TITLE: Determining Relationship Between Headache and Cyberchondria Levels in University

Students with Headache

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Determining Relationship Between Headache and Cyberchondria Levels in University Students with Headache

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ABSTRACT

Background: University students may experience various health problems throughout their education life. One of the most common health problems faced by students is headache. Today, university students use the internet extensively to access information. Therefore, it is predicted that university students with headaches may tend to search for health information on the internet.

Purpose of the Study: In this study, it was aimed to determine the relationship between headache and cyberchondria levels of university students with headache.

Method: A questionnaire form was used to collect data in the descriptive study. The questionnaire form included Socio-demographic form, Cyberchondria Scale, Headache Impact Test (HIT-6) and Visual Analog Scale (VAS). The study data were obtained from the Vocational School of Health Services of a University in Konya. 225 volunteers whose headaches lasted more than 30 minutes were included in the study. Independent sample t-test was used for pairwise comparisons, and one-way analysis of variance was used to compare more than two groups. Correlation analysis was used to determine the relationship between scales.

Findings: Headache impact levels (60.19±7.99) and pain severity (6.75±1.88) of the participants were high. Headache impact level and severity of female students were higher than males (p<0.05). In the study, a positive correlation was found between impact (p<0,01, r=0,269) and severity of headache (p<0,01, r=0,216) and the level of cyberchondria.

Conclusion: Increase in headache in university students increased the level of cyberchondria. Therefore, there is a need for approaches to reduce headaches in order to reduce students' cyberchondria level. It is recommended to increase the social activities that can help reduce the stress levels and headaches of the students, and to increase the number of elective courses with physical activities.

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INTRODUCTION

Today, the Internet is the most popular tool used to access information. The Internet makes it possible to access a large number of information and opinions at relatively low costs (Singh et al 2016). The Internet is often used to research health-related topics. About 60-80% of internet users search for health-related information on the web (Berle et al 2020). But only 2% of all internet searches contain accurate medical information (White and Horvitz 2009).

Searching for health information online allows people to learn about their diseases and treatments. However, it is observed that some people's anxiety levels increase due to online misinformation about their diseases (White and Horvitz 2009). In a study, 46% of the participants stated that they thought of applying to a psychiatrist because of their health information on the internet (Fox and Duggan 2013). The person's increased anxiety causes them to search for more disease information online. This event turns into a vicious circle and the state of cyberchondria emerges (Varma et al 2021). The term cyberchondria was first used in an article in the Wall Street Journal in 1999 (Starcevic and Berle 2013). The cyberchondria is derived from the words cyber and hypochondriasis. Although hypochondriasis is not a disorder in the body, it is characterized as the behavior of going to the doctor by feeling sick all the time. In other words, cyberchondria is the digital version of hypochondriasis (Starcevic et al 2020). The cyberchondria cause increased anxiety and depressive state (Mathes et al 2018). In studies conducted with students, it was stated that students with health problems intensely seek medical information online and these students are anxious and distressed (Singh and Brown 2014; Muse et al 2012).

The pain is a subjective experience influenced by genetic, gender, social, cultural and personal parameters. Today, it is accepted that pain is not only effective in biological but also psychological factors. For example, the mood experienced by the person can lower the pain threshold and cause the person to feel the pain more severely. Pain experience is closely related to many cognitive factors such as thought about the source of pain, perception of pain threshold, and perception of controllability of pain (Michealides and Zis 2019, Okyayuz 2013).

The headaches are one of the most common complaints in population. The rate of people who experience a headache at least once in their lifetime is over 90% in the general population (Özsaydı and Balcı 2021). In a study conducted in Turkey, migraine was found in 29.2% of adolescents and children and tension-type headache in 26.7% of them (Wöber et al 2018). Similarly, in a study conducted with 2023 university students in Turkey, tension-type headache was found in 22.64% and migraine in 17.89% (Kurt and Kaplan 2008). The headache can be thought of as pain radiating to the forehead, around the eyes, temples, or scalp and usually does not include pain specific to the face or neck (Whitehouse and Agrawal 2017).

For students who come to the university and start a new life; many reasons such as the new environment they encounter, new friends, academic staff, financial and academic difficulties carry the potential for stress (Durna, 2006). These stress factors can cause headaches in university students. At the same time, university students who actively use the internet may tend to search for health problems they encounter on the internet. Although the relationship between cyberchondria and anxiety has been clearly demonstrated in studies, no study has been found that examines the relationship between headache and cyberchondria. The aim of this study is to examine the relationship between cyberchondria levels and headache status in university students.

MATERIALS AND METHODS

In the descriptive study, a questionnaire form was used as a data collection. The questionnaire form consisted of four parts. In the first part, there were questions about the socio-demographic characteristics of the participants such as age and gender. The second part included the Cyberchondria Scale. The Turkish reliability and validity study of the cyberchondria scale developed by McElroy and Shevlin (2014) was performed by Batıgün et al. Cyberchondria Scale consists of 28 items scored on a 5-point likert type ("1=Never", "2=Rarely", "3=Sometimes", "4=Often" and "5=Always"). High scores from the scale indicate that the level of cyberchondria has increased (Batıgün et al 2018). Headache Impact Test (HIT-6) was included in the third part. The Turkish reliability and validity study of the HIT-6 developed by Bayliss et al (2003) was performed by Dikmen et al. The Headache Impact Test (HIT-6) includes areas such as vitality, pain and psychological state, social, role, and cognitive functioning. Each question is answered using a 5-point Likert scale (6 = never, 8 = rarely, 10 = sometimes 11 = very often, 13 = always). A score of 36 to 78 can be obtained from the test, and high scores indicate an increased headache impact. (Dikmen et al 2020). In the fourth section, the visual analog scale (VAS) was included. The Turkish reliability and validity study of the VAS developed by Boonstra et al (2008) was performed by Aydın et al. VAS is a 10 cm linear subjective scale. The participant marks the

current pain between 0-10 cm. A value of 0 means no pain, a value of 10 means severe pain (Aydın et al 2011). The Cronbach's Alpha values of the Headache Impact Test (HIT-6) and the Cyberchondria Scale used in the study were found to be 0.867 and 0.931, respectively. Considering these values, the scales were found reliable.

The study was carried out at a Foundation University in Konya. The population of the research consisted of Vocational School of Health Services students (n=750). No sampling method was chosen in the research, and 352 people who voluntarily participated in the research formed the sample of the research.

SPSS 21.0 package program was used for statistical analysis of the data (IBM SPSS Statistics for Windows, Version 21.0., IBM Corp., Armonk, NY, USA). Since the data showed normal distribution, analyzes were performed using parametric tests at 95% confidence interval (p=0.05). Frequency and percentage analysis were used for descriptive statistics. Independent sample t-test was used for pairwise comparisons, and one-way analysis of variance was used to compare more than two groups. Correlation analysis was used to determine the relationship between scales.

RESULTS

The mean age of the participants was 21.03±2.52. The mean headache impact level mean was 60.19±7.99 and the mean pain severity was 6.75±1.88 of the participants. There was no difference between the headache impact level (p=0.215 >0.05), headache severity (p=0.662 >0.05) and cyberchondria levels (p=0.932 >0.05) according to the class levels of the participants. There was no difference between the headache impact level (p=0.584 >0.05), headache severity (p=0.730 >0.05) and cyberchondria levels (p=0.377 >0.05) according to the age groups of the participants.

Table 1: Socio-demographic findings

Variable	Group	Frequency	%
Gender	**Female**		**88.4**
	Male		11.6
Age	**18-20**	**110**	**48.9**
	21-23	102	45.3
	24+	13	5.8
Program	Anesthesia	31	13.8
	Child development	**58**	**25.8**
	Dialysis	36	16.0
	Physiotherapy	25	11.1
	First and Emergency Aid	37	16.4
	Medical Imaging	38	16.9
Class	1	91	41.4
	2	**129**	**58.6**

The socio-demographic data of the participants are shown in Table 1. 88.4% of the participants were female students and 11.62% were male students. 48.9% of the age groups are in the 18-20 age group, 45.3% are in the 21-23 age range, 5.8% are in the age group of 24 and over. It is included in 13.8% of the participants were anaesthesia, 25.8% child development, 16.0% dialysis, 11.1% physiotherapy, 16.4% first and emergency aid and 16.9% the medical imaging techniques program. 41.4% of the participants are in the 1st grade and 58.6% are in the 2nd grade.

Table 2: Headache and cyberchondria levels by gender of the participants

Gender		Mean	St. Deviation	t	p
Headache Impact Test (HIT-6)	**Female**	**60.84**	**7.736**	3.498	**0.001**
	Male	55.15	8.289		
Headache Severity (VAS)	**Female**	**6.86**	**1.871**	2.525	**0.012**
	Male	5.88	1.774		
Cyberchondria	Female	2.30	0.635	1.953	0.052
	Male	2.04	0.730		

Table 2 shows the levels of headache and cyberchondria according to the gender of the participants. It was determined that the impact level of headache was statistically higher in female students compared to male students (t=3.498; p=0.001). Similarly, headache severity of female students was statistically higher than males (t=2.525;

p=0.012). There was no significant difference between the levels of cyberchondria according to the gender of the participants (p=0.052>0.05).

Table 3: Headache and cyberchondria levels according to the programs of the participants

		Mean	St. Deviation	F	P	Difference
Headache impact level	*Anaesthesia*	*61.23*	*8.313*	*3.093*	*0.010*	*1-3* *2-4,6* *3-1,4,5,6*
	Child Development	*58.38*	*7.838*			
	Dialysis	*57.08*	*9.403*			
	Physiotherapy	*62.80*	*7.320*			
	First- Emer. aid	*61.32*	*6.425*			
	Med. İmaging	*62.21*	*7.215*			
Headache Severity	*Anaesthesia*	*6.52*	*0.382*	*1.008*	*0.414*	
	Child Development	*6.79*	*0.265*			
	Dialysis	*6.30*	*0.257*			
	Physiotherapy	*6.60*	*0.321*			
	First- Emer. aid	*7.13*	*0.353*			
	Med. İmaging	*7.03*	*0.259*			
Cyberchondria	*Anaesthesia*	*2.57*	*0.110*	*1.737*	*0.127*	
	Child Development	*2.24*	*0.068*			
	Dialysis	*2.14*	*0.134*			
	Physiotherapy	*2.25*	*0.146*			
	First- Emer. aid	*2.28*	*0.967*			
	Med. İmaging	*2.20*	*0.109*			

Table 3 shows the headache and cyberchondria levels of the participants according to their programs. It was determined that the headache impact levels of the students in the dialysis program were statistically lower than the students in the anesthesia, physiotherapy, first and emergency aid and medical imaging programs (F=3.093; p=0.010). It was seen that the headache impact levels of the students in the child development program were statistically lower than the students in the physiotherapy and medical imaging techniques programs (F=3.093; p=0.010). There was no difference between the headache severity and cyberchondria levels of the participants.

Table 4. Headache impact level, headache severity and relationship with cyberchondria

	1	2	3
HIT6	1		
VAS	.483**	1	
Cyberchondria	.269**	.216**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows the correlation between headache and cyberchondria levels of the participants. There was a positive correlation between headache impact level and headache severity. There was a positive correlation between the headache impact level and cyberchondria. Similarly, a positive correlation was found between headache severity and cyberchondria.

CONCLUSION AND RECOMMENDATIONS

In the study, it was observed that the headache impact levels (60.19±7.99) and pain severity (6.75±1.88) of the participants were high. This finding shows that students have headaches above the average. Özsaydı and Balcı (2021) stated that approximately 47% of the students had a headache severity average of more than 5 according to the VAS, and that headache had a negative impact on students' success. So much so that it shows that the headache that university students face is one of the factors that should be considered for their success in the courses.

When headache was evaluated according to gender, it was determined that the headache impact level and

headache severity of female students were statistically higher than males. Similarly, Özsaydı and Balcı (2021) showed that female students have higher headaches than males. Scher (2008) states that chronic headache is a risk factor in women. In a study comparing genders, it was shown that women complain of headache more than men because their social roles, physiology and disease orientations are different from men (Celentano et al 1990). This finding is also important for students studying in health fields. Because the majority of students studying in health fields are girls. On the other hand, the obtained finding is similar to the literature.

It has been stated that university students in the field of health often suffer from headaches (Anaya et al 2022). University students experience stress, anxiety and depression that can cause headaches more than the normal population. Especially during exam periods, students' fear and anxiety increase (Quek et al 2019). Headache impact levels of dialysis program students in the study; anesthesia, first and emergency aid, physiotherapy and medical imaging techniques program were found to be lower than students. Headache impact levels of the students of the child development program were lower than the students of the physiotherapy and medical imaging techniques program. As a result, it was thought that dialysis program students might have higher levels of stress and anxiety compared to other programs.

In the study, it was observed that as the headaches of the students increased, the levels of cyberchondria also increased. Individuals with chronic pain often turn to the Internet to find out the origin of their pain. However, individuals often get inaccurate information on the Internet and worry (Gibler et al 2019). It is an obvious example to search the causes of headaches on the internet and consider the possibility of a brain tumor, which is the last possibility (Erdoğan et al 2020). Üstüner et al. (2010) conducted a study on students' headaches; stated that it is important to identify situations that increase stress and stay away from them in order to relieve headaches. In this respect, we think that attempts to reduce headache can also reduce cyberchondria.

There were some limitations of our study. The anxiety levels of the participants in the study were not measured. In addition, a questionnaire to evaluate internet addiction was not used. For this reason, the increase in anxiety due to cyberchondria could not be determined.

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