



Araştırma

2023; 32(3): 323-330

THE EFFECT OF COVID-19 PANDEMIA ON HEALTH ANXIETY AND QUALITY OF LIFE: THE CASE OF FEMALE STUDENTS OF FOREIGN NATIONALITY IN TURKEY
COVID-19 PANDEMİSİNİN SAĞLIK ANKSİYETESİ VE YAŞAM KALİTESİNE ETKİSİ: TÜRKİYE'DEKİ YABANCI UYRUKLU KIZ ÖĞRENCİLER ÖRNEĞİ

Rabiye ERENOĞLU¹, Tulay BULBUL²

¹Hatay Mustafa Kemal University, Faculty of Health Sciences, Nursing Department, Obstetrics and Gynecology Nursing Department, Hatay

²Erciyes University, Faculty of Health Sciences, Nursing Department, Obstetrics and Gynecology Nursing Department, Kayseri

ABSTRACT

This study was conducted to determine the health anxiety and quality of life of female students of foreign nationality due to Covid-19 pandemic. The present study had a cross-sectional content analysis design. The Personal Information Form, Health Anxiety Scale, SF-36 Quality of Life Scale and Semi-Structured Interview Form were used as the data collection tools in the study. A total of 28 female students from Syria and Palestine, Iraq, Afghanistan, Uganda, Thailand, Kazakhstan, Georgia, Morocco, Indonesia, Sudan, Algeria, Albania, Bosnia-Herzegovina, Kyrgyzstan and Somalia are included in this research. The average age of the students was 21.9±2.1. All the students were single. A total of 71.4% of the students thought that they had moderate income, 46.4% had sufficient knowledge on Covid-19, and 28.6% thought they had Covid-19-originated symptoms. It was found in the study that the majority of students were constantly anxious about Covid-19 pandemic; and therefore, they tried to follow hygienic rules. As a result, it was determined that the Covid-19 pandemic negatively affected the health anxiety and quality of life of young people.

Keywords: Anxiety, Covid-19, quality of life, students

ÖZ

Bu araştırma, yabancı uyruklu kız öğrencilerin Covid-19 pandemisine bağlı sağlık anksiyetesi ve yaşam kalitelerini belirlemek amacıyla yapılmıştır. Kesitsel ve içerik analizi deseninde bir araştırmadır. Araştırmada veri toplama aracı olarak "Kişisel Bilgi Formu", "Sağlık Anksiyetesi Ölçeği", "SF-36 Yaşam Kalitesi Ölçeği" ve "Yarı Yapılandırılmış Görüşme Formu" kullanılmıştır. Bu araştırmada Suriye ve Filistin, Irak, Afganistan, Uganda, Tayland, Kazakistan, Gürcistan, Fas, Endonezya, Sudan, Cezayir, Arnavutluk, Bosna-Hersek, Kırgızistan ve Somali'den olmak üzere toplam 28 yabancı uyruklu kız öğrenci yer almaktadır. Öğrencilerin ortalama yaşı 21.9±2.1'dir. Tüm öğrenciler bekar. Öğrencilerin % 71.4'nün orta düzeyde gelire, %46.4'nün kendisinin Covid-19 ile ilgili yeterli bilgiye sahip olduğunu, % 28.6'nin kendisinde Covid-19 kaynaklı belirtiler olduğunu düşünmektedir. Araştırmada öğrencilerin çoğunluğunun sürekli olarak Covid-19 pandemisi konusunda endişeli olduğu; bu nedenle hijyen kurallarına uymaya çalıştıkları saptanmıştır. Sonuçta; Covid-19 pandemisinin gençlerin sağlık anksiyetelerini ve yaşam kalitesini olumsuz etkilediği belirlenmiştir.

Anahtar kelimeler: Anksiyete, Covid-19, yaşam kalitesi, öğrenciler

Makale Geliş Tarihi : 25.02.2022
Makale Kabul Tarihi: 22.05.2023

Corresponding Author: Assoc. Prof. Rabiye ERENOĞLU, Hatay Mustafa Kemal University, Faculty of Health Sciences, Nursing Department, Obstetrics and Gynecology Nursing Department, Hatay, r_gungor80@hotmail.com, 0000-0003-3649-9336
Assoc. Prof. Tulay BÜLBÜL, tulayozkn@gmail.com, 0000-0001-5166-0074

INTRODUCTION

Covid-19 global outbreak caused challenges in health-care capacities in many parts of the world. The fact that it was not known enough how to deal with pandemic in our country caused that our country determined the policies that should be followed after the outbreak started. The precautions -especially for those known to be in the risk group-were accelerated in this respect (1-3). Some people in this risk group are undoubtedly young people. In this process, foreign students who did not have the opportunity to return to their country have been living in our country. In this context, being in a foreign country and being in young population, which is defined as risky, will undoubtedly bring with it some health risks. Especially the negative effect of anxiety and quality of life in this process can cause a number of physical and psychological health problems in individuals (2-4).

Quality of life is defined as "the person's perception of his/her own life in a culture and value system according to his own targets, expectations, standards and interests". For this reason, the physical, psychological and social health of an individual can be considered as an important indicator of quality of life and an important determinant in this respect. Anxiety, on the other hand, has been defined as "a worrying thought" (3-5). Health anxiety is a psychological experience emerging with the idea that the individual is under great threat in terms of his/her health, and triggers the physical and emotional anxiety symptoms in the individual (1). In this context, the anxiety and quality of life may be adversely affected especially in foreign schoolgirls who are in the risk group, as well as in individuals of all ages in this pandemic process. As a matter of fact, this effect may be directly the cause of some health problems.

Although there are studies examining Individuals' health anxiety (2) and quality of life perceptions (3) regarding Covid-19 pandemic, there are no studies in the literature evaluating the effect of pandemic on quality of life and health anxiety. With this study, it is considered that significant contribution will be made to the literature in terms of the health anxiety and quality of life due to Covid-19 pandemic in young people living far from their homelands. Also, it is considered that the study findings will be important to make planned early interventions in solving possible/existing health problems in the pandemic process. This study was conducted to determine the health anxiety and quality of life of female students of foreign nationality due to Covid-19 pandemic.

METHODS

Type of the study

The present study had a cross-sectional content analysis design.

Study Population

The universe of the study consisted of 30 foreign schoolgirls studying at a university in a province located in Central Anatolia, Turkey, who were staying in a student dormitory in Turkey during the pandemic process. The purpose was to reach all students who would agree to participate in the study without sampling selection. Two students refused to participate in the study. The study was conducted with 28 students. The inclusion

criteria for the study were volunteering, being a foreign national, and able to read and write and speak in Turkish. All of the students who participated in the study were living in Turkey for at least one year, and could speak and write in Turkish.

Data collection

The flow and rhythm of life has changed to reduce the impact of the pandemic all over the world. In this process; applications such as flexible working, working from home, and working alternately were introduced. Moreover, measures such as partial or full-time curfews, quarantine processes, self-isolation of individuals and maintaining social distance have been taken. Therefore, places where human-to-human contact may occur were closed, and schools and universities were also included in this scope. Before the data of the study were collected, detailed information about the study was given by telephone conversation to the students. A total of 28 students were interviewed. To make students feel more comfortable and not breaking the quarantine rules in the fight against Covid-19, they were sent a "Research Data Collection Form" (the Questionnaire) to their phones or e-mail addresses to fill the Questionnaire forms. The qualitative data of the study were collected with telephone and in-depth conversations. The interviews were recorded by using an audio recorder, and each interview was completed in approximately 50-55 minutes. The conversations were performed between 15 May 2020 and June 30, 2020.

Data collection tools

The "Personal Information Form", "Health Anxiety Scale", "SF-36 Quality of Life Scale" and "Semi-Structured Interview Form" were used as the data collection tools in the study. The Semi-Structured Interview Form questions were reviewed by a different expert aside from the researchers.

Personal information Form: This is a form evaluating the socio-demographic characteristics of students and their views on Covid-19 pandemic.

Health Anxiety Scale: The Turkish adaptation and validity and reliability study of the scale that was developed by Salkovskis et al. in 2002 was conducted by Aydemir et al. in 2013 (4,5). Scale is a self-notification scale consisting of 18 items. The scoring of the scale is done between 0-3 for each item, and high score shows high levels of health anxiety. The highest score is 54 points that can be obtained from the scale.

SF-36 Quality of Life Scale: The Turkish adaptation and validity and reliability study of the scale that was developed by Ware 1987 was conducted in 1999 by Koçyiğit et al. (6,7). The scale, which contains 36 discourses, is in the form of a multi-title scale evaluating 8 concepts (i.e. physical function, role constrained-physical, pain, fitness/fatigue, social function, role constrain-emotional, mental health, general health perception). The score of each sub-dimension varies between 0 and 100 in the scale. The scale with positive scoring is rated to improve health-related quality of life as the score of each health field increases.

Ethical principles of the study

This study was approved by the Scientific Research Ethics Board of the Medical Faculty of the University (no: 07/05/2020-05/09), and the Ministry of Health in Turkey (no: 2020-05-26T21-27-29). Informed consent was

obtained from the students. The study was conducted in line with the Helsinki Declaration Principles.

Data analysis

The quantitative data were evaluated in IBM SPSS Statistics Standard Concurrent User V 25 (IBM Corp., Armonk, New York, U.S.) Statistical Package Program. The descriptive statistics were given as unit number (n), percentage (%), Median (M), Smallest Value (SV), Maximum Value (MV), First Quarter (Q_1) and Third Quarter (Q_3). The normal distribution of the data of the scale scores and other numeric variables was evaluated with the Shapiro Wilk Normality Test and Q-Q graphics. Binary group comparisons were made by Mann-Whitney U-test because the data did not show normal distribution. In the case of small number of students in groups, the significance value of Mann-Whitney U-test was calculated with the Exact Method. The inter-scale relations were evaluated with the Spearman Correlation Analysis. $P < 0.05$ value was considered to be statistically significant.

The Content Analysis Technique was used in the analysis of the qualitative data. In content analysis, the aim is to combine similar data in certain concepts and themes, and interpret them in a way that the reader can understand (8). The records that were collected during the interviews in this study were written by the researchers in a mot-a-mot manner, and raw data documents were created in Microsoft Word. The encoded data were divided into themes based on their contents and meanings. The sentences were used as the analysis unit. To increase the validity-reliability of the study, interview analysis were conducted on the same day immediately after the talks. Themes were created by two researchers in the analysis phase by reading the data twice at different times. These themes and contents created later were read to a group of subjects, who were asked if they reflected what was said in their groups correctly. The findings were summarized in 5 categories according to themes (Figure I). Also, support was obtained from a faculty member who specialized in qualitative research in the coding, analysis and preparation of the study report.

RESULTS

Quantitative Findings

A total of 28 female schoolgirls from different foreign nationalities countries of the world (five from Syria and Palestine; two from Iraq, Afghanistan, Uganda and Thailand, one from Kazakhstan, Georgia, Morocco, Indonesia, Sudan, Algeria, Albania, Bosnia and Herzegovina, Kyrgyzstan and Somalia) were included in this study. The average age of the students was 21.9 ± 2.1 . All the students were single. A total of 71.4% of the students thought that they had moderate income, 46.4% had sufficient knowledge on Covid-19, and 28.6% thought they had Covid-19-originated symptoms. It was also found that 57.1% of the students experienced anxiety/stress because of Covid-19.

In the study, a total of 53.6% of the students obeyed the measures in the scope of Covid-19 measures as not going out, 82.1% using masks, 21.4% using gloves, 85.7% washing hands, 78.6% changing clothes when they arrived home, 39.3% bathing when arriving at home, 67.9% paying attention to social distance outside, and 75.0% stated that they followed the measures to use disinfectant/cologne (Table I).

The SF-36 Quality of Life Scale has the highest median value in "Physical Function" sub-dimension as 75 points, and the lowest median value is in "Emotional Role Difficulty" sub-dimension as 33.3 points. The median value for the Health Anxiety Scale is 21 (Table II).

The correlation between the "SF-36 Quality of Life Scale" sub-dimensions and the "Health Anxiety Scale" scores are given in Table III. According to the table, there is a statistically significant, moderate and negative correlation between "General Health Perception" sub-dimension score and the "health anxiety scale" score. Also, students who had "moderate" income status in this study had statistically higher "pain" sub-dimension scores than students with "good" income status ($p < 0.05$). The "social function" and "general health perception" scores of the students who did not think that they had Covid-19 symptoms were statistically high ($p < 0.05$) from students who thought that they had Covid-19-originated symptoms.

Questions

- 1- What do you think the Covid-19 pandemic has changed in your life?
- 2- How did the Covid-19 outbreak affect your dreams / plans for the future? Can you explain?
- 3- Have you had trouble getting your personal care needs during the Covid-19 outbreak? If you lived how?
- 4- What measures did you take to reduce your quality of life and stress during the quarantine period?
- 5- What is your most important motivation (motivator) for following the quarantine rules?
- 6- Do you think that the protective measures suggested should be followed by every individual and are beneficial?
- 7- Do you think this epidemic can be stopped when everyone in the society follows the rules?
- 8- What kind of regulations are needed in your country and in the world regarding protection from possible global epidemics such as the Covid-19 pandemic? What are your suggestions?

Figure I. In-depth interview questions

Table I. Obeying the Precautions Determined During Covid-19 Pandemia

	Very Rare		Rare		Moderate		Often		Continual		Not a question for me	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Not Going Out	1	3.6	1	3.6	3	10.7	7	25.0	1	53.6	1	3.6
Using Masks	0	0	1	3.6	0	0	3	10.7	2	82.1	1	3.6
Using Gloves	3	10.7	1	3.6	10	35.7	7	25.0	6	21.4	1	3.6
Washing Hands	0	0	1	3.6	0	0	1	3.6	2	85.7	2	7.1
Changing Clothes When They Arrived Home	0	0	0	0	3	10.7	2	7.1	2	78.6	1	3.6
Bathing When Arriving At Home	1	3.6	2	7.1	8	28.6	5	17.9	1	39.3	1	3.6
Paying Attention To Social Distance Outside	0	0	0	0	2	7.1	6	21.4	1	67.9	1	3.6
Stated That They Followed The Measures To Use Disinfectant/Cologne	0	0	1	3.6	1	3.6	4	14.3	2	75.0	1	3.6

Table II. Health Anxiety Scale and SF-36 Quality of Life Scale Scores

	\bar{x}	<i>SD</i>	<i>M</i>	Smallest Value	Maximum Value	First Quarter	Third Quarter
SF-36							
Physical Function	70.2	25.7	75.0	15.0	100.0	55.0	90.0
Physical Role Difficulty	42.9	30.3	50.0	0.0	100.0	25.0	50.0
Emotional Role Difficulty	46.4	35.5	33.3	0.0	100.0	33.3	66.7
Vitality	48.9	18.3	50.0	15.0	90.0	35.0	60.0
Mental Health	53.9	16.8	52.0	24.0	88.0	40.0	64.0
Social Function	58.5	19.9	56.3	25.0	100.0	50.0	71.9
Pain	73.1	19.7	67.5	22.5	100.0	59.4	90.0
General Health Perception	63.2	13.2	60.0	35.0	90.0	56.3	73.8
Health Anxiety Scale	21.9	8.2	21.0	11.0	43.0	15.3	25.0

M: Median

SD:Standart Deviasyon

Table III. SF-36 Quality of Life Scale and Health Anxiety Scale Correlation

	Health Anxiety Scale	
Physical Function	<i>rho</i>	-0.174
	<i>p</i>	0.376
Physical Role Difficulty	<i>rho</i>	-0.335
	<i>p</i>	0.082
Emotional Role Difficulty	<i>rho</i>	-0.024
	<i>p</i>	0.905
Vitality	<i>rho</i>	-0.246
	<i>p</i>	0.207
Mental Health	<i>rho</i>	-0.164
	<i>p</i>	0.405
Social Function	<i>rho</i>	-0.046
	<i>p</i>	0.817
Pain	<i>rho</i>	-0.297
	<i>p</i>	0.125
General Health Perception	<i>rho</i>	-0.421
	<i>p</i>	0.025
Health Anxiety Scale	<i>rho</i>	-
	<i>p</i>	

rho: Spearman correlation coefficient

Qualitative Findings

As a result of the content analysis, 5 main themes were created.

Theme 1. Opinions on Current/Possible Individual Effects of Covid-19 Pandemia

In the present study, students said that they were not sure whether the Covid-19 virus would infect them, and that they had constant anxiety and fear, and tried to follow hygiene rules. They also expressed that his pandemic had significant and negative effects on their daily lives and plans for the future; and noted that being away from their country especially increased this anxiety and fear.

...I usually stay at home. I do not go out. I donot think it will infect me in this way. But there is still a little bit of infection, of course. I am afraid it will infect me when I am out. For this reason, I take precautions all the time (20 years old, Thailand).

...It affected me, us to stay away from my country during the pandemic period. It is difficult to be alone and away here. We are so scared. If anything happens to me here, my parents will be very worried because they are away. I am very worried about that (23 years old, Syria).

Theme 2. Needs and Measures during Covid-19 Pandemia

Many of the students said that they had difficulty in covering their personal/general care and needs during the pandemic process, especially when they were shopping, they were afraid and concerned about the risk of infection of the virus, and they followed hygiene rules like post-contact clothing change, hand washing, and bathing. They also expressed their relief with religious worship as well as social activities like reading, studying and cooking in the face of the anxiety and stress in this process.

...Of course, I am having trouble in covering my personal needs during the Covid-19 outbreak. For example, it takes a lot of time to go to the grocery store and provide my needs, it is very difficult to be in line, wait, and also to clean the food at home. Transportation was also very difficult; on some days, there were very few buses where we lived, and I had difficulty in having what I needed (22 years old, Bosnia and Herzegovina).

...I read the Quran. I read a lot of Quran in these three months. I watched movies, and I read books. I learned to cook some. I told myself to be patient, and I tried to learn from this evil process by saying, "God is with those who are patient". It was not right for me to stand idle. This epidemic came into the world to teach people a lesson. My friends also comforted me, and they said "you will go to your country" (21 years old, Somalia).

Theme 3. Obeying the Precautions Determined During Covid-19 Pandemia

All of the students stated that the ministry of health and related experts of our country paid attention to the rules, and they tried to pass this process by staying at home without going out unless it was necessary. They also said that their responsibility in not infecting others, the religious beliefs they had, and the thought of their loved ones motivated them.

...I follow all the rules because I think it is necessary, and I never leave my house unless it is necessary. My strongest motivation in this process was the idea that I had to follow the rules to avoid the virus from infecting me, my

family and my friends (20 years old, Albania).

...I have been at home for three months. I always followed the rules. My parents always warned me. When Ramadan approached, we felt a little better, motivated. I have been patient so this disease would not infect us and our loved ones. I have motivated myself to make this epidemic would pass (21 years old, Palestine).

Theme 4. Knowledge and Beliefs about Covid-19 Pandemia

The vast majority of the students stated that they were concerned about how to protect themselves from this pandemic, and knew that it was important to use masks, gloves, staying at home and social distance. They also believed that the measures taken by countries about the pandemic process were useful/necessary, and reducing the infection and the progress of the pandemic. However, some students also emphasized that measures should have started a little earlier and should have been tighter.

...I also know the measures other than staying at home to protect myself against the virus. I can name social distance, gloves and masks. These measures are useful. They prevent infection of other people and reduce the number of patients. And if this happens, people will support the state because of its behaviors. However, they started a little late. And for me, these measures were not too strict compared to other countries. (21 years old, Georgia).

...I know that I will be protected by the measures like social distance, gloves and masks, washing all the stuff taken from the outside. I think he most important of all is social distance. I think social distance, hand washing, and preventive measures are very useful and necessary. With these measures, I think it will be easier to control the pandemic. I think these measures are useful. They reduce infection and control the epidemic. (20 years old, Kazakhstan).

Theme 5. Recommendations

The students emphasized the importance of the measures the whole world had to take together with the pandemic process. These included paying attention to individual hygiene, paying attention to the social distance, and the nutrients eaten. They also mentioned the need for people to be aware of this. They expressed the importance of the vaccine.

I think this pandemic has taught a great lesson to us as people. We understood the importance of cleaning and hand washing, and hygiene. Of course, there is also another dimension. We should all think about the dirty water in Africa. Hygiene and nutritional support should also help low-income countries because what happens to a country may now happen to every country, infect people and reproduce. I am not just talking about underdeveloped countries, for example, China was a developed country, but pandemic happened there, and if we learn from this, everything might be better. There has to be goodness among people now, because something can happen to us at any moment. (23 years old, Palestine)

Firstly, people should pay attention to their food. Because I think it is animal meat and raw meat as an intermediate host. For this reason, we will not eat these. Now in the next new normal life, everyone needs to follow hygiene rules more seriously. We need to be more careful about vaccination. For example, some people are the only people who will be able to do these. Those who are in the coun-

tryside are not educated, and they can be against vaccination. All those who are not vaccinated must complete them. (21 years old, Thailand).

It is very important that the World Health Organization does more studies in this issue and on the development of vaccine. Tracking the food that other countries eat is also important. I think the most important thing is studies and vaccination. Education is also important. The training of medical staff is important. Now we need to learn to live by following the rules of social distance and with a mask. (21 years old, Syria).

DISCUSSION

COVID-19 outbreak still causes high morbidity and mortality rates together with significant psychological/physical stress all over the world (9-11). Therefore, some of recent studies have investigated the anxiety during the COVID-19 outbreak (2, 12-14), and quality of life (3,15-16), and found that people experienced pandemic-related anxiety, and their quality of life was negatively affected. In this study, which examined the effects of Covid-19 pandemic on health anxiety and quality of life of female students of foreign nationalities in Turkey, it was found that students are constantly concerned about pandemic, and that their daily lives and plans for the future were severely and negatively affected. They said that, especially being away from their countries increased this anxiety and fear. In the study, the median value of Health Anxiety Scale was found to be 21, which shows us that students experience moderate health anxiety. This study also found that the SF-36 Quality of Life Scale had the lowest median value with a score of 33.3 under the "Emotional Role Difficulty". Based on this, in this study, it can be argued that the quality of life is low in the Emotional Role Difficulty dimension. Similar to our findings, other studies conducted with university students, reported that pandemic-related symptoms of anxiety and depression (13,17-18) increased the risk of suicide (19), and the quality of life deteriorated at a rate of 57.0% (20). Our findings are similar to the results of the literature.

The students "general health perception" levels increased at a good and positive level in our study, and the level of "health anxiety" decreased. Pulvirenti et al. (21) conducted a study in Italy and reported that patients with lower life quality were at risk of anxiety and depression during the pandemic process. In some limited study essays that combined the health anxiety and quality of life of individuals in pandemic and similar social crisis processes in the literature, it was reported that some psychiatric health problems could affect the quality of life in different dimensions. Anxiety is one of them (22-24). Similar to our findings, other studies also mentioned the effect of anxiety on quality of life (25,26). In this context, it can be argued that our study finding had an expected result.

On the other hand, people with high health anxiety levels tend to interpret even the good bodily sensations and changes in a dangerous and mis-interpretable manner. For this reason, depending on current data about Covid-19 outbreak, a person with high health anxiety may also misinterpret a benign muscle pain or cough as a sign of a serious illness (12). The resulting anxiety might them affect the quality of life indirectly/directly,

together with other behaviors of the person. It is already known that Covid-19 disease causes a negative psychological effect on mental health of general population with common depression and anxiety (11). Some expert opinions on this issue argue that potentially 70% of the world's population might need pandemic-related medical care as well as psychological care (27). In this context, receiving necessary support from the relevant medical staff, especially from mental health professionals, can play important roles in dealing with the negativity that the pandemic brings with it to reduce the anxiety/stress of individuals of all age groups in the scope of Covid-19 pandemic measures. Focusing on the mental health of individuals in the early period may improve their quality of life (28).

The quantitative and qualitative findings of this research show that the vast majority of students follow the hygiene rules under Covid-19 measures like changing clothes, washing hands, bathing, using masks, complying with the social distance rule, and staying at home. They believe that these measures are useful and necessary, and the infection will decrease and the pandemic will decrease/end. Also, students mentioned the importance of vaccination, and emphasized the importance of the measures the whole world has to take in pandemic process. Similar to our findings, in another study conducted in Turkey, it was described that social distance and hand washing were the most effective measures in the protection against Covid-19 (29). Jungmann and Witthöft (2) also conducted a study and reported that more than 90% of their participants complied with international advice, like hand washing and social distance. Other studies also found that there were beliefs that protective measures were effective in protecting from Covid-19, and high levels of compliance were detected with these measures (30,31). Our findings are similar to the results of the literature. For this reason, it is very important to develop the right knowledge, attitude, and practice in individuals regarding the disease, and to reinforce the right attitudes and behaviors.

Although this study is one of the rare studies in which the effects of Covid-19 pandemic on health anxiety and quality of life were investigated, it was conducted only with a group of students studying at university. For this reason, the findings of the study can only be generalized to this group.

It was found in the study that the vast majority of students were constantly anxious about Covid-19 pandemic; and therefore, they tried to follow hygiene rules. It was determined that pandemic had a significant and negative effect on the daily lives of students and their future plans. Also, as the overall health perception of students increased at a good and positive level, their health anxiety decreased. It can be argued that the quality of life of students was at a low level in emotional role difficulties, and health anxiety levels are moderate.

Conflict of interest

All authors declare no conflict of interest.

Acknowledgments

We would like to thank participating students

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