ORIGINAL ARTICLE

Phnx Med J. November 2023, Volume 5 No 3
DOI:10.38175/phnx.1339543

Investigation of COVID-19 Anxiety Levels of Emergency Workers

Acil Çalışanların COVİD-19 Anksiyete Düzeylerinin Araştırılması

Onur Üstüntaş Cemil Kavalcı

University of Health Sciences AntalyaTraining and Research Hospital, Emergency department, Turkiye.

ABSTRACT

Objective: *The coronavirus pandemic has affected human and societal psychology worldwide. The Coronavirus Anxiety Scale is used to detect dysfunctional anxiety about the COVID-19 pandemic. In this study, our aim was to determine the anxiety levels of workers of the our emergency serrvices during the pandemic.*

Material Methods: *The Coronavirus Anxiety Scale questionnaire was applied to emergency workers. According to the scores obtained from the questionnaire, the participants were divided into two groups: those with anxiety (Group 1) and those without anxiety (Group 2). The Mann-Whitney U test was used to compare two independent groups for continuous data, and Pearson's chi-square test was used for frequency data. A p value of <0.05 was considered statistically significant.*

Results: *Anxiety was present in 8.1% of the 285 worker who participated in the survey. The anxiety rate in female (12.8%) was statistically significantly higher than that of male (3.5%) (p<0.05). There was no statistically significant difference between the groups in terms of alcohol users and smokers (p>0.05). We did not detect any association between marital status or having children and anxiety (p>0.05). There was also no statistically significant difference between the groups in terms of having previously contracted COVID-19, receiving a COVID-19 vaccine, to get psychiatric support before or during the pandemic, and having a deceased relative due to the pandemic.*

Conclusion: *During the COVID-19 pandemic, anxiety rate is 8.1% in emergency workers. Anxiety rates were higher in female, non-alcohol users and non-smokers during the pandemic.*

ÖZET

Amaç: *Koronavirüs pandemisi dünya çapında insan ve toplum psikolojisini etkiledi. Koronavirüs Anksiyete Ölçeği, COVID-19 pandemisi ile ilgili işlevsel olmayan anksiyeteyi tespit etmek için kullanılmaktadır. Bu çalışmada amacımız acil servis çalışanlarımızın pandemi dönemindeki anksiyete düzeylerini belirlemektir.*

Gereç ve Yöntem: *Acil servis çalışanlarına Koronavirüs Anksiyete Ölçeği anketi uygulandı. Anketten alınan puanlara göre katılımcılar anksiyetesi olanlar (Grup 1) ve anksiyetesi olmayanlar (Grup 2) olmak üzere iki gruba ayrıldı. Sürekli veriler için iki bağımsız grubun karşılaştırılmasında Mann-Whitney U testi, frekans verileri için Pearson ki-kare testi kullanıldı. p <0,05 değeri istatistiksel olarak anlamlı kabul edildi.*

Bulgular: *Ankete katılan 285 çalışanın %8,1'inde anksiyete mevcuttu. Kadınlarda anksiyete oranı (%12,8) erkeklere (%3,5) göre istatistiksel olarak anlamlı derecede yüksekti (p<0,05). Alkol kullananlar ve sigara kullananlar açısından gruplar arasında istatistiksel olarak anlamlı fark yoktu. (p>0,05). Medeni durum veya çocuk sahibi olma durumu ile anksiyete arasında ilişki saptamadık (p>0.05). Daha önce COVID-19 geçirmiş olma, COVID-19 aşısı olma, pandemi öncesi veya sırasında psikiyatrik destek alma ve pandemi nedeniyle vefat etmiş bir yakını olması açısından da gruplar arasında istatistiksel olarak anlamlı fark yoktu (p>0,05).*

Sonuç: *COVID-19 pandemisi sırasında acil servis çalışanlarında anksiyete oranı %8,1'di. Pandemi döneminde kadınlarda, alkol kullanmayanlarda ve sigara içmeyenlerde kaygı oranları daha yüksekti.*

Keywords:
COVID-19
Emergency workers
Anxiety

Anahtar Kelimeler:
COVID-19
Acil çalışanları
Anksiyete

INTRODUCTION

The coronavirus pandemic has affected human and societal psychology worldwide (1). According to the latest information, 768,560,727 individuals have become ill, while 6,952,522 individuals have died (2). It has been reported that there was a 25% increase in symptoms of anxiety and depression during the first year of the coronavirus pandemic (3). In studies conducted on COVID-19, stress, anxiety, and depression have been identified as significant factors in both the general population and healthcare workers (4). While the all of society has been impacted by the pandemic in one way or another, healthcare personnel working in departments responsible for the primary treatment of COVID-19 patients are among the groups who have experienced this process most severely (5,6). Crashing with long working hours, intensive exposure to isolation conditions due to the risk of transmission, prolonged separation from their families, and the trauma caused by wearing personal protective equipment during patient care, healthcare workers have experienced burnout syndrome (5-7).

The Coronavirus Anxiety Scale (CAS) is developed by Lee et al. (8) used to detect dysfunctional anxiety about the pandemic. The anxiety levels of the participants were

Correspondence: Cemil Kavalcı, University of Health Sciences AntalyaTraining and Research Hospital, Emergency department, Antalya, Türkiye. E-mail:cemkavalci@yahoo.com
Cite as: Üstüntaş O, Kavalcı C. Investigation of Covid-19 Anxiety Levels of Emergency Workers.Phnx Med J. 2023;5(3):201-205.
Received: 08.08.2023 **Accepted:** 11.09.2023 **Online Published:** 24.10.2023

detected by five questions, each of which was given a score from 0 to 4 points. The Turkish version of the CAS was validated by Evren et al (9).

In this study, our aim was to determine the anxiety levels of workers of the our emergency services during the pandemic.

MATERIAL AND METHODS

Participants

We conducted the study by obtaining permission from the Ethics Committee and carried out the survey using face-to-face interviews at the Emergency Department of Antalya Education and Research Hospital. We included 285 participants who completed the survey form in its entirety in the study. Individuals we defined as doctors included resident and specialist physicians working in the emergency department, while allied health personnel consisted of nurses, paramedics, laboratory technicians, radiology technicians, and pharmacists. Support staff members comprised cleaning staff, security personnel, and secretaries.

Inclusion criteria: Working at Antalya Training and Research Hospital Emergency service

Exclusion criteria: Incomplete questionnaire.

Collecting Data

Our survey comprised two sections: the initial section gathered participants' demographic details, while the second section encompassed the Comprehensive Anxiety Scale (CAS) (Appendix 1). Information such as participants' age, gender, occupational role, professional tenure, marital status, vaccination status, smoking habits, alcohol consumption, history of COVID-19 infection, utilization of psychiatric support during or post-pandemic, and deceased due to Covid-19 their relatives was documented.

Determination of Anxiety

The anxiety status of the participants was designated by the CAS (8,9). Participants who scored nine or above on the scale were determined to have anxiety.

Statistical Analysis

The study data were analyzed with the IBM SPSS Statistics Data Editor ver. 23.0. Numerical data were expressed as mean ± standard deviation and interquartile range (percentage 25-75%), and frequency (n) data were expressed as percentages (%). The participants were categorized into two groups based on the scores obtained from the questionnaire: Group 1, characterized by the presence of anxiety, and Group 2, characterized by the absence of anxiety. The distribution of continuous data was tested using the Kolmogorov-Smirnov test. The Mann-Whitney U test was used to compare two independent groups for continuous data, and Pearson's chi-square and Fischer's exact tests were used for frequency data. A p value of <0.05 was considered statistically significant.

RESULTS

A study survey was distributed to 377 individuals working in the emergency department. Out of these, 74 individuals declined to participate, and 18 individuals were excluded from the study due to missing both their name and signature on the completed form. A total of 285 participants were included in the final analysis.

According to the results of our study, 8.1% of healthcare personnel working in the emergency department exhibited anxiety. The incidence of anxiety was higher in females compared to males (12.8% vs 3.5%; p<0.05). The age of healthcare personnel with anxiety [47 year (35.5-51)] was significantly higher compared to those without anxiety [38 year (30-44)] (p<0.05).

The healthcare personnel with anxiety had a significantly

Table 1: Demographic characteristics of health personnel by groups.

Variable	Group 1 n(%)	Group 2 n(%)	p Value
Gender			
Male	5 (3.5)	139 (96.5)	0.00
Female	18 (12.8)	123 (87.2)	
Marriage status			
Single	6 (5.8)	97 (94.2)	0.29
Married	17 (9.3)	165 (90.7)	
Alcohol consumption			0.05
No	20 (10.2)	176 (89.8)	
Yes	3 (3.4)	86 (96.6)	
Smoking habits			
No	17 (11.5)	13 (88.5)	0.03
Yes	6 (4.4)	131 (95.6)	
Covid-19 history			
No	10 (7.2)	129 (92.8)	0.59
Yes	13 (8.9)	133 (91.1)	
Covid-19 Vaccine			
No	1 (6.7)	14 (93.3)	1
Yes	22 (8.1)	248 (91.9)	
Utilization of psychiatric support during or pre-pandemic			0.34
No	21 (7.8)	249 (92.2)	
Yes	2 (13.3)	13 (86.7)	
Utilization of psychiatric support during			0.19
No	21 (7.6)	254 (92.4)	
Yes	2 (20)	8 (80)	
Deceased Due to Covid-19			0.49
No	13 (7.2)	167 (92.8)	
Yes	10 (9.5)	95(90.5)	
Job group			
Doctor	2 (4.1)	47 (95.9)	0.36
Allied health personnel	13 (10.3)	113 (89.7)	
Support staff members	8 (7.3)	102 (92.7)	

higher level of professional experience compared to those without anxiety [20 year (8-29.5) vs 11 year (6-20)] ($p<0.05$). There was no statistically significant difference between the groups in terms of alcohol users and smokers ($p>0.05$) (Table 1).

We didn't find statistically significant difference between the groups in terms of having previously contracted COVID-19, receiving a COVID-19 vaccine, to get psychiatric support before or during the pandemic, and having a deceased relative due to the pandemic (Table 1).

When examining the frequency of anxiety among participants based on their jobs, nurses (10.9%) and radiology technicians (10.5%) ranked first in terms of anxiety frequency, followed by secretaries (9.3%) and cleaning staff (8.6%) (Table 2).

Table 2: Anxiety rates according to participants' roles.

Job	Group 1 n (%)	Group 2 n (%)
Doctor	2 (4.1)	47 (95.9)
Nurse	11 (10.9)	90 (89.1)
Security personnel	1 (3.1)	31 (96.9)
Cleaning staff	3 (8.6)	32 (91.4)
Secretary	4 (9.3)	39 (90.7)
Radiology technician	2 (10.5)	17 (89.5)
Laboratory technician	0	5 (100)
Pharmacist	0	1 (100)

DISCUSSION

The primary aim of this study was to determine the anxiety levels of workers of our emergency services during the pandemic. Anxiety was present in 8.1% of the participated in the study. The anxiety rate of female physicians was higher than that of male physicians. In addition, the anxiety rates of participants who don't use cigarette and alchol.

After the beginning of the COVID-19 pandemic, symptoms of anxiety were clearly seen rising throughout the ranks of health care workers (10,11). Anxiety rates have been reported to range from 8 to 44.6% of health care workers (12-20). We detected an anxiety level of 8.1% in physicians who answered our questionnaire. This wide range of anxiety rates may be due to discrepancies in the dates of the pandemic period or differences in ethnic or geographical study populations, vaccination or therapeutic development during different periods of pandemic, or physician's eventual acceptance and habituation to the pandemic.

In our study, we found higher levels of anxiety in older participants. When reviewing the literature, there are publications indicating that COVID-19 anxiety is more prominent in younger individuals, and anxiety rates tend to decrease with advancing age (21-23). Our study contradicts these findings in the literature. Considering that the emergency department in our hospital had the highest case load during the pandemic and that the disease has been more fatal among the elderly, this might have contributed to the increased anxiety among relatively older healthcare personnel.

In our study, we observed that anxiety was higher among female employees during the COVID-19 pandemic. Similarly, in other studies conducted on healthcare workers, anxiety rates among women have been found to be higher than those among men (17,19,21,23-26). Our study's findings are consistent with the gender-related impact on anxiety observed in other studies in the literature. The higher anxiety in women could potentially be attributed to neurohormonal differences. Another contributing factor could be societal differences in the upbringing of girls.

Studies investigating the link between anxiety rates and years of professional experience have yielded inconsistent findings. While certain research has indicated that increased job experience reduces anxiety (17,27,28), other studies have failed to establish a connection between anxiety and professional tenure (19,29). In our study, the group with anxiety had a longer duration of professional experience compared to the group without anxiety. For individuals with chronic illnesses, the pandemic's consequences could potentially be more severe.

COVID-19 vaccines started to be administered by the end of 2020 (30). In our study, 94.7% of participants had received the vaccine, and 51% had a history of COVID-19 infection. According to our study's results, we find a no statistically significant difference between being vaccinated or having a history of COVID-19 infection and anxiety. Some authors have indicated an association between having a history of COVID-19 and anxiety (27,31,32), while others have reported no such association (17,19). The manifestation of anxiety stemming from contracting a disease might vary across different populations. Discrepancies in the questionnaires used could also contribute to these divergent outcomes.

In our study, the rate of participants receiving psychiatric support during the COVID-19 pandemic was found to be 3.5%. Although participants who sought psychiatric support before and during the pandemic exhibited higher anxiety rates compared to other participants, this difference was not statistically significant. In the literature, some authors have reported higher anxiety rates among participants receiving psychiatric support (17,19,32). While our study find no significant relationship between receiving psychiatric support before and during the COVID-19 pandemic and the anxiety experienced during the pandemic, a larger sample size and a study with a greater number of identified cases of anxiety could potentially lead to statistically significant differences in line with our results.

In our study, 105 participants (36.8%) had lost at least one family member due to COVID-19. However, we find no significant difference in anxiety incidence between participants who had lost a family member due to COVID-19 and those who had not. Previous studies have also shown varying results on this topic. While some authors have reported higher anxiety rates among those who lost family members (21), others have found no significant change (19,33,34). The literature indicates both similar and different outcomes compared to our study. The variations in study outcomes could be attributed to

differences in the studied patient populations and the timing of the conducted studies.

When examining anxiety incidence based on participants' roles, nurses had the highest anxiety incidence. Previous studies have also found that COVID-19 anxiety is higher among nurses compared to other professional groups (17,24,35). This might be attributed to nurses having more physical contact with patients during care and treatment. Another possible reason could be a lack of sufficient and up-to-date information about the disease.

It is known that people tend to use alcohol or other substances when faced with situations they cannot cope with. Previous studies have found higher anxiety rates among healthcare workers who use substances like alcohol and tobacco (17,36-39). However, in our study, we found that no relation beetwen anxiety rates and alcohol users-smokers. The many unknown aspects of the disease, the implementation of strict isolation measures, and curfews may have affected both groups similarly.

CONCLUSION

In the emergency workers, 8.1% exhibited anxiety. Among the healthcare personnel with anxiety, their age and professional experience were significantly higher compared to those without anxiety. Anxiety rates were higher in females than males, while marital status did not show a significant association with anxiety.

Limitation

The study was conducted during a period that could be referred to as the later stages or post-pandemic period. The timing of the study being conducted during a less risky and lower patient load period might have influenced the study's outcomes.

The study sample only consists of emergency department staff from a tertiary hospital, which may not represent intensive care or other service staff or personnel working in different-level hospitals. Conducting a study with healthcare personnel from different cities, hospitals, and departments could yield different results.

Conflict of Interest: No conflict of interest was declared by the authors.
Ethics: This study was approved by the University of Health Sciences Turkey, Antalya Training and Research Hospital Ethic Committee approval date: 17.02.2022, no: 2022-076.
Funding: There is no financial support of any person or institution in this research.
Approval of final manuscript: All authors.

REFERENCES

1. Saladino V, Algeri D, Auriemma V.The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being. Front Psychol. 2020; 11:577-684.
2. WHO Coronavirus (COVID-19) Dashboard. Available from: https://covid19.who.int (Last accessed date:04.08.2023).
3. WHO. COVID-19 pandemic triggers 25% increase in prevalence of anxiety and depression worldwide. Available from: https://www.who.int/news/item/02-03-2022-covid-19- pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide. (Last accessed date:04.08.2023).
4. Iasevoli F, Fornaro M, D'Urso G, Galletta D, Casella C, Paternoster M, et al. Psychological distress in patients with serious mental illness during the COVID-19 outbreak and one-month mass quarantine in Italy. Psychol Med. 2021;51(6):1054-1056.
5. Ataç Ö, Sezerol MA, Taşçı Y, Hayran O. Anxiety and insomnia among healthcare workers during the COVID-19 pandemic. Turk J Public Health. 2020;18:47-57.
6. Mehta S, Machado F, Kwizera A, Papazian L, Moss M, Azoulay E, et al. COVID-19: a heavy toll on health-care workers. Lancet Respir Med. 2021;9(3):226-228.
7. Kavalci G, Kayıpmaz S. Investigation of Burnout Levels of Anaesthesiologists and Technicians in Covid-19 pandemic period. Acta Medica. 2021;52(3):208-12
8. Lee SA. Coronavirus Anxiety Scale: A brief mental health screener for COVID-19 related anxiety. Death Studies. 2020;44(7):393-401.
9. Evren C, Evren B, Dalbudak E, Topcu M, Kutlu N. Measuring anxiety related to COVID-19: A Turkish validation study of the Coronavirus Anxiety Scale. Death Studies 2022; 46(5):1052-8. https://doi.org/10.1080/07481187.2020.1774969
10. Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors Associated With Mental Health Outcomes Among Health Care Workers Exposed to Coronavirus Disease 2019. JAMA Netw Open. 2020;3(3);e203976.
11. Perez-Cano HJ, Moreno-Murguia MB, Morales-Lopez O, Crow-Buchanan O, English JA, Lozano- Alcazar J, et al. Anxiety, depression, and stress in response to the coronavirus disease-19 pandemic. Cir Cir. 2020;88(5):562-568.
12. Guillen-Astete C, Penedo-Alonso R, Gallego-Rodriguez P, Carballo-Cardona C, Estevez-Rueda MJ, Galli-Cambiaso E, et al. Levels of anxiety and depression among emergency physicians in Madrid during the SARS-CoV-2 pandemic. Emergencias. 2020;32(5):369-371.
13. Srivastava A, Bala R, Srivastava AK, Mishra A, Shamim R, Sinha P. Anxiety, obsession and fear from coronavirus in Indian population: a web-based study using COVID-19 specific scales. Int J Community Med Public Health. 2020;7 (11):4570. https://doi.org/10.18203/2394-6040.ijcmph20204763
14. Chen JH, Tong KK, Su X, Yu EW, Wu AMS. Measuring COVID-19 related anxiety and obsession: Validation of the Coronavirus Anxiety Scale and the Obsession with COVID-19 Scale in aprobability Chinese sample. J Affect Dis. 2021;295:1131–1137
15. Choi EPH, Hui BPH, Wan EYF. Depression and anxiety in Hong Kong during COVID-19. Int J Environ. Res Public Health. 2020;17 (10): 3740. https://doi.org/ 10.3390/ijerph17103740
16. Deng J, Zhou F, Hou W, Silver Z, Wong CY, Chang O, et al. The prevalence of depressive symptoms, anxiety symptoms and sleep disturbance in higher education students during the COVID-19 pandemic: A systematic review and meta-analysis. Psychiatry Research. 2021;301:113863
17. Yurttas B, Poyraz BC, Sut N., Ozdede A, Oztas M, Ugurlu S, et al. Willingness to get the COVID-19 vaccine among patients with rheumatic diseases, healthcare workers and general population in Turkey: a web-based survey. Rheumatol Int. 2021;41 (6): 1105–1114. https://doi.org/10.1007/s00296-021-04841-3.
18. Simegn W, Dagnew B, Yeshaw Y, Yitayih S, Woldegerima B, Dagne H. Depression, anxiety, stress and their associated factors among Ethiopian University students during an early stage of COVID-19 pandemic: An online-based cross-sectional survey. PlosOne. 2021; https://doi.org/10.1371/journal.pone.0251670
19. Ozbay S, Ayan M. Investigation of Covid-19 Anxiety levels of Physicians. Cumhuriyet Med J. 2023;45(2):52-8.
20. Dahan M, Rouzier R, Normandin T, Marx G, Hequet D. Anxiety and depressive disorders in patients during the Covid-19 pandemic. Bull Cancer. 2020;107(10):1079-1080.

21. Kocakoglu S, Cadirci D, Terzi NK, Ayazoz Y. Anxiety Status and Associated Factors of Health Personnel Working in a Tertiary Hospital in Turkey in the COVID-19 Pandemic. Euras J Fam Med. 2022;11(1):8-18.49.
22. Nwachukwu I, NkireN, Shalaby R, Hrabok M, Vuong W, Gusnowski A, et al. COVID-19 Pandemic: Age-Related Differences in Measures of Stress, Anxiety and Depression in Canada. Int J Environ Res Public Health. 2020;17(17):6366.
23. Solomou I, Constantinidou F. Prevalence and Predictors of Anxiety and Depression Symptoms during the COVID-19 Pandemic and Compliance with Precautionary Measures: Age and Sex Matter. Int J Environ Res Public Health. 2020;17(14):4924.
24. Uz B, Savasan E, Soganci D. Anxiety, Depression and Burnout Levels of Turkish Healthcare Workers at the End of the First Period of COVID-19 Pandemic in Turkey. Clin Psychopharmacol Neurosci. 2022;20(1):97-108.
25. Farrell M, Sengelaub DR, Wellman CL. Sex differences and chronic stress effects on the neural circuitry underlying fear conditioning and extinction. Physiol Behav. 2013;122:208-15.
26. Lebron-Milad K, Milad MR. Sex differences, gonadal hormones and the fear extinction network: implications for anxiety disorders. Biol Mood Anxiety Disord. 2012;2:3. doi: 10.1186/2045-5380-2-3.
27. Jaber MJ, AlBashaireh AM, AlShatarat MH, Alqudah OM, Du Preez SE, Al Ghamdi KS, et al. Stress, Depression, Anxiety, and Burnout among Healthcare Workers during the COVID-19 Pandemic: A Cross-sectional Study in a Tertiary Centre. Open Nurs J. 2022;16: e187443462203140
28. Sahin MK, Aker S, Sahin G, Karabekiroglu A.Prevalence of Depression, Anxiety, Distress and Insomnia and Related Factors in Healthcare Workers During COVID-19 Pandemic in Turkey. J Community Health. 2020;45(6)1168-1177.
29. Yildirim TT, Atas O, Asafov A, Yildirim K, Balibey H. Psychological Status of Healthcare Workers during the Covid-19 Pandemic. J Coll Physicians Surg Pak. 2020;30(6):26-31.
30. Anyiam-Osigwe T. COVID-19 vaccines are now approved in some countries. What will it take to approve them for the rest of the world. 2021. Available from: https://www.gavi.org/vaccineswork/covid-19-vaccines-are-now-approved-some-countries-what-will-it-take-approve-them. (Last acces date:19.07.2022).
31. Motahedi S. Aghdam NF, Khajeh M, Baha R, Aliyari R, Bagheri H, et al. Anxiety and depression among healthcare workers during COVID-19 pandemic: A cross-sectional study. Heliyon. 2021;7(12);e08570.
32. Fjermestad, KW, Orm S, Silverman WK, Cogo-Moreira H. Short report: COVID-19-related anxiety is associated with mental health problems among adults with rare disorders. Res Dev Disabil. 2022;123:104181.
33. Pouralizadeh M, Bostani Z, Maroufizadeh S, Ghanbari A, Khoshbakht M, Alavi SA, et al. Anxiety and depression and the related factors in nurses of Guilan University of Medical Sciences hospitals during COVID-19: A web-based cross-sectional study. Int J Afr Nurs Sci. 2020;13:100233.
34. Pecoraro V, Negro A, Pirotti T, Trenti T. Estimate false-negative RT-PCR rates for SARS-CoV-2. A systematic review and meta-analysis. Eur J Clin Invest. 2022; 52(2):e13706.
35. Meo SA, Alkhalifah JM, Alshammari NF, Alnufaie WS. Comparison of Generalized Anxiety and Sleep Disturbance among Frontline and Second-Line Healthcare Workers during the COVID-19 Pandemic. Int J Environ Res Public Health. 2021;18(11):5727
36. Jaguga F, Kwobah EK, Mwangi A, Patel K, Mwogi T, Kiptoo R, et al. Harmful Alcohol Use Among Healthcare Workers at the Beginning of the COVID-19 Pandemic in Kenya. Front Psychiatry. 2022; 13: 821610.
37. Conroy DA, Hadler NL, Cho E, Moreira A, MacKenzie C, Swanson LM, et al. The effects of COVID-19 stay-at-home order on sleep, health, and working patterns: a survey study of US health care workers. J Clin Sleep Med. 2021;17(2):185-191.
38. Warren AM, Bennett M, Danesh V. Waddimba A, Tovar M, Gottlieb RL, et al. Early psychological health outcomes among United States healthcare professionals, essential workers, and the general population during the COVID-19 pandemic: The influence of occupational status. Psychiatry Res Commun. 2021;1(2):100005.50.
39. Wozniak H. Benzakour L, Moullec G, Buetti N, Nguyen A, Corbaz S, et al. Mental health outcomes of ICU and non-ICU healthcare workers during the COVID-19 outbreak: a cross sectional study. Ann Intensive Care. 2021;11(1);106.