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ORIGINAL ARTICLE

Investigation of the Factors Affecting the Fear Levels of COVID-19 of the Medical Services Vocational School Students

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ÖZET

Amaç: Çalışma, sağlık hizmetleri meslek yüksekokulunda okuyan öğrencilerin COVID-19 korku düzeyleri ve buna etki eden faktörlerin incelenmesi amacıyla yapıldı. **Yöntem:** Çalışma tanımlayıcı tipte gerçekleştirildi. Çalışmanın evrenini Sağlık hizmetleri Meslek Yüksekokulunda eğitim gören toplam 1900 öğrenci oluşturdu. Çalışmada, örneklem seçimine gidilmedi, gönüllülük esasına göre katılım gösteren toplam 866 öğrenci ile yürütüldü. Çalışma verileri 15 Ocak-15 Şubat 2022 tarihleri arasında toplandı. Veri toplama aracı olarak "Sosyo demografik Özellikler Soru Formu" ve "COVID-19 Korkusu Ölçeği'' kullanıldı. Veri toplama araçları google forms olarak düzenlendi ve katılımcılara sosyal medya üzerinden iletildi. Verilerin değerlendirilmesinde SPSS 24 paket programı kullanıldı. Analizlerde ($p<0,05$). İstatistiksel olarak anlamlı olarak kabul edildi. **Bulgular**: Çalışmaya 545'i kadın olmak üzere toplam 866 öğrenci katıldı. Katılımcıların yaş ortalaması 21.4 olarak tespit edildi. Yaşlı Bakımı ve Çocuk Gelişimi programı öğrencileri en yüksek katılım gösteren programlar olarak bulundu. Öğrencilerin ailelerinin ikamet ettiği yerlerle COVID-19 Korku ölçek puanları arasında istatistiksel olarak anlamlı fark bulunmuştur ($p=0.018$). Aileleri ilçede yaşayanların ölçek puanları hem il hem de köyde yaşayanlara göre anlamlı oranda düşük bulundu. **Sonuç:** COVID-19 pandemisinin ilerleyen dönemlerinde yaptığımız bu çalışmada sağlık çalışanı adayı öğrencilerin COVID-19 Korku ölçeği puan ortalamaları orta şiddetli korku düzeylerini göstermektedir.
Anahtar kelimeler: COVID-19, COVID-19 Korku Ölçeği, Üniversite Öğrencileri

ABSTRACT

Aim: This study was aimed to investigate fear levels of COVID-19 of the students trained in Medical Services Vocational School and factors affecting it. **Methods:** The study was cross-sectional descriptive type. It constituted 1900 students in total trained in Medical Services Vocational School. No sampling was made, but conducted with volunteer 866 students. Research data were collected between January 15 and February 20, 2022 by applying as an online survey via Google Forms. "Sociodemographic Characteristics Questionnaire" and "Fear Scale" which were prepared by the researcher in line with the literature were used to collect data and transferred over social media. SPSS version 24 was used to evaluate the data. $P<0.05$ was considered statistically significant in analyses. **Results:** A total of 866 students, 545 of those were female, were included in the study. The average age of participants was 21.4 years. Students of Aged Care and Child Development programs were those with the highest attendance. There was a statistically significant relationship between places where the students' families live, and COVID-19 Fear Scale scores ($p = 0.018$). The scores of participants whose families lived in the district were statistically significantly lower than those living in the province and village. **Conclusion:** In the study we conducted in the advanced stage of COVID-19 pandemic, we found that mean Fear Scale scores of health care professional candidate students indicate moderate fear.
Keywords: COVID-19, COVID-19 Fear Scale, University Students

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INTRODUCTION

Fear is defined as an unpleasant state of emotions triggered by the perception of triggering stimuli (1). People are exposed to various situations that threaten their physical and mental health throughout their lives. This situation causes various emotional changes that have negative effects on human behaviors and may exacerbate the levels of fear, anxiety, and worry (2,3).

In the historical course, epidemics, wars, and natural disasters appear as the most important reasons for social fears and stress. When we look at the history of the world, fear and worry are frequent incidents during epidemics. The latest example of this situation is the current COVID-19 outbreak. COVID-19 which appeared in late 2019 and was caused by SARS-CoV-2 has led to a major global health crisis.

This health crisis, which individuals under a certain age have witnessed for the first time in their lives all over the world, has caused deep fears. The high rate of death and contamination reinforced the sense of fear on individuals. When we look at the cause of the fear experienced, it is directly related to the disease in the form of compulsory and voluntary restrictions and the fear of getting sick, losing relatives and death. When the literature is reviewed, it is seen that infectious diseases such as severe acute respiratory syndrome (SARS) increase the level of anxiety, depression, and stress (4,5).

With the COVID-19 pandemic, restrictions were imposed in many areas, including the field of health in our country, and the entire world. Compulsory restrictions made in business, education, social and cultural life, closed cafes, theaters, restaurants, coiffeurs, shopping centers, transport, and travel are some of the measures taken. Within the scope of the declaration of pandemic and measures taken, feelings such as disruption of routine, sense of insecurity, fear of being infected, and fear of living in an insecure area were shown to be physiological as well as psychological effects (4).

When the literature was reviewed, it was understood that infectious diseases such as severe acute respiratory syndrome (SARS) increased the level of anxiety, depression, and stress in individuals (5).

It was observed that individuals perceived fear, worry, and anxiety during COVID-19 pandemic especially during periods when the number of cases increased (6). Fear and anxiety were felt all over the world during the early periods following the declaration of pandemic but the reason for this increase in the fear and anxiety was not only due to the presence of contagious disease.

Social isolation, the basic preventive measure against the pandemic has also dramatically changed the lifestyle, and attitudes of individuals. All lives of individuals, including working, nutrition, sleeping, exercise, and sanitation have changed and become uncertain. The greatest effect of uncertainty on human psychology is anxiety, stress, and depression (7,8). Especially in periods when the number of cases increased, people have felt fear of death, fear of losing their relatives, and anxiety. In this extraordinary state, preventive measures taken against disease have affected the communication, sanitation, education, travel, working, and nutrition of people of all age groups. As in every uncertain situation, many studies have shown negative emotions in every part of society during a pandemic (9-13).

This picture affects not only every part of the society but also the students who is isolated from social life and opportunities for education. Compulsory or voluntary isolation practices have been most annoying for young individuals because of their age. In this process, the students experience fear of catching the disease, death, and of relatives getting sick and losing them. However, staying away from education, then transitioning to the online education and a state of anxiety and stress due to inexperience with online education system, uncertainty, and limited opportunities such as computers and the internet deeply affects the mood of university students in every aspect of education (13-15).

During the COVID-19 pandemic, many studies in the literature have shown the fear of nursing students against COVID-19 and consequential psychological stresses (12-15).

According to the studies conducted with nursery and midwifery students, it has been reported that level of COVID-19 fear is moderate (16-18). It was thought that level of COVID-19 fear might decrease with the availability of the vaccine, the increase in knowledge about the disease, the milder course of dominant omicron variant, and the repeal of most of the restrictions. This study was planned to determine level of COVID-19 fear among health professional school students and the influencing factors.

MATERIAL AND METHODS

The study was a descriptive cross-sectional type. All of the students who studied in Medical Services Vocational School and gave informed consent to participate in the research were included. Research data were collected between January 15 and February 20, 2022 by applying as an online survey via Google Forms. “Sociodemographic Characteristics Questionnaire” and “Scale of Fear” which were prepared by the researcher in line with the 96iteratüre were used to collect data. In the study, COVID Fear level is the dependent variable, and age, education, body mass index, place of residence, program studied and class data are independent variables. SPSS version 24 was used to evaluate the data.

P<0.05 was considered statistically significant in analyses.

Data Collecting Tools

In the participant information part of the questionnaire, socio-demographic characteristics of the respondents such as age, gender, year of education, monthly income, place of residence and the department of university were asked.

COVID-19 Fear Scale: The scale was developed by Ahorsu et al. (7) Turkish adaptation and validity and reliability studies were first conducted by Satıcı et al. (12) then by other different researchers (11,19). Another study suggested the use of the COVID-19 fear scale as mild (<17), moderate (17-22), and severe (>24) using the severity percentiles (19). COVID-19 fear scale is a brief, easy-to-use, clear and understandable scale. There are 7 items on the scale, and the answers are 5-point Likert type, with 1 indicates "strongly disagree", 2 "disagree", 3 "neither agree nor disagree", 4 "agree" and 5 "strongly agree". The scores are between 7-35 points. There is no reverse item on the scale.

As the score obtained from the scale increased, COVID-19 fear level increased. Cronbach's Alpha internal consistency coefficient of the scale was found to be 0.82. In the study by Artan et al. (18) this Cronbach's Alpha internal consistency coefficient was 0.964. (Table 2).

Ethics Approval of the Study

Before the research, ethics committee approval was obtained from Bitlis Eren University Ethics Committee with the decision number 82021/14-6 and document registration number E.1561. Consent was obtained from the individuals who agreed to participate in the study. The permission to use the scale was obtained by e-mail from Artan et al. who conducted the validity and reliability studies.

Statistics

The conformity of data to normal distribution was tested using the Kolmogorov-Smirnov normality tests and visual inspection of normality plots. As the data showed a non-normal distribution, non-parametric tests of Kruskal Wallis were used taking fear scale score as the dependent variable and the socio-demographic characteristics as the independent variables. Numerical variables were presented as mean ± SD and categorical variables with numbers and percentages as descriptive statistics. Cronbach's alpha was calculated to evaluate the validity of the scale. Analysis was performed in SPSS version 24, and p <0.05 was considered statistically significant.

RESULTS

A total of 866 students, 545 of which were female, were included in the study. Sociodemographic data of the participants are presented in table 1. In our study, the mean age

of the participants was 21.4 and the mean COVID-19 fear scale score was 18.17±8.68. 63% of the participants were found to be women, and 47% of them lived in the province. Considering the income status, the monthly income level of 59.6% of them was found as <1500TL. Students from the Aged Care and Child Development program were the programs with the highest participation. It was observed that 52.4% of the participants were 2nd year students (Table 1).

Table 1. Sociodemographic Characteristics of Participants

		n*=866	
		Mean±SD	**Median(Min-max)**
Age		21.4±3.6	21(18-43)
BMI* (n$=843)		21.6±3.04	21.26 (14.53-35.16)
			%
Gender	**Female**	545	63
	Male	321	37
Place of residence	**Province**	407	47
	District	274	31.6
	Village	185	21.4
Monthly income (TL*)**	**<1500**	516	59.6
	1500-3000	235	27.1
	>3000	115	13.3
Training Program	**Aged Care**	154	17.8
	Child Development	147	17.0
	Disabled Care	109	12.6
	Anesthesia technician	95	11
	Pathology technician	86	9.9
	Other	75	8.7
	Medical Imaging	67	7.7
	Medical Laboratory	65	7.5
	First Aid and Emergency	37	4.3
	Social Service	31	3.6
Class	**1. Class**	412	47.6
	2. Class	454	52.4

n*:number , BMI**: Body MassIndex TL***: Turkish Lira n$: number of individuals who answer this question

Table 2. Mean COVID-19 Fear Scale Scores

	n=866		
	Mean ±SD	**Median(Min-max)**	**Cronbach alpha**
COVID-19 Fear scale	18.17±8.68	14(7-35)	0.964

There was no statistically significant relationship between COVID-19 fear scale scores and the age and BMI of the participants (Table 3).

Table 3. Correlation between Age, Body Mass Index, and COVID-19 Fear Scale

		Age	Body Mass Index
COVID-19 Fear Scale	**r***	-0.032	-0.045
	p	0.352	0.195

r: Spearman rank correlation coefficient

There was a statistically significant relationship between places where the students' families lived, and COVID-19 fear scale scores (p = 0.018). The scores of participants whose families lived in the district were statistically significantly lower than those living in the province and village. There was no statistical correlation between monthly income and the program attended and COVID-19 fear scale scores (Table 4).

Table 4. Comparison of COVID-19 Fear Scale Scores of participants according to sociodemographic characteristics

	n*	Mean ±SD	p
Place of residence			**0.018**
Province	407	18.64 ± 8.87	
District	274	16.87 ± 8.06	
Village	185	19.05 ± 8.96	
Monthly Income			0.055
<1500 TL	516	18.55 ± 9.32	
1500-3000 TL	235	18.36 ± 7.8	
>3000 TL	115	16.05 ± 6.97	
Training program			0.065
Anesthesia	95	17.68 ± 8.6	
Child Development	147	16.16 ± 6.84	
Medical Imaging	75	19.71 ± 9.68	
Disabled Care	109	19.44 ± 9.75	
First Aidand Emergency	37	20.81 ± 8.96	
Pathology	86	19.67 ± 8.89	
Social Service	31	18.39 ± 9.87	
Optician	67	18.4 ± 9.17	
Medical Laboratory	65	19.17 ± 8.91	
Aged Care	154	16.69 ± 7.74	

n*:number Kruskal-Wallis Test was used to compare different groups.

DISCUSSION

The average age of participants in our study was 21.4, and the mean COVID-19 fear scale score was 18.17 ± 8.68. In a study conducted with 411 nursing and midwifery students in our country at the early periods of pandemic, the average age was 19.59, and the mean COVID-19 fear scale score was 19.62 ± 4.97 (16). In another study (20) conducted with 234 nursing students, the average age was 20.12, and the mean COVID-19 fear scale score was 18.95 ± 7.00 (17).

In studies conducted during the period of pandemic, the level of COVID-19 fear in nursing students was moderate (16-18). In a multicenter study conducted with 2605 nursing students in Norway, the mean COVID-19 fear scale scores were found to be higher than the general population (21). In a meta-analysis, 16 studies and a total of 11872 university students were evaluated, and the mean COVID-19 fear scale score was 17.60 (21). In a meta-analysis with 71 studies conducted with the general population, the mean COVID-19 fear scale score was 13.11 (22). When compared with the general population, university students were higher worry and fear (23). The reason was the closure of universities, return to the family residents, restriction of communication and interaction due to social distancing and isolation measures, and difficulty adapting to distance education (24).

In a study, students who study in health sciences (nursing, medicine, etc) were shown to have higher COVID-19 fear scale scores when compared to other student groups (25). We think that higher health knowledge about COVID-19, more intense media coverage of COVID-19 news, and participation in practical clinical internships may have increased the COVID-19 fear.

There was no statistically significant relationship between age of participants and fear scale scores at 0.05 level of significance. Similarly, in a study conducted by Çalışkan at al (26). with nursing students there was no significant relationship between age and fear scale scores. There are similar studies in the literature (7, 27). Unlike our study, some studies show that younger people have higher COVID-19 fears (21,28). Because our study was conducted with university associate degree students, the average age of participants was low as expected, and this may have caused the absence of a statistically significant relationship between age and fear scale scores.

In our study, the highest participation was from the students in the Aged Care and Child Development Programs. There was no statistically significant relationship between the studied programs and COVID-19 fear scale scores. The fear scale scores of the students attending first aid and emergency services program were higher, but not statistically significant. We think that this is related to a high number of applications to emergency services, the risk of contact with COVID-19 patients, and a shortage of staff.

The monthly income of most of the participants was lower than 1500 TL. Although the average fear scale scores of those with monthly income lower than 3000TL were found to be lower than the rest of the participants, there was no statistically significant relationship between the participants' monthly income and COVID-19 fear scale scores at 0.05 level of significance. In the study of Yazıcı et al. (29), no statistically significant relationship between the level of income and fear scale score was found.

There was a statistically significant relationship between the residence of students' families and COVID-19 fear scale scores. The scores of participants whose families live in the district were statistically significantly lower than those living in the province and village. We think that this may be because of the fear of contamination due to the factors such as overcrowding in cities, traffic jam, shopping mall culture, and the necessity of public transportation for people living in city centers. Similarly, for the villagers, these factors may be difficulty in reaching the hospital, lack of information about COVID-19, and inadequate facilities. There was no statistically significant relationship between people living in the city centers and the villages. Studies conducted in our country have not shown a relationship between the place of residence and the scale score (17, 29).

In our study there was no relationship between body mass index (BMI) and scale scores. There is not enough data on this subject in the literature, and only in one study those whose BMI<18.5 were found to have statistically significantly higher COVID-19 fear scale scores (30).

The cross-sectional and single-centered nature of our study is the limitation of our study. In our study, moderate fear of COVID-19 was detected in parallel with most studies conducted with nursing students in the early stages of the pandemic. It is important to identify people who experience severe fear of COVID-19 and to determine risk factors according to their sociodemographic characteristics. Thus, it will be possible to provide regulations to eliminate risk factors and provide support programs to reduce fear.

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References

1. De Hoog N, Stroebe W, de Wit JBF. The processing of fear-arousing communications: How biased processing leads to persuasion, Social Influence, 2008;3:2, 84-113.
2. Duan L, Zhu G. Psychological interventions for people affected by the COVID-19 epidemic. Lancet Psychiatry, 2020;7(4):300-302.
3. Ontürk Akyüz H, Dindar Demiray EK, Alkan S. Network analysis of nursing publications in the COVID-19 era. J Clin Med Kaz, 2021; 18(4):27-31.

4. World Health Organization. WHO. COVID Behaviors Dashboard [Internet]. https://ccp.jhu.edu/kap-covid/?gclid=EAIaIQobChMI2unpo8fvgIVQ_p3Ch3ZsQP7EAMYASAAEgK7rvD_BwE (2020). (Cited:28.08.2022).
5. Wu KK, Chan SK, Ma TM. Posttraumatic Stress, Anxiety, and Depression in Survivors of Severe Acute Respiratory Syndrome (SARS). J Trauma Stress, 2005;18(1):39-42.
6. Rajkumar RP. COVID-19 and Mental Health: A Review of the Existing Literature. Asian J Psychiatr, 2020; 52:102066.
7. Ahorsu DK, Lin CY, Imani V, Saffari M, Griffiths MD, Pakpour AH. The Fear of COVID-19 Scale: Development and Initial Validation. Int J Ment Health Addiction, 2020; 27:1–9.
8. Aşkın R, Bozkurt Y, Zeybek Z. COVİD-19 Pandemisi: Psikolojik Etkileri ve Terapötik Müdahaleler. İstanbul Ticaret Üniversitesi Sosyal Bilimler Dergisi Covid-19 Sosyal Bilimler Özel Sayısı 2020; 19 (37):304-318
9. Yang Y, Li W, Zhang Q, Zhang, L, Cheung T, Xiang YT. Mental health services for older adults in China during the COVID-19 outbreak. Lancet Psychiatry, 2020; 7(4): e19.
10. Pakpour A, Griffiths MD. The fear of COVID-19 and its role in preventive behaviors. Journal of Concurrent Disorders. Advance online publication. 2020 (Cited: 30.08.2022).
11. Bakioğlu F, Korkmaz O, Ercan H. Fear of COVID-19 and Positivity: Mediating Role of Intolerance of Uncertainty, Depression, Anxiety, and Stress. Int J Ment Health Addict. 2021; 19(6): 2369–2382.
12. Satici B, Gocet-Tekin E, Deniz ME, Satici SA. Adaptation of the fear of COVID-19 scale: Its association with psychological distress and life satisfaction in Turkey. Int J Ment Health Addict 2021;19(6):1980-1988.
13. Schimmenti A, Billieux J, Starcevic V. The four horsemen of fear: an integrated model of understanding fear experiences during the COVID-19 pandemic. Clin Neuropsychiatry, 2020;17(2):41-45.
14. Li SW, Wang Y, Yang YY, Lei XM, Yang YF. Analysis of influencing factors of anxiety and emotional disorders in children and adolescents during home isolation during the epidemic of novel coronavirus pneumonia. Psychiatry Res, 2020; 287: 112934.
15. Mamun MA, Griffiths MD. First COVID-19 suicide case in Bangladesh due to fear of COVID-19 and xenophobia: possible suicide prevention strategies. Asian J Psychiatr. 2020;51: 102073.

16. Nehir S, Tavşanlı NG. Covid-19 Pandemisinin Hemşire ve Ebe Öğrencilerin Korku ve Kontrol Algısı Üzerindeki Etkisi. Medical Sciences, 2021;16(2):141-150,
17. Alıcı NK, Copur EO. Anxiety and fear of COVID-19 among nursing students during the COVID-19 pandemic: A descriptive correlation study. Perspect Psychiatr Care, 2022; 58:141–148.
18. Artan T, Meydan S, Irmak HS. Turkish Version of the Fear of COVID-19 Scale: Validity and Reliability Study. Arch Health Sci Res. 2021;8(2):117-123.
19. Alam MD, Lu J, Ni L, Hu S, Xu Y. Psychological outcomes and associated factors among the inter Gnational students living in China during the COVID-19 Pandemic. Front Psychiatry. 2021; 12:707342.
20. Beisland EG, Gjeilo KH, Andersen JR, Bratås O, Bø B, Haraldstad K. et al. Quality of life and fear of COVID-19 in 2600 baccalaureate nursing students at five universities: a cross-sectional study. Health Qual Life Outcomes, 2021; 19(1):198.
21. Wang F, Zhang L, Ding L, Wang L, Deng Y. Fear of COVID-19 Among College Students: A Systematic Review and Meta-Analysis. Front Public Health. 2022; 10: 846894.
22. Alimoradi Z, Ohayon MM, Griffiths MD, Lin CY, Pakpour AH. Fear of COVID-19 and its association with mental health-related factors: systematic review and meta-analysis. BJPsych Open, 2022; 21;8(2): e73.
23. Stangier U, Kananian S, Schüller J. Perceived vulnerability to disease, knowledge about COVID-19, and changes in preventive behavior during lockdown in a German convenience sample. Curr Psychol, 2021; 26:1–9.
24. Wathelet M, Duhem S, Vaiva G, Baubet, T, Habran E, Veerapa E, et al. Factors associated with mental health disorders among university students in France confined during the COVID-19 pandemic. JAMA Netw Open, (2020)3: e2025591.
25. Martínez-Lorca M, Martínez-Lorca A, Criado-Álvarez JJ, Armesilla MDC, Latorre JM. The fear of COVID-19 scale: validation in Spanish university students. Psychiatry Res. 2020; 293: 113350.
26. Calışkan E, Kargın M, Ersöğütçü F. Hemşirelik Öğrencilerinde Covid-19 Korkusu ile Hemşirelik Mesleğine Yönelik Tutum Arasındaki İlişki. Sürekli Tıp Eğitimi Dergisi, 2021;30, (3), 170 – 180.
27. Soraci P, Ferrari A, Abbiati FA, Del Fante E, De Pace R, Urso A et al. Validation and psychometric evaluation of the Italian version of the Fear of COVID-19 Scale. International Journal of Mental Health and Addiction, 2020; 4;1-10.

28. Aslan H, Pekince H. Nursing students' views on the COVID-19 pandemic and their percieved stress levels. Perspectives in psychiatric care, 2021;57(2):695-701.
29. Yazici HG, Ökten Ç. Nursing students' clinical practices during the COVID-19 pandemic: Fear of COVID-19 and Anxiety Levels. Nurs Forum. 2022;57: 298-304.
30. Nguyen HT, Do BN, Pham KM, Kim GB, Dam HTB, Nguyen TT. et al. Fear of COVID-19 Scale—Associations of Its Scores with Health Literacy and Health-Related Behaviors among Medical Students. Int. J. Environ. Res. Public Health, 2020: (17), 4164.