of control, self-awareness, certainty and importance of health). The highest and lowest scores that can be obtained from the scale are 75 and 15, respectively, with higher scores denoting a higher level of health perception.

Parents of the students were considered "employed" if they are actively engaged with a revenue-generating business. Family income was assessed by the students as low, average and high based on their own perceptions (least 1 cigarette a day=smoker and least 30 g of alcohol a week=drinker).[10,11] Students who perform activities equivalent to brisk walking for 30 minutes on a daily basis regularly were considered to perform "regular physical activity" (body mass index above 30 kg/m^2=obese).

Data collection

Permissions were taken from required authorities and approval of ethics committee (28.06.2018- number 30) Ankara Yıldırım Beyazıt University ethics committee was obtained to conduct the study. Verbal consent was obtained from the students who agreed to participate after informed about the study. International students were also included in the research and necessary explanations were made in the parts that were not understood. Data were collected by face-to-face survey method at the end of the course, with permission from the course instructor. Then, questionnaires were completed by the students under supervision. This procedure lasted approximately 15-20 minutes.

Data analysis

The data obtained was evaluated in IBM SPSS (version 20.0) statistical package program. The descriptive statistics were shown with number, percentage, median (min-max). Whether the data conformed to normal distribution was evaluated with the Kolmogorov Smirnov test. Since the data did not show normal distribution, differences between two groups were analyzed with the

Mann-Whitney U test, and differences between more than two groups were analyzed with the Kruskal-Wallis test. When significant differences emerged as a result of the Kruskal-Wallis test, the Dunn-Bonferroni test was used for multiple comparisons. Whether there was a relationship between two variables was evaluated with Spearman's correlation coefficient. $p<0.05$ was considered statistically significant.

RESULTS

Among the study participants 48.7% of the students were female and 51.3% were male. Their ages ranged from 16 to 39 with years. 11.3% of the students stated that they have a history of a physician-diagnosed disease requiring constant drug use and 68.1% stated that they have a good state of health (Table 1). Majority of students (83.5%) had a nucleus family and 69.1% had an average level of family income. Almost all students stated that their mother (97.3%) or father (95.7%) is alive. 85.3% of the students stated that they had previous information on personal hygiene (Table 2).

Median score of the students obtained from the information questions on personal hygiene was 24.0 (Min-Max=0.0-30.0). While the most accurately answered question on personal hygiene was "Hands should be washed with generous amounts of soap and water after using the toilet" (95.0%), the least accurately answered question was "It is beneficial to walk around barefoot at home" (37.2%) in this study (Table 3). The scores obtained from the Perception of Health Scale by the students in this study median score of 48.5 (Min-Max=22.0-75.0) (Table 4).

When personal and family characteristics of the participants and scores of personal hygiene knowledge were

Table 1. Distribution of the scores obtained by the students in study group from the information questions on personal hygiene by some socio-demographic characteristics

Socio-demographic characteristics	n(%)	Score of personal hygiene knowledge Median (Min-Max)	Test value Z/KW; p	Multiple comparison	p
Faculty					
Engineering (1)	444 (46.9)	23.0 (0.0-29.0)		1-2	0.001
Law (2)	235 (24.8)	24.0 (0.0-29.0)	**48.912; 0.001***	1-3	0.001
Medicine (3)	120 (12.7)	25.0 (0.0-30.0)		1-4	1.000
Dentistry (4)	147 (15.5)	23.0 (7.0-29.0)		2-3	0.040
				2-4	0.004
				3-4	0.001
Age					
20 and below (1)	249 (26.3)	24.0 (1.0-30.0)		-	-
21 (2)	301 (31.8)	24.0 (0.0-29.0)		-	-
22 (3)	185 (19.6)	24.0 (4.0-29.0)	3.407; 0.333	-	-
23 and above (4)	211 (22.3)	23.0 (0.0-29.0)		-	-
Sex					
Female	461 (48.7)	24.0 (0.0-30.0)	**5.664; 0.001***	-	-
Male	485 (51.3)	23.0 (0.0-29.0)		-	-
Smoking					
Non-smoker	719 (76.0)	24.0 (0.0-30.0)		-	-
Smoker	227 (24.0)	22.0 (0.0-29.0)	**5.655; 0.001***	-	-
Alcohol consumption					
No	849 (89.7)	24.0 (0.0-30.0)	**3.677; 0.001***	-	-
Yes	97 (10.3)	22.0 (0.0-29.0)		-	-
History of a physician-diagnosed disease requiring constant drug use					
Yes	107 (11.3)	23.0 (0.0-29.0)	**2.975, 0.003***	-	-
No	839 (88.7)	24.0 (0.0-30.0)		-	-
Self-declared state of health					
Good (1)	644 (68.1)	24.0 (0.0-30.0)		1-2	0.005
Average (2)	246 (26.0)	23.0 (7.0-29.0)	**55.212; 0.001***	1-3	0.001
Poor (3)	56 (5.9)	18.0 (0.0-28.0)		2-3	0.001
Regular physical activity					
Yes	418 (44.2)	24.0 (6.0-29.0)	0.921; 0.357	-	-
No	528 (55.8)	24.0 (0.0-30.0)		-	-
Obesity					
Yes	893 (94.4)	24.0 (0.0-30.0)	0.047; 0.962	-	-
No	53 (5.6)	24.0 (2.0-29.0)		-	-
Total	**946 (100.0)**	**24.0 (0.0-30.0)**	**-**	**-**	**-**

Z = Mann-Whitney U test; KW= Kruskal-Wallis test; Min = minimum; max = maximum; * =p<0.05; SD = standard deviation.

Table 2. Distribution of the scores obtained by the students from the information questions on personal hygiene by some parent

Some parent and family characteristics	n (%)	Score of personal hygiene knowledge Median (Min-Max)	Test value Z/KW; p	Multiple comparison	p
Family type					
Nucleus (1)	790 (83.5)	24.0 (0.0-30.0)		1-2	0.001
Extended (2)	115 (12.2)	20.0 (7.0-28.0)	**64.939; 0.001***	1-3	0.001
Fragmented (3)	41 (4.3)	22.0 (0.0-28.0)		2-3	1.000
Family income status					
Low (1)	104 (11.0)	21.0 (0.0-28.0)		1-2	0.001
Average (2)	654 (69.1)	24.0 (0.0-30.0)	**58.324; 0.001***	1-3	0.001
High (3)	188 (19.9)	24.0 (0.0-29.0)		2-3	1.000
Mother is alive					
Yes	920 (97.3)	24.0 (0.0-30.0)	**4.303; 0.001***	-	-
No	26 (2.7)	18.5 (4.0-27.0)		-	-
Father is alive					
Yes	905 (95.7)	24.0 (0.0-30.0)	1.394; 0.163	-	-
No	41 (4.3)	24.0 (4.0-28.0)		-	-
Education status of mother					
Primary school and lower	302 (31.9)	24.0 (0.0-29.0)		-	-
Secondary/high school	403 (42.6)	24.0 (1.0-30.0)	3.109; 0.211	-	-
University	241 (25.5)	24.0 (0.0-29.0)		-	-
Education status of father					
Primary school and lower	107 (11.3)	24.0 (4.0-28.0)		-	-
Secondary/high school	366 (38.7)	23.0 (0.0-30.0)	2.628; 0.269	-	-
University	473 (50.0)	24.0 (0.0-29.0)		-	-
Employment status of mother					
Employed	321 (33.9)	23.0 (0.0-30.0)	**4.021; 0.001***	-	-
Unemployed	625 (66.1)	24.0 (0.0-29.0)		-	-
Employment status of father					
Employed	791 (83.6)	24.0 (0.0-30.0)	1.310; 0.190	-	-
Unemployed	155 (16.4)	24.0 (0.0-28.0)		-	-
Living with parents					
Yes	492 (52.0)	24.0 (0.0-30.0)	**2.252; 0.024***	-	-
No	454 (48.0)	23.0 (0.0-29.0)		-	-
Healthcare professional in the family					
Yes	188 (19.9)	24.0 (0.0-29.0)	0.275; 0.783	-	-
No	758 (80.1)	24.0 (0.0-30.0)		-	-
Having previous information on personal hygiene					
Yes	807 (85.3)	24.0 (0.0-30.0)	**8.560; 0.001***	-	-
No	139 (14.7)	21.0 (0.0-28.0)		-	-
Total	**946 (100.0)**	**24.0 (0.0-30.0)**	**-**	**-**	**-**

Z= Mann-Whitney U test; KW= Kruskal-Wallis test; Min = minimum; Max = maximum; * =p<0.05.

compared, it was determined that the level of personal hygiene knowledge of medical faculty students, female students, non-smokers, non-drinkers, those who reported to have a good health and those with no history of disease was higher (p<0.05) (Table 1, Table 2).The comparison of socio-demographic characteristics of the participants and scores of health perception revealed that the level of health perception was higher in the medical faculty students, non-smokers, those performing regular physical activity, those who reported to have a good health and those with no history of disease (p<0.05) (Table 4).

A weak positive relationship was determined between the scores obtained from the information questions on personal hygiene and from the Perception of Health Scale in the study group (r=0.397; p=0.001). The distribution of the scores obtained from the information questions on personal hygiene and from the Perception of Health Scale is given in.

DISCUSSION

This study examined the level of personal hygiene knowledge and health perceptions of the university students. While the most accurately answered question on personal hygiene was "Hands should be washed with generous amounts of soap and water after using the toilet" (95.0%), the least accurately answered question was "It is beneficial to walk around barefoot at home" (37.2%) in this study. It was determined that the level of personal hygiene knowledge of the students was good, if not excellent. In their study, Simsek et al. determined that 97.7% of the high school students washed

Table 3. Distribution of answers for information questions on personal hygiene

Information questions on personal hygiene	Correct n (%)	Incorrect n (%)	No idea n (%)
Individual cleanliness is a self-care practice that should be maintained to stay healthy.	858 (90.7)	23 (2.4)	65 (6.9)
Personal hygiene means body cleaning.	754 (79.7)	142 (15.0)	50 (5.3)
*The main objective of personal hygiene is beautification of the body.	195 (20.6)	697 (73.7)	54 (5.7)
Each family member must have their own hand towel, bath towel, brush, nail clipper and toothbrush.	843 (89.1)	66 (7.0)	37 (3.9)
Shower should be taken at least twice a week.	871 (92.1)	47 (5.0)	28 (3.0)
*Ears should be cleaned thoroughly with cotton swabs after taking a shower.	596 (63.0)	259 (27.4)	91 (9.6)
The most important personal hygiene practice is hand washing.	802 (84.8)	68 (7.2)	76 (8.0)
Hands should be washed with generous amounts of soap and water after using the toilet.	**899 (95.0)**	**28 (3.0)**	**19 (2.0)**
Washing hands after using the toilet is very important to avoid contagious diseases.	861 (91.0)	43 (4.5)	42 (4.4)
Hands should be washed at least once every 2 hours under normal conditions, i.e. even if nothing is done with hands.	544 (57.5)	177 (18.7)	225 (23.8)
*Washing hair regularly and properly is not important in terms of having conditions such as lice and scabies.	247 (26.1)	618 (65.3)	81 (8.6)
A soft towel should be used to dry hair after taking a shower.	765 (80.9)	40 (4.2)	141 (14.9)
Nose should be cleaned with generous amount of water by blowing every morning and night before sleeping.	608 (64.3)	72 (7.6)	266 (28.1)
It is good to clean the ears with fingers while taking a shower.	508 (53.7)	255 (27.0)	183 (19.3)
The most effective way to protect dental health is regular tooth brushing.	884 (93.4)	34 (3.6)	28 (3.0)
*It is more beneficial to brush teeth before eating.	193 (20.4)	464 (49.0)	289 (30.5)
Avoiding harsh tooth brushing and over brushing is important to keep gums healthy.	853 (90.2)	65 (6.9)	28 (3.0)
Dental floss is a very effective tool to remove food stuck between teeth.	760 (80.3)	90 (9.5)	96 (10.1)
*There is no point in wearing sunglasses to protect eyes from the sun's rays.	116 (12.3)	715 (75.6)	115 (12.2)
Cotton and mercerized cotton socks should be preferred, if possible.	740 (78.2)	31 (3.3)	175 (18.5)
It is beneficial to walk around barefoot at home.	**292 (30.9)**	**352 (37.2)**	**302 (31.9)**
Feet up to knees should be washed with cold water and soap at the end of every day and dried with a foot towel or paper towel.	735 (77.7)	51 (5.4)	160 (16.9)
Cleaning and drying feet is important to avoid fungus diseases in particular.	872 (92.2)	44 (4.7)	30 (3.2)
While fingernails should be given a curve, toenails should be cut straight across.	666 (70.4)	80 (8.5)	200 (21.1)
*Fingernails and toenails should be clipped and groomed once a year.	128 (13.5)	734 (77.6)	84 (8.9)
Shaving underarm and pubic hair prevents bacteria from multiplying.	788 (83.3)	64 (6.8)	94 (9.9)
*Moisturizing creams provide no benefit for skin care.	148 (15.6)	644 (68.1)	154 (16.3)
Clean and ironed underwear and outerwear are important to protect skin health.	791 (83.6)	58 (6.1)	97 (10.3)
Especially underwear should be cotton and changed on a daily basis, if possible.	830 (87.7)	47 (5.0)	69 (7.3)
It is preferable to wear non-synthetic cloths which adjust body temperature, absorb sweat and keep warm in winter and cool in summer.	829 (87.6)	34 (3.6)	83 (8.8)

* =incorrect statement.

their hands after using the bathroom and 30.2% washed their hands when they got back home.[5] Arat concluded that almost all students washed their hands after using the toilet (96.5%) and when they felt the need (87.2%), but personal hygiene behaviors should be improved in boarding school students.[12] In their study on university students, Erbil and Asik found out that 51.1% of the students wash their hands after using the bathroom.[13]Timur determined that 7.6% of the students wash their hands before and after using the toilet.[14]

Table 4. Distribution of the scores of the students obtained from the Perception of Health Scale by some socio-demographic characteristics

Socio-demographic characteristics		n (%)	Score of the Perception of Health Scale Median (min-max)	Test value Z/KW; p	Multiple comparison	p
Engineering	(1)	444 (46.9)	47.5 (22.0-72.0)	**43.094; 0.001***	1-2	0.001
Law	(2)	235 (24.8)	50.0 (30.0-75.0)		1-3	0.001
Medicine	(3)	120 (12.7)	51.0 (34.0-70.0)		1-4	1.000
Dentistry	(4)	147 (15.5)	47.0 (36.0-70.0)		2-3	1.000
					2-4	0.001
					3-4	0.001
Age						
20 and below	(1)	249 (26.3)	48.0 (31.0-71.0)	4.679; 0.197	-	-
21	(2)	301 (31.8)	48.0 (22.0-69.0)		-	-
22	(3)	185 (19.6)	49.0 (32.0-75.0)		-	-
23 and above	(4)	211 (22.3)	49.0 (29.0-65.0)		-	-
Sex						
Female		461 (48.7)	49.0 (30.0-75.0)	1.865; 0.062	-	-
Male		485 (51.3)	48.0 (22.0-71.0)		-	-
Smoking						
Non-smoker		719 (76.0)	49.0 (22.0-75.0)	**4.332; 0.001***	-	-
Smoker		227 (24.0)	47.0 (29.0-70.0)		-	-
Alcohol consumption						
No		849 (89.7)	49.0 (22.0-75.0)	1.334; 0.182	-	-
Yes		97 (10.3)	47.0 (29.0-66.0)		-	-
History of a physician-diagnosed disease requiring constant drug use						
Yes		107 (11.3)	45.0 (29.0-75.0)	**4.041; 0.001***	-	-
No		839 (88.7)	49.0 (22.0-72.0)		-	-
Self-declared state of health						
Good	(1)	644 (68.1)	50.0 (22.0-75.0)	**47.116; 0.001***	1-2	0.001
Average	(2)	246 (26.0)	47.0 (30.0-62.0)		1-3	0.001
Poor	(3)	56 (5.9)	44.0 (29.0-61.0)		2-3	0.046
Regular physical activity						
Yes		418 (44.2)	50.0 (22.0-75.0)	**3.335; 0.001***	-	-
No		528 (55.8)	48.0 (29.0-70.0)		-	-
Obesity						
Yes		893 (94.4)	48.0 (22.0-75.0)	0.199; 0.842	-	-
No		53 (5.6)	49.0 (36.0-64.0)		-	-
Total		**946 (100.0)**	**48.5 (22.0-75.0)**	**-**	**-**	**-**

Z = Mann-Whitney U test;, KW= Kruskal-Wallis test; Min = minimum; Max = maximum; * =p<0.05.
= minimum; Max = maximum; * = p< 0.05.

Vivas at al found out that approximately 52% of the students with a mean age of 10-12 years had proper personal hygiene knowledge.[15] In their study, Singh and Gupta concluded that personal hygiene practices in adolescents were insufficient.[16] These findings suggest that students have correct information on personal hygiene mostly; however, their incorrect information in this regard should be corrected. Our findings are consistent with some rates specified in the literature regarding the personal hygiene knowledge of students. Better results obtained in our study in comparison to some studies in the literature suggest that differences in economic and awareness levels may affect personal hygiene knowledge.

It is explained in the literature that the perception of good health is important to encourage and maintain healthy lifestyle behaviors.[6,17]This study found out that the level of health perception is average in the students. Acikgoz et al. determined that a large majority of students perceived their health well.[18]

It was determined that students of medical faculty had a higher level of personal hygiene knowledge and health

perception in this study. Literature review also indicates that students studying health sciences had a higher level of hygiene knowledge.[7,19,20] Zaybak and Fadiloglu and de-Mateo-Silleras et al. found out that health perception was higher in university students studying health sciences compared to students in other fields.[6,21] This finding suggests that having courses addressing hygiene and health in the curriculum raises awareness towards personal hygiene and positive health perception.

In this study, female students had a higher level of personal hygiene knowledge than male students. Kadi and Salati and Arat et al. also determined that hygiene practices were more positive in female students than male students.[12,22] These findings suggest that female students are more sensitive about and show higher interest in personal hygiene.

This study determined that those with no history of a physician-diagnosed disease requiring constant drug use, those who reported to have a good health, non-smokers and non-drinkers had a higher level of personal hygiene knowledge. It was also found out that those with no history of disease, those who reported to have a good health, non-smokers and those performing regular physical activity had a higher health perception in this study. These findings support the hypothesis that students with a higher personal hygiene knowledge and health perception have awareness towards protection of health and are successful in adapting their knowledge and experiences in their lives. The higher health perception observed with a higher level of personal hygiene knowledge in this study also supports these findings. Similarly, some studies found out that students who care about their health more had positive health behaviors.[6,17] Szwarcwald et al. concluded that healthy lifestyle behaviors affect health perception in a more positive way.[23] In their study in university students, Emamvirdi et al. reported that health-related quality of life is lower in smokers and drinkers.[24]

It is noteworthy that the students who had previous knowledge on personal hygiene had a higher level of personal hygiene knowledge in this study. Dongre et al. determined that hygiene habits of the students improved after education.[25,26] This finding indicates that activities and trainings intended to provide information are important to improve personal hygiene knowledge of the students.

In this study, it was determined that the students with a good family income had a higher level of personal hygiene knowledge. It suggests that the opportunities provided by good income to protect and improve heath have a positive impact on personal hygiene knowledge of the students. A positive relationship between the high socioeconomic status and state of health in young people was reported in the literature.[3,27,28] Obtaining data without a standard measurement tool for participants' personal hygiene knowledge is a limitation of the study.

CONCLUSION

It was determined in our study that the students had a good level of personal hygiene knowledge and medium level of health perception. Personal hygiene and positive health perception are very important for personal and public health. It is recommended that university students should be informed about personal hygiene, importance of health and health perception and follow-up activities should be performed in this regard. Furthermore, it is also believed that observational studies should be performed to determine if correct personal hygiene habits have formed or not in the universities.

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