

## Examination on Health Anxieties of Students in the Faculty of Health Sciences about COVID-19

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### ABSTRACT

Health anxiety is a state of fear that an individual has a major health problem or will experience a health problem as a result of misinterpreting their physical findings. In this cross-sectional descriptive study, no sampling method was used and all students (893), who studied in Bandırma Onyedi Eylül University Faculty of Health Sciences between March and April 2020, were tried to be reached. The sample included 504 students who voluntarily agreed to participate in the study. The sample's power to represent the population was 56.43%. A questionnaire was used as the data collection tool. The questionnaire consisted of a personal information form and the Health Anxiety Inventory (Short Form). The data were analyzed using SPSS (Statistical Package for the Social Sciences) 16.0 package program. Descriptive statistics such as number, percentage, mean and standard deviation were used in the data analysis. Mann-Whitney U test and Kruskal Wallis were used to evaluate the personal characteristic and mean scores on health anxiety since the data were not distributed normally. Considering the general profile of the students participating in the study, the mean age was  $20.65 \pm 1.5$ , and most students were female (83.1%), first grade (41.3%) and nursing students (40.3%). The most common sources of information about the Covid-19 were the official announcements from the Ministry of Health (86.9%), social media (81.5%) and TV news (80.4%). The total mean scores of the students on the health anxiety inventory was  $18.55 \pm 6.07$  while their mean scores on the body dimension was  $14.07 \pm 4.87$  and on the additional dimension was  $4.47 \pm 2.43$ . When the significance level of the correlation between the variables and health anxiety was evaluated, a significant difference was found only with the variable of sex, and there were no significant differences between the variables of the department and grade of the students. Accordingly, female students had higher anxiety levels than the male students. It is recommended that the study should be conducted with all students and similar studies should be carried out after the pandemic since there are differences between the period in which the study was conducted and in the following periods.

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## INTRODUCTION

Health anxiety is a state of fear that an individual has a major health problem or will experience a health problem as a result of misinterpreting their physical findings. In other words, it is the inability of individuals to cope with this threat as a result of their perception of a threat to their own health (Abramowitz & Braddock, 2008: 13). As conceptualized by Longley et al. (2005: 9), health anxiety consists of four dimensions as alienation (cognitive dimension), reassurance seeking (behavioral dimension), absorption (perceptive dimension) and worry (affective dimension). Alienation is the dimension where the individual believes that they are sick despite all evidences. Reassurance seeking expresses the state of seeking social support for health problems that the individual thinks they have. In the absorption dimension, the individual focuses on the sensations they physically feel. In worry, which is the affective dimension, the individual worries about health problems that they believe they have or will have.

Health anxiety is a multilateral condition and affects everyone at a different level. Individuals with low level of anxiety show behaviors such as avoiding endangering their health status or receiving appropriate service to be healthier. Individuals with high level of anxiety may experience physical (tachycardia, etc.) or psychological (panic disorder, etc.) problems depending on the situation they are in (Karapınar et al., 2012: 43; Taylor and Asmundson, 2004: 1). The severity of anxiety felt may have different results in individuals. While the fear of disease is more cognitive in some people, some have greater symptom awareness and physical engagement (Harding et al., 2010: 104-105). The individual's genetic structure, past experiences, personality structure, and events that happened around are the risk factors that affect the health anxiety level (Starcevic and Noyes, 2014). Another risk factor can be epidemic diseases.

Numerous epidemic diseases have emerged throughout the history. Some of these diseases were regional while some of them turned into a pandemic and affected the entire world. For example, the Spanish Flu which emerged in 1918 and became the biggest pandemic in the 20th century, is estimated to cause the deaths of approximately 20 and 50 million people. Smaller pandemics such as the Asian (1958) and Hong Kong (1959) flu also occurred in the 20th century and these two diseases caused the deaths of approximately 8 million people (URL 1). The first

epidemic in the 21st century is the SARS-COV due to coronavirus that emerged in 2003. This disease which is transmitted from civet cats murdered hundreds of people at the time it emerged. Approximately 10 years later, it was MERS-COV which was transmitted to humans from camels and numerous people were affected from this process. In the present day, China reported pneumonia cases with unknown etiology on the 31st of December 2019. On the 7th of January 2020, it was determined that this disease was a new coronavirus that was seen in humans for the first time. This new coronavirus, which is named as Covid-19, has been found in 187 countries according to current data. As of the end of August, it is seen that there are 25,760 million cases, 17,077 million recovering patients in the world and 857,248 people died (URL 2). As of the end of August, the total number of cases has become 271,705, total number of deaths has become 6417 and the number of recovering patients has become 245,929 in Turkey (URL 3). These numbers are increasing and changing in Turkey and around the world.

Epidemic diseases affect the physical health of the societies as well as many psychological and sociological aspects. There are studies which show that the anxiety levels of individuals are high during epidemic disease periods in the literature (Leung et al., 2005; Leung et al., 2003; Jones and Salathe 2009; Çırakoğlu, 2011). A study examining the psychological states of individuals during the Horse Flu epidemic in Australia in 2007 found that the anxiety levels of young people were higher than the rest of the society (Taylor et al., 2008).

The Covid-19 epidemic we are in has brought about very different changes in social life. Increasing unemployment, closing workplaces, curfews, transportation restrictions are just some of these changes. There have been changes in education as in other areas. All primary school and middle school institutions, and universities were closed and education activities were tried to be continued remotely. In such period of time, the health anxiety due to the Covid-19 was added up to the existing concerns of the university students about exams and employment after graduation. This study was conducted to learn the knowledge and attitudes of the students, who received education in the faculty of health sciences, about the Covid-19 and to measure their health anxiety levels.

MATERIAL AND METHOD

1. Type, Time and Sample of the Study

In this cross-sectional descriptive study, no sampling method was used and all students (893), who studied in Bandırma Onyedi Eylül University Faculty of Health Sciences between March and April 2020, were tried to be reached. The sample included 504 students who voluntarily agreed to participate in the study. The sample’s power to represent the population was 56.43%.

2. Data Collection Tool

A questionnaire was used as the data collection tool. The questionnaire consisted of a personal information form and the Health Anxiety Inventory (Short Form). The personal information form which was formed by the researchers had nine questions about the students’ personal information and opinions about the Covid-19. The Health Anxiety Inventory (Short Form) is a self-report questionnaire with 18 items. It was developed by Salkovskis et al. (2002) and its Turkish validity and reliability studies were carried out by Aydemir et al. (2013). The factor structure of the scale has two dimensions. The body dimension, which is the basis of the scale, has 14 items and questions the mental condition of the patients about health/diseases. The additional dimension, which consists of the last four items, is related to negative results of diseases and aims to reveal the patients’ opinions on how their mental condition might be under the assumption that they have a serious illness. It is stated that the scale can be used in different studies besides patients. Each item in the scale is scored between 0-3. The lowest score that can be obtained from the scale is 0 while the highest score is 54. High scores indicate high level of health anxiety. The Cronbach's alpha internal consistency coefficient of the scale was determined to be 0.918. It was found as 0.788 in this study.

3. Data Collection Method

Face-to-face education was ended in the faculty, where the study was carried out, due to Covid-19 pandemic and remote education has started. Therefore, data were collected through online questionnaire application. The link of the questionnaire, which included questions on personal information and the items on the Health Anxiety Inventory, was sent to the students and those who voluntarily agreed to participate in the study were included.

4. Statistical Analysis of Data

The data were analyzed using SPSS (Statistical Package for the Social Sciences) 16.0 package program. The Kolmogorov-Smirnov Test was used to determine whether the data were normally distributed. Descriptive statistics such as number, percentage, mean and standard deviation were used in the data analysis. Mann-Whitney U test and Kruskal Wallis were used to evaluate the personal characteristic and mean scores on health anxiety since the data were not distributed normally. The significance level was determined to be  $p < 0.05$ .

5 Approvals for the Study

Necessary administrative approval from the faculty administration and online consents of the students who participated in the study were obtained.

6 Limitations of the Study

This study is limited to the answers of the students who studied in Bandırma Onyedi Eylül University Faculty of Health Sciences and to the questions asked in line with the current conditions of the time when the study was conducted and the answers given (26 March 2020-14 April 2020).

RESULTS

The mean age of the students was  $20.65 \pm 1.58$  (min:18, max: 32). Of them, 83.1% were female and 16.9 were male. Of the students, 40.3% studied Nursing, 21% studied Healthcare Management, 19.4% studied Physical Therapy and Rehabilitation, and 19.2% studied Nutrition and Dietetics. Of them, 41.3% were in first grade, 37.3% were in second grade, 13.1% were in third grade and 8.3% were in fourth grade (Table 1).

Table 1. Distribution of the Students’ Personal Characteristics

Age (Mean±SD)	20.65±1.58	
<b>Sex</b>	<b>n (=504)</b>	<b>%</b>
Female	419	83.1
Male	85	16.9
<b>Department</b>		
Nursing	203	40.3
Nutrition and Dietetics	97	19.2
Physical Therapy and Rehabilitation	98	19.4
Healthcare Management	106	21.0
<b>Grade</b>		
1. Grade	208	41.3
2. Grade	188	37.3
3. Grade	66	13.1
4. Grade	42	8.3

Considering the answers of the students to the question “From what source do you get information about Covid-19 disease?”, it was determined that 86.9% of the students received information from the official announcements of the Ministry of Health, 81.5% received information from social media and 80.4% received information from TV news. Considering the precautions that the students took, the students stated that of them, 94% washed their hands, 91.1% stayed away from crowded places and 89.5% did not go out of the house. Of the students, 96.6% answered as no to the following question while 3.4% answered as yes: “Have you or any of your relatives tested for Covid-19? Among those who answered as yes, 0.4% got positive test results. Of the students, 84.5% stated that they are anxious about the Covid-19 disease; thus, they generally did not go out of the house. The study determined that 92.3% of the students went back to their hometowns since the universities were closed (Table 2).

**Table 2.** The Students’ Situation Analysis About Covid-19 Disease

	n (504)	%
<b>Source of Information About the Covid-19 Disease</b>		
Official announcements from the Ministry of Health	438	86.9
Social media	411	81.5
TV news	405	80.4
Internet (other websites)	333	66.1
Family members and close friends	192	38.1
Health care personnel	146	29.0
Other (poster, brochure, journal, etc.)	58	11.5
<b>Precautions Taken About the Covid-19 Disease*</b>		
Washing hands	474	94.0
Not going to crowded places	459	91.1
Staying at the house	451	89.5
Using hand sanitizer/cologne	441	87.5
Not shaking hands/ contacting with people	428	84.9
Trying to keep a healthy diet	264	52.4
Using mask	153	30.4
<b>Getting Tested for the Covid-19 (Themselves or any of their relatives)</b>		
No	487	96.6
Yes (negative result)	15	3.0
Yes (positive result)	2	0.4
<b>Worrying About Covid-19 Disease</b>		
Yes	426	84.5
No	78	15.5
<b>Going out of the house/staying in the house</b>		
I do not go out of the house	342	67.9
I sometimes go out of the house	157	31.2
I often go out of the house	5	0.9
<b>Leaving the city due to university holidays</b>		
Those who went to their hometowns	465	92.2
Those who stayed in the city since their families were here	12	2.4
Those who stayed in the city because of work	6	1.2
Those who stayed due to other reasons	21	4.2

\*More than one answer was given.

The total mean scores of the students on the health anxiety inventory was 18.55±6.07 while their mean scores on the body dimension was 14.07±4.87 and on the additional dimension was 4.47±2.43 (Table 3).

**Table 3.** The Students’ Mean Scores on the Health Anxiety Inventory

	Min.	Max.	Mean±SD
Body dimension score	3	34	14.07±4.87
Additional dimension score	0	12	4.47±2.43
Total scale score	4	42	18.55±6.07

Table 4 shows the distribution of the students in terms of their personal characteristics and health anxiety mean scores. A significant difference was found between sex and health anxiety level (subdimensions and total). Accordingly, female students had a higher level of anxiety than male students (p<0.05). There were no significant differences between the department and grade the students and the mean scores on the health anxiety scale subdimensions and total mean scores (p>0.05).

**Table 4.** Evaluation on the students’ health anxiety scores based on their personal characteristics

Personal Characteristics	Body Dimension	Additional Dimension	Health Anxiety
	Mean rank value	Mean rank value	Mean rank value
<b>Sex</b>			
Female	264.05	260.39	265.54
Male	185.27	203.71	177.76
Test value (z)	-4.540	-3.284	-5.054
P value	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>
<b>Department</b>			
Nursing	254.31	246.40	251.31
Nutrition and Dietetics	263.72	232.50	253.36
Physical Therapy and Rehabilitation	263.06	261.66	263.75
Healthcare Management	221.75	267.10	236.44
Test value (2)	5.843	3.670	1.848
P value	0.120	0.299	0.605
<b>Grade</b>			
1. Grade	237.35	256.30	243.11
2. Grade	256.51	243.77	251.82
3. Grade	288.55	250.14	281.45
4. Grade	236.11	258.11	239.33
Test value (2)	6.968	0.860	3.786
P value	0.073	0.835	0.286

## CONCLUSION AND DISCUSSION

This study was conducted to learn the knowledge and attitudes of the students, who received education in the Faculty of Health Sciences, about the Covid-19 and to measure their health anxiety levels. Considering the general profile of the students participating in the study, the mean age was  $20.65 \pm 1.5$ , and most students were female (83.1%), first grade (41.3%) and nursing students (40.3%). The most common sources of information about the Covid-19 were the official announcements from the Ministry of Health (86.9%), social media (81.5%) and TV news (80.4%). Considering the high percentage of receiving information from social media, false and malicious news on these platforms may increase the level of anxiety of students. Sing and Brown (2014) found a correlation between the students' state of obtaining information about health from the Internet and their health anxiety levels. It was found that information obtained through the Internet increased the individuals' anxiety levels.

Most of the participants stated that the most common precautions taken in this period were washing hands (94%) and staying away from crowded places (91.1%). About getting tested for the Covid-19 (themselves or their relatives), 96.6% of the students answered as no and 3% of them answered as yes. Among those who answered as yes, 0.4% got positive test results. The reason for this low rate might be that the first case in Turkey emerged on the 11th of March 2020 and that the data of this study were collected between 26 March and 15 April and the number of tests made in that time was small.

The total mean scores of the students on the health anxiety inventory was  $18.55 \pm 6.07$  while their mean scores on the body dimension was  $14.07 \pm 4.87$  and on the additional dimension was  $4.47 \pm 2.43$ . When the significance level of the correlation between the variables and health anxiety was evaluated, a significant difference was found only with the variable of sex, and there were no significant differences between the variables of the department and grade of the students. Accordingly, female students had higher anxiety levels than the male students.

There are two other studies that aimed to measure the health anxiety levels of the students using the same scale in the literature. Ünalın (2014) conducted a study with 400 university students and found that 206 students had low level of anxiety and 193 had high level of anxiety. According to the results of this study, no significant correlation was found between health anxiety and sex, income level, sheltering type and academic achievement mean. The same study found a significant correlation between the perceived general health status (low, high and moderate) and health anxiety. The individuals who regarded their general health status as high has low level of anxiety. Karaçadır and Çelik (2019) conducted a study with 353 university students and found that the mean health score of the students was 26. According to this mean score, 53.8% of the participants had low level of anxiety while 47.2% had high level of anxiety. Additionally, a significant correlation was found between the health anxiety and sex and perceived general health status in the study. It was seen that women's health anxiety levels were higher than men. The individuals with high perceived general health status had low level of anxiety.

It is thought that some measures such as quarantine, curfew, and using masks applied during the pandemic period will affect the anxiety levels of young people since they have a lot of movement, abilities and desires and think that these precautions limit them. It is also expected that the anxiety levels of the students who do internships/practices in healthcare institutions will be higher. However, there is no longer any reason for these students to be more anxious than other university students since the universities are closed and there is no opportunity to do face-to-face internship/practice in the healthcare institutions. It can be said that the anxiety levels of the students may increase due to the fact that it is uncertain when the effect of the pandemic will end and students will have to go on internship if it continues in the next academic semesters. It is recommended that the study should be conducted with all students and similar studies should be carried out after the pandemic since there are differences between the period in which the study was conducted and in the following periods.

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