Research Article / Araştırma

Determination of health perception, health anxiety and effecting factors among students studying in health departments

Sağlık bölümlerinde okuyan öğrencilerde sağlık algısı, sağlık anksiyetesi ve etkileyen faktörlerin belirlenmesi

Müjde Kerkez[1], Mehmet Kaplan[2]

[1] PhD. Vocational school of health services, University of Sirnak, Turkey. mujjde_@hotmail.com. 0000-0002-6968-9454
[2] Lecturer, Vocational school of health services, University of Bingol, Turkey, m.kaplan1071@gmail.com. 0000-0003-2504-9508

ABSTRACT

Aim: The aim of this study is to determine the health perception and health anxiety levels of students studying in health departments and the factors affecting them. **Materials and Methods:** The study was collected from associate degree students studying at a university between September and October 2022. The sample of the study consisted of 371 students. Research data collected online. Form containing sociodemographic characteristics, Health Perception Scaleand Health Anxiety Scale were used. Data were analyzed using the SPSS program. In the analysis of the data, number, percent age frequency distributions and independent t test, kruskall-wallis analysis of variance and spearmon correlation analysis were used. **Results**: In this study, the students' health perception scale mean score was 51.42 ± 7.20, and the health anxiety scale total score was 18.87 ± 8.49. A statistically significant difference was found between the students' Health Perception Scale sub-dimensions and their sociodemographic characteristics (age, gender, place of residence) ($p < 0.05$). A statistically significant difference was found between the students' Health Anxiety Scale sub-dimensions and their sociodemographic characteristics (gender, place of residence) ($p < 0.05$). **Conclusion**: It was determined that students' health perceptions and health-related anxiety were moderate. Trainings and social activities can be organized in order to positively change the attitudes and behaviors of students in the field of health. Problem solving skills can be developed.

ÖZ

Amaç: Bu çalışmanın amacı, sağlık bölümlerinde okuyan öğrencilerin sağlık algısı ve sağlık kaygısı düzeylerini ve bunları etkileyen faktörleri belirlemektir. **Gereç ve Yöntem:** Araştırma verileri, Eylül-Ekim 2022 tarihleri arasında bir üniversitede öğrenim gören ön lisans öğrencilerinden toplanmıştır. Araştırmanın örneklemini Bingöl Üniversitesi Sağlık Hizmetlerinde okuyan 371 öğrenci oluşturmuştur. Araştırma verileri sosyo-demografik özellikleri içeren form, Sağlık Algısı Ölçeği ve Sağlık Anksiyetesi Ölçeği kullanılarak çevrimiçi olarak toplanmıştır. Verilerin analizinde SPSS programı kullanıldı. Veriler analiz edilirken sayı, yüzde yaş frekans dağılımları ve bağımsız t testi, kruskall-wallis varyans analizi ve spearman korelasyon analizi kullanılmıştır. **Bulgular**: Bu çalışmada sağlık algısı ölçeğinden alınan toplam puan 51.42 ± 7.20, sağlık anksiyetesi ölçeğinden alınan toplam puan 18.87 ± 8.49'dur. Öğrencilerin Sağlık Algısı Ölçeği alt boyutları ile sosyodemografik özellikleri (yaş, cinsiyet, ikamet yeri) arasında istatistiksel olarak anlamlı fark bulunmuştur ($p < 0.05$). Öğrencilerin Sağlık Anksiyetesi Ölçeği alt boyutları ile sosyodemografik özellikleri (cinsiyet, ikamet yeri) arasında istatistiksel olarak anlamlı fark bulunmuştur ($p < 0.05$). **Sonuç**: Öğrencilerin sağlık algılarının ve sağlıkla ilgili kaygılarının orta düzeyde olduğu belirlendi. Öğrencilerin sağlık alanındaki tutum ve davranışlarını olumlu yönde değiştirmek için eğitimler ve sosyal etkinlikler düzenlenebilir. Problem çözme becerileri geliştirilebilir.

INTRODUCTION

One of the main methods of measuring health is perceived health status. Measuring health perception is one of the methods of obtaining information about public health (1). It is stated that factors such as the individual's gender, age, being married or not, education level, and monthly income are effective in the evaluation of health perception (2). Health perception is widely used in determining health status. It is also known that health perception has effects on health behaviors and health responsibilities (3).

Anxiety is also called worry. In general, it can be confused with fear. However, it is not the same as fear. While fear is an emotional reaction to the concrete threat and danger experienced at the moment, anxiety is the state of being uneasy about situations that may or may not happen in the future (4). Students studying at the university experience different kinds of conflicts

in emotional, behavioral, academic, sexual, economic and social areas as well as social changes. During this period, students need to take more responsibility to protect their individual health. At the end of this period, the adult identity takes its final form. These changes are reflected in a person's health behaviors (5).

One of the main aims of the education given to the students studying in the health department is the protection and development of health. In order to protect and improve health, the perception of health needs to be evaluated correctly. The perception of health also evaluates the individual physically, mentally and socially (6). Therefore, it is very important for students to perceive their health status positively in terms of controlling their own health status in the future and gaining healthy life style behaviors. The aim of this study is to determine the health perception, health anxiety and affecting factors of students studying in health departments.

MATERIAL AND METHODS

Type of study: It was conducted as a descriptive design.

The Universe and Sample of the Research: The population of the research consists of 732 students studying at Bingol University Health Services Vocational School. There search sample was determined as 357 students with alpha = .05, 95% confidence interval. There search was completed with 371 students. Research data were collected between September and October 2022. Theres earch data were collected online from the students of the First and Emergency Aid Department (Paramedic), Elderly Care Department, Physiotherapy Departmentand Medical Documentation and Secretarial students studying at Bingol University.

Research questions:

• What are the health perception, health anxiety and affecting factors of students studying in health departments?

• Is there a relationship between health perception and health anxiety?

Variables of the study: While the socio-demographic characteristics and anxiety levels of the students are the independent variables of there search, health perception is the dependent variable of there search.

Data collection tools:

Forms used in data collection: the form containing the sociodemographic characteristics of the students, the Health Perception Scale and the Health Anxiety Scale.

Health Perception Scale: In 2007, Diamond et al. developed by It was adapted intoTurkish by Kadıoğlu and Yıldız (2012). The scale consists of four sub-dimensions and 15 items. The sub-dimensions of the scale, which has a five-point Likert type, are as follows: control center, self-awareness, certainty and importance of health (8). While some items of the scale consist of positive statements (1,5,9,10,11,14), some items consist of negative statements (2,3,4,6,7,8,12,13,15). A score between 15-75 is taken from the scale. Control center sub-dimension; It is aimed at determining whether an individual connects his or her health to factors other than himself (luck, fate, religious belief, etc.). Self-awareness sub-dimension; It is aimed to determine the self-awareness perception of the individual about being healthy. Precision sub-dimension; It is aimed to determine whether he has a definite idea about what he should do to be healthier. Importance of health sub-dimension: It is aimed to determine how much the individual cares about his own health.

The Cronbach's alpha internal consistency coefficient of the scale was determined as 0.77 (8). In this study, Cronbach's alpha coefficient was found to be 0.70.

Health Anxiety Scale: It was developed by Salkovskis et al. (9). It was adapted into Turkish by Aydemir et al. (10). The health anxiety scale consists of 18 items. 14 items of the scale question the mental states of the individual. In the other 4 questions, the mental state is questioned with assumptions. A score between 0-54 is taken from the scale. High scores indicate high levels of health anxiety (9,10).

The Cronbach's alpha internal consistency coefficient of the scale was determined as 0.91. In this study, Cronbach's alpha coefficient was found to be 0.86.

Statistical analysis

The data obtained from the study were evaluated with the SPSS program. Frequency test in statistical analysis of data, independent sample t-test in binary groups in parametricdistributions, Kruskal-Wallis test in nonparametric distributions were used. Spearman's Correlation Analysis wasused. A 95% confidence interval was used in the analyzes and a $p < 0.05$ was considered statisticallys ignificant.

Limitation of theResearch

The limitation of the study is that it only consisted of students studying in the First and Emergency Aid department, the Elderly Care department, the Physiotherapy departmentand the Medical Documentation and Secretarial Department of a university.

RESULTS

In this section, thedemographic characteristics, health perceptions and health anxiety levels of the students participating in the study were examined.

Table 1. Socio-demographic characteristics of students

	Number	Percent
Age		
18-25	356	96.0
26-35	15	4.0
Gender		
Female	162	43.6
Male	209	56.4
Department		
Elderlycare	123	33.2
First andemergencyaid	134	36.1
Physiotherapy	41	11.1
Medical Documentation and Secretarial	72	19.4
Mothereducationstatus		
Illiterate	148	39.9
Literate	1	0.3
Primaryschool	144	38.8
Middle School	53	14.3
High school	17	4.6
University	8	2.2
Fathereducationstatus		
Lliterate	33	8.9
Primaryschool	148	39.9
Middle School	95	25.6
High school	73	19.7
University	22	5.9
Theplace of residence		
Family	146	39.4
StateDormitory	179	48.2
Other	46	12.4
Incomestatus		
Bad	74	19.9
Middle	260	70.1
Good	37	10.0
Total	**371**	**100.0**

When thesocio-demographic characteristics of the students are examined; It was determined that 96.0% were in the 18-25 age range, 56.4% were male, 36.1% were in the first and emergencyaid program, 39.9% were illiterate, their fathers were primary school graduates, 39.9% were primary school graduates, 48.2% lived in dormitories, and 70% had a normal income (Table 1).

The mean score of the students' health perception scale wasdetermined as 51.42±7.20.The mean scores of the sub-dimensions of the health perception scale were determined as 17.25±4.03 for the control center, 10.95±2.51 for precision, 10.95±2.51 for the importance of health, and 10.67±2.23 for self-awareness. The mean score of the students' health anxiety scale was determined as 18.87±8.49 (Table 2).

A statistically significant difference was found between the controlcentersub-dimension of the Health Perception Scale and the age group ($p<0.05$). A statistically significant difference was found between the importance of health sub-dimension and gender ($p<0.05$).A statistically significant difference was found between the sub-dimension of self-awareness and the place of residence ($p<0.05$) (Table 3).

A statistically significant difference was found between the Health Perception scale and age ($p<0.05$). No statistically significant difference was found between the Health Perception Scale and the departments they studied ($p>0.05$). A statistically significant difference was found between the Health Anxiety Scale and the gender and place of residence ($p<0.05$). No statistically significant difference was found between the Health Anxiety Scale, the departments they studied, and the age group ($p>0.05$) (Table 4).

A statistically significant positive and weak correlation was found between the students' Health Perception scale and health anxiety scale scores ($r=0.250$, $p<0.001$). A statistically significant positive and very weak correlation was found between the students' Health Perception Scale Control Center sub-dimension and Health Anxiety Scale total scores ($r=0.140$, $p<0.007$). A statistically significant, positive and weak correlation was found between the students' Health Perception Scale Precision sub-dimension and Health Anxiety Scale scores ($r=0.301$, $p<0.001$) (Table 5).

DISCUSSION

During the university period, students move out of adolescence and into young adulthood. In this period, the individual begins to take responsibility for his own health. If students perceive their health status as positive, their belief in controlling their future health will increase. They also acquire healthy life style behaviors (11). This study focuses on determining the health perception level, health anxiety level and affecting factors of young adult students and the relationship between them. In the study, it was determined that students' health perception and health anxiety were moderate.

Table 2. Students' health perception and health anxiety scale mean scores

Scales andSub-dimensions	Min	Max	X ± SS
Health Perception Scale Total Score	15	75	51.42±7.20
Control center	5	25	17.25±4.03
Precision	4	20	12.54±3.05
Importance of health	3	15	10.95±2.51
Self-awareness	3	15	10.67±2.23
Health Anxiety Scale Total Scale Score	0	54	18.87±8.49

Table 3. Comparison of students' socio-demographic characteristics and Health Perception subscales (n=371)

	Control center	Precision	Importance of health	Self-awareness
Age				
18-25	15.22±4.00	13.46±3.04	10.95±2.50	10.68±2.21
26-35	19.87±4.75	13.60±2.61	11.07±2.81	10.47±2.80
Test Value	MW=-2.638	MW=-0.602	MW=-.493	MW=-0.041
Significance	**p=0.008**	p=0.547	p=0.622	p=0.967
Gender				
Female	17.17± 3.93	14.57 ±2.97	12.80± 2.55	10.63 ±2.21
Male	17.31± 4.11	10.52±3.12	9.07 ± 2.47	10.71± 2.26
Test Value	t=-0.247	t=-0.239	t=2.649	t=1.455
Significance	p=0.805	p=0.811	**p=0.001**	p=0.715
Department				
Elderlycare	17.13±4.10	12.59±3.17	11.28±2.30	10.85±2.09
First andemergencyaid	16.93±4.17	12.39±3.14	10.80±2.46	10.69±2.30
Physiotherapy	18.78±3.21	12.83±2.86	10.59±2.55	10.51±2.25
MedicalSecretarial	17.22±3.96	12.64±2.82	10.83±2.87	10.47±2.33
Test Value	KWx^2=5.783	KWx^2=1.175	K Wx^2=3.164	KWx^2=1.554
Significance	p=0.123	p=0.759	p=0.367	p=0.670
Place of residence				
Family	16.88±4.00	12.50±3.20	10.98±2.65	9.80±2.34
StateDormitory	17.68±3.84	12.41±2.85	11.01±2.33	11.79±1.99
Other	16.76±4.73	13.22±3.33	10.60±2.72	9.83±2.62
Test Value	KWx^2=3.673	KWx^2=1.753	KWx^2=1.121	KWx^2=5.071
Significance	p=0.159	p=0.416	p=0.571	**p=0.001**

The perception of health is based on the individual's self-evaluation. Health perception evaluates the physical, mental and social functionality of the individual as well as self-evaluation (12). In this study, the total score the students got from the perception of health was 51.42±7.20. When the literature is examined, it has been determined that the students have a moderate level of health perception in the studies conducted with students in Turkey (6, 13, 14). The results of this study are similar to the literature. This result can be associated with similar social habits and cultural beliefs.

In this study, a statistical difference was found between the sub-dimensions of the health perception scale and sociodemographic characteristics (Table 3). When the sub-dimension score averages were examined in terms of age groups, it was found that the control center sub-dimension average score of the students aged between 26-35 was higher. When the literature is examined, there are studies that found similar and different results to these research findings. In a study, it was stated that advanced age did not provide a significant difference in the control center sub-dimension (6). However, in some studies, it has been reported that individuals' perceptions of control increase with increasing age (15, 16). It can be thought that individual shave more autonomy with advancing age.

When the sub-dimensions of female and male students' perceptions of health were examined, it was determined that female students had higher mean scores in the sub-dimensions of the importance of health. It was found that there was no significant difference in other sub-dimensions (Table 3). When the literature is examined, there are studies that found similar and different results to these research findings. In a study, it was determined that the mean score of female students in health responsibility is higher than the average of male students (17). However, in somestudies, no significant relationship was reported between gender and perception of health (18, 19). It can be thought that the differences in the study, together with the results of our findings, which are similar to the literature, may be due to the regional differences in women's housework management.

In this study, a significant relationship was found between the sub-dimension of self-awareness and the place of residence of the students (Table 3). Self-awareness of students staying in state dormitories was found to be higher. Students live in a crowded environment in state dormitories. In addition, since the parents are not with the students, all the responsibilities are taken by the students. It is thought that they have high self-awareness because they take responsibility.

Students' perception of their health status positively affects their beliefs about being able to control their future health status and their healthy lifestyle behaviors. High health anxiety can cause many mental health-relateddisorders (depression, etc.) (20). In studies, higher health perception was associated with higher health anxiety (21, 22). In this study, the mean score of the students from the health anxiety scale was 18.87±8.49. When the studies conducted to determine health anxiety were examined, results close to the average score obtained from this study were obtained (23). Recognition of health anxiety and taking precautions before it occurs are important both individually and socially. In this study, it was determined that gender did not affect the perception of health (Table 3). When the literature is examined, there are studies that found similar and different results to these research findings. While some studies did not indicate a relationship between gender and health anxiety, it was stated that women had higher health anxiety (24, 25). However, some studies did not find any relationship (26, 27). Although the results of this finding are similar to the literature, it can be associated with the fact that women are more responsible than men.

In this study, no significant relationship was found between the health anxiety level of the students and their age groups, the departments they studied, and the places they lived. In a similar study conducted with university students, no relationship was found between health anxiety and age (28). The results of the study are similar to the literature.

A statistically significant, positive and weak correlation was found between thestudents' health perception scale total scores and their health anxiety scale total scores (Table 5). In some studies, it has been emphasized tha high level of health anxiety leads to a better perception of one's own health status and higher levels of health-promoting behaviors (29, 30). In addition, a significant correlation was found between certainty and self-awareness total score and health anxiety in the subscales of the health perception scale. In this context, it can be said that individuals who are uncertain about the factors affecting health and who have high self-awareness experience more anxiety.

CONCLUSIONS

It was determined that students' health perception level and health-related anxiety were moderate. Students studying in health departments are the health professionals of the future. In order for these students to be able to provide health services to the community in the future, they must first be healthy. Therefore, it is very important to protect and improve the health of

students. Inaddition, in order to protect social health, students can gain positive attitudes and behaviors towards individual and society health. For this, students need to acquire advanced healthy living behaviors. Courses that will raise awareness about health can be included in university curricula. Inaddition, the inclusion of courses such as health promotion in the curriculum of all departments of universities can provide remarkable benefits for young people to acquire positive health behaviors. There is a need for more detailed studies in this area in order to enable students to take individual health responsibilities and to reduce their health anxiety level.

REFERENCES

1. Aksüt AG, Soysal N, Balcı UG, Öngel K. Farklı hasta gruplarındaki tedavi sürecinde yaşam kalitesinin değerlendirilmesi. Ege Klinikleri Tıp Dergisi. 2018;56(3):109-113.
2. Elçin E, Khorshtd L. İki farkli bölüm öğrencilerinin sağlik algilarinin karşilaştirilmasi. EGEHFD. 2016;32(2):1–10.
3. Açıksöz S, Uzun Ş, Arslan F. Hemşirelik öğrencilerinin sağlık algisi ile sağliği geliştirme davranişlari arasindaki ilişkinin incelenmesi. Gulhane Med J. 2013;55(3):181–187. https://doi.org/10.5455/gulhane.15228
4. Şahin M. Korku, kaygı ve kaygı (anksiyete) bozukluklari. ASEAD. 2019;6(10):117-135.
5. Bahadir E. Sağlıkla İlgili fakültelerde eğitime başlayan öğrencilerin psikolojik sağlamlık düzeyleri. [Yüksek Lisans Tezi]. Ankara: Hacettepe Üniversitesi; 2009.
6. Alkan SA, Özdelikara A, Boğa NM. Determination of nursıng students' health perception. Gumushane University Journal of Health Sciences. 2017;6(2):11–21.
7. Diamond JJ, Becker JA, Arenson CA, Chambers CV, Rosenthal MP. Development of a scale to measure adults' perceptions of health: preliminary findings. Journal of Community Psychology. 2007;35(5):557-561. doi: 10.1002/jcop.20164
8. Kadıoğlu H, Yildiz A. Validity and reliability of Turkish version of perception of health scale. Turkiye Klinikleri J Med Sci. 2012;32(1):47–53. https://doi.org/10.5336/medsci.2010-21761
9. Salkovskis PM, Rimes KA, Warwick HMC, Clark DM. The health anxiety Inventory: development and validation of scales for the measurement of health anxiety and hypochondriasis. Psychol Med. 2002;32(5):843-853. doi: 10.1017/s0033291702005822.
10. Aydemir Ö, Kirpinar I, Sati T, Uykur B, Cengisiz C. Sağlık anksiyetesi ölçeği'nin Türkçe için güvenilirlik ve geçerlilik çalışması. Noropsikiyatri Arsivi. 2013;50(4):325–331. https://doi.org/10.4274/npa.y6383
11. Baumgartner JN, Schneider TR. A randomized controlled trial of mindfulness-based stress reduction on academic resilience and performance in college students. Journal of American College Health 2021;16(1):1–10. https://doi.org/10.1080/07448481.2021.1950728
12. Anshel MH, Smith M. The Role of religious leaders in promoting healthy habits in religious ınstitutions. JORH. 2014;53(4):1046–1059. https://doi.org/10.1007/s10943-013-9702-5
13. Tunc GC, Bilgin NC, Cerit, B. The relationship between international students' health perceptions and their healthy lifestyle behaviors. JORH. 2021;60:4331–4344. https://doi.org/10.1007/s10943-021-01336-0
14. Park DY. The effects of family function, health perception, and self-efficacy on health promoting behaviors of nursing college students. J Korea Contents Assoc. 2017;17(6):561–70. https://doi.org/10.5392/JKCA.2017.17.06.561
15. Aksoy T, Uçar H. Hemşirelik öğrencilerinin sağlıklı yaşam biçimi davranışları. HUHEMFAD. 2014;1(2):53-67.
16. Çilingir D, Aydın A. Department of nursing students' perception of health. Florence Nightingale Hemşirelik Dergisi. 2017;25(3):167–176. https://doi.org/10.17672/fnjn.343254
17. Ortabag T, Ozdemir S, Bakir B, Tosun, N. Health promotion and risk behaviors among adolescents in Turkey. JOSN. 2011;27(4):304–315. https://doi.org/10.1177/1059840511408322
18. Yiğital G. Sağlığın geliştirilmesi dersinin hemşirelik öğrencilerinin sağlıklı yaşam biçimi davranışlarına etkisi. Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi. 2022;11(1):271-278.
19. Musavian AS, Pasha A, Rahebi SM, Roushan ZA, Ghanbari A. Health promoting behaviors among adolescents: a cross-sectional study. In Nurs Midwifery Stud. 2014;3(1):e14560. doi: 10.17795/nmsjournal14560.
20. Bobevski I, Clarke DM, Meadows G. Health anxiety and its relationship to disability and service use: Findings from a large epidemiological survey. Psychosomatic Medicine. 2016;78(1):13–25. https://doi.org/10.1097/PSY.0000000000000252
21. Chiu CJ, Hu JC, Lo YH, Chang EY. Health promotion and disease prevention interventions for the elderly: A scoping review from 2015–2019. IJERPH. 2020;17(15):1–11. https://doi.org/10.3390/IJERPH17155335
22. Huang Y, Zhao N. Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. Psychiatry Research. 2020;288:112954. https://doi.org/10.1016/J.PSYCHRES.2020.112954
23. Aziz KA, Al-sanadi A, Al-shamsi A, Al-sharqi H, Al-zaabi M, Al-shehhi N. Health anxiety in medical students in the united arab emirates. Royal College of Psychiatrists International Congress. June 2018; Birmingham, United Kingdom. https://doi.org/10.13140/RG.2.2.25302.55365
24. Chen Q, Zhang Y, Zhuang D, Mao X, Mi G, Wang D. Health anxiety in medical employees: A multicentre study. Journal of International Medical Research. 2019;47(10):4854–4861. https://doi.org/10.1177/0300060519872310
25. Kızılkurt OK, Yılmaz A, Noyan CO, Dilbaz N. Health anxiety during the early phases of COVID-19 pandemic in Turkey and its relationship with postpandemic attitudes, hopelessness, and psychological resilience. PPC. 2021;57(1):399–407. https://doi.org/10.1111/ppc.12646
26. Arslan B, Özçelik S. Tıp fakültesi öğrencilerinde sağlık anksiyetesi ve hipokondri. Tıp Eğitimini Geliştirme Derneği Kongresi (TEGED). 2020; İstanbul, Türkiye.
27. Zahid MF, Haque A, Aslam M, Aleem NA, Hussain S, Fahad H. Health-related anxiety and hypochondriacal concerns in medical students: a cross-sectional study from Pakistan. Teach Learn Med. 2016;28(3):252-259. doi: 10.1080/10401334.2016.1155459.
28. Mohebi S, Parham M, Sharifirad G, Gharlipour Z, Mohammadbeigi A, Rajati F. Relationship between perceived social support and self-care behaviorin type 2 diabetics: A cross-sectional study. J Educ Health Promot. 2018;3(7):48. doi: 10.4103/jehp.jehp_73_17.
29. Ahn YC, Park HS, Ra GW. Perceived health status and health promoting behaviors among unıversity student. J Korean Med. 2014;32(4):52-64. https://doi.org/10.13048/jkm.14043
30. Hosseini M, Ashktorab T, Hosseintaghdisi M, Vardanjani AE, Rafiei H. Health-promoting behaviors and their association with certain demographic characteristics of nursing students of Tehran city in 2013. Global Journal of Health Science. 2014;7(2):264-272. https://doi.org/10.5539/gjhs.v7n2p264