



Investigating Factors Associated with Depression, Anxiety, and Stress in Healthcare Shift Workers during the COVID-19 Pandemic

S M Yasir Arafat*

Department of Psychology, Neuro Research Center, Bangladesh

Abstract

The recent pandemic of COVID-19 has had a tremendous impact on the healthcare frontier. This study sought to assess depression, anxiety, stress and related factors in healthcare shift workers. **METHODS:** The sample frame includes a healthcare worker directly managing his COVID-19 case in Klang Valley, Malaysia. Participants' mental health status was assessed using the Depression, Anxiety and Stress Scale-21 (DASS-21). Associated factors reported in this study included sleep quality, physical activity, and dietary habits. Pearson's χ^2 and simple multivariate binary logistic regression models were constructed using the Hosmer-Lemeshow approach to identify potentially relevant factors. A total of 413 participants were recruited. Overall, 40.7% of his participants had one or more of his symptoms of depression, anxiety, or stress. Poor sleep quality was significantly associated with all psychological outcomes of depression, anxiety and stress. Inactivity has been found to be strongly associated with symptoms of depression and anxiety. At the same time, diet was strongly associated with anxiety and stress. Sleep quality, inactivity, and dietary habits associated with the mental health status of medical shift workers are modifiable factors that need to be addressed to contain mental health problems in this group of workers.

Keywords: SARS-COV-2; COVID-19

Introduction

Shift work is often associated with jobs that require work outside the traditional 8am to 5pm hours of the day. It is ubiquitous in economically developed countries such as Canada, the United Kingdom, France, Russia, and Malaysia, where many suffer from mental health problems, exhaustion, poor health, disorganized homes, and abandonment of children and partners. Night and early morning shifts require us to be awake when the circadian arousal drive is low and asleep when it is high, which goes against our natural biological rhythms. This affects a person's circadian rhythm, disrupting vital systems controlled by that rhythm, including metabolic health, heart health, cancer risk, and mental health. Disturbances in circadian rhythms are not only the cause of many diseases, but can ultimately lead to more mistakes in the workplace and poorer job performance. The COVID-19 pandemic has overwhelmed public health sectors and capacities in most countries. The first case in Malaysia was detected on 24 January 2020 and a movement restriction order was implemented on 18 March 2020. COVID-19 has significantly increased labour demand for healthcare workers, leaving them at a loss to manage their mental health [1-3]. While the trend of confirmed positive cases is increasing, medical shift workers continue to serve the country in a variety of roles of surveillance, investigation, diagnosis and treatment. However, I'm also facing a number of issues, such as: B. Shortages of personal protective equipment (PPE), hospital beds, and other medical equipment to meet pandemic care needs. This indirectly leads to severe burnout that leads to stress, depression, and anxiety. A study by the Ministry of Health's Institute for Health Behavioural Research reported that around 14.2% of health workers suffered from severe mental disorders during this period.

Several studies conducted during the pandemic show alarming levels of psychological problems in communities that may be related to the loss of family members, travel restrictions, work, and financial problems due to COVID-19 Revealed. Following these themes, it was instructive to examine the psychological impact of the pandemic on frontline healthcare shift workers who have had to deal with the disruption the pandemic has caused. A study of hours worked by healthcare workers during the pandemic shows that those who work longer hours show alarming levels of burnout and stress. In addition,

longer times are associated with prolonged contact with the patient or specimen, prolonged wearing of her PPE, sleeps deprivation, and poor diet. These psychological effects on health care workers can be exacerbated by multiple risk factors, including gender, health status, economic status, and occupational differences [4-6].

Materials and Method

This cross-sectional study included health care workers aged 19 to 60 years. The sample frame includes a healthcare worker at a Klang Valley hospital where he directly managed COVID-19 cases, where he worked at least three shifts for a year. The sample for this study included participants from hospitals around the Klang Valley, as Malaysia's Klang Valley reported the highest case of COVID-19 in him. Klang Valley has 14 public hospitals listed, and during the study period he selected hospitals that treated COVID-19 cases directly. Participants were recruited randomly using a stratified random sample. Inclusion criteria included Malay or English literacy and medical staff with Malaysian citizenship. At the same time, subjects diagnosed with sleep disorders and/or psychiatric disorders were excluded from this study. Sample size calculations were performed using the Opine toolkit with two-sided proportions with a confidence interval (CI) of 95%, a significance level (p) of 0.05, and a precision level of 5%. A previous study by Teixeira et al., (2020) highlighted the relationship between physical activity and prevalence of psychosocial problems in shift workers. Therefore, this study required her 392 participants [7-9].

This study was approved by the Medical Research Ethics

*Corresponding author: S M Yasir Arafat, Department of Psychology, Neuro Research Centre, Bangladesh, E-mail: yasir456@gmail.com

Received: 01-Aug-2022, Manuscript No: tpctj-22-72598; **Editor assigned:** 05-Aug -2022, Pre-QC No: tpctj-22-72598 (PQ); **Reviewed:** 19- Aug -2022, QC No: tpctj-22-72598; **Revised:** 23- Aug -2022, Manuscript No: tpctj-22-72598 (R); **Published:** 29- Aug -2022, DOI: 10.4172/tpctj.1000160

Citation: Arafat SMY (2022) Investigating Factors Associated with Depression, Anxiety, and Stress in Healthcare Shift Workers during the COVID-19 Pandemic. Psych Clin Ther J 4: 160.

Copyright: © 2022 Arafat SMY. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Committee and the National Medical Research Registry with code reference NMRR-19-2796-50756. Informed consent was obtained from all subjects prior to the study. Demographic data showed that female overrepresentation (81.1%) in this study was consistent with previous studies among shift workers and health care workers. Like other studies, this study focuses primarily on a specific occupational group of health workers. This removes biases regarding the type of shift her schedule, which can vary by workplace type. The age group of participants was also mainly concentrated under the age of 40 (89.1%). A health care worker has been promoted to senior positions since her 40s, coordinating office hour schedules and answering phone calls. The department that primarily introduced her three-shift work was the emergency room. Therefore, most of the participants came from this sector [10-12].

Several studies conducted during the pandemic show alarming levels of psychological problems in communities that may be related to the loss of family members, travel restrictions, work, and financial problems due to COVID-19 revealed. Following these themes, it was instructive to examine the psychological impact of the pandemic on frontline healthcare shift workers who have had to deal with the disruption the pandemic has caused. A study of hours worked by healthcare workers during the pandemic shows that those who work longer hours show alarming levels of burnout and stress. In addition, longer times are associated with prolonged contact with the patient or specimen, prolonged wearing of her PPE, sleeps deprivation, and poor diet. These psychological effects on health care workers can be exacerbated by multiple risk factors, including gender, health status, economic status, and occupational differences.

Study design and subjects

This cross-sectional study included health care workers aged 19 to 60 years. The sample frame includes a healthcare worker at a Klang Valley hospital where he directly managed COVID-19 cases, where he worked at least three shifts for a year. The sample for this study included participants from hospitals around the Klang Valley, as Malaysia's Klang Valley reported the highest case of COVID-19 in him. Klang Valley has 14 public hospitals listed, and during the study period he selected hospitals that treated COVID-19 cases directly. Participants were recruited randomly using a stratified random sample. Inclusion criteria included Malay or English literacy and medical staff with Malaysian citizenship. At the same time, subjects diagnosed with sleep disorders and/or psychiatric disorders were excluded from this study. Sample size calculations were performed using the opine toolkit with two-sided proportions with a confidence interval (CI) of 95%, a significance level (p) of 0.05, and a precision level of 5%. A previous study by Teixeira et al., (2020) highlighted the relationship between physical activity and prevalence of psychosocial problems in shift workers. Therefore, this study required her 392 participants. 2.2. Ethical aspects of research

This study was approved by the Medical Research Ethics Committee and the National Medical Research Registry with code reference NMRR-19-2796-50756. Informed consent was obtained from all subjects prior to the study.

Demographic data showed that female overrepresentation (81.1%) in this study was consistent with previous studies among shift workers and health care workers. Like other studies, this study focuses primarily on a specific occupational group of health workers. This removes biases regarding the type of shift her schedule, which can vary by workplace type. The age group of participants was also mainly concentrated

under the age of 40 (89.1%). A health care worker has been promoted to senior positions since her 40s, coordinating office hour schedules and answering phone calls. The department that primarily introduced her three-shift work was the emergency room. Therefore, most of the participants came from this sector [13-15].

Factors Associated with Psychiatric Symptoms Across the Sample

The results of the univariate analysis of psychotic symptoms across the sample are shown in Supplementary As young, single women with less work experience; working in the front line was associated with higher scores, whereas having children was associated with lower scores on each subscale. , was found to be related only to the DAS total score and the depression subscale score. A post hoc analysis found that those living alone scored higher than those living with a spouse or children. Coexisting medical conditions and a diagnosis of Covid-19 have not been found to be associated with psychiatric symptoms. To determine the independent effects of age, sex, marital status, childbearing, household composition, lifetime presence of mental disorders, and occupational status (front, non-front) on DAS, multiple A linear regression analysis was performed. 21 total scale scores. Being female, being young, having a lifetime psychiatric illness, and working on the front lines were independently associated with worse psychiatric outcomes. In addition, individual regression analyses were performed to determine the effects of the above factors on the DAS subscale scores for depression, anxiety and stress. Female ($p < 0.001$ for all subscales), young age and lifelong psychiatric disorders ($p < 0.001$ for depression and anxiety subscales) and stress subscales $p=0.002$ and frontline work ($p=0.02$, $p<0.001$, and $p=0.002$ on the depression, anxiety, and stress subscales, respectively), all with the sole exception of , was independently associated with each subscale score. Its age was not associated with DAS anxiety score ($p = 0.195$).

Limitations

To our knowledge, this is the first study to examine the psychological impact of the COVID-19 outbreak on health workers in Turkey. . First, this study is limited by its cross-sectional nature and lacks longitudinal follow-up. The data collection phase of the study was completed within 6 days. Given the time sensitivity in this emergency, the results of this study will help identify the immediate needs of physicians and provide guidance for implementing relevant early stage intervention measures to protect. We wanted to examine the psychological symptoms and related factors of physicians so as to provide during this struggle. Additionally, the spontaneous nature of the survey may have led to selection bias, and respondents may not be representative of the population as a whole. Finally, in order to reach as many participants as possible during this time of need and to minimize face-to-face interviews, self-report questionnaires not based on diagnostic assessment by mental health professionals were used to symptoms. In this study, we only looked at doctors' levels of depression, anxiety, and stress. However, further research involving social support and her PTSD assessment of health care workers will undoubtedly add to the literature. Despite the above limitations, the results of this study provide valuable information on the early psychological impact of Covid-19 among physicians across different specialties across the country. Most importantly, our findings will help health authorities around the world implement relevant measures to minimize the psychological impact of the greatest pandemic of our time on healthcare workers.

Discussion

The first confirmed case of the Covid-19 outbreak was reported in Turkey on 11 March 2020. As in other parts of the world, our country began a process of rapid transformation and adjustment of its healthcare system, and action was taken immediately. To expand the number of beds for Covid-19 patients, many inpatient units have been converted into Covid-19 related wards. Doctors of various specialties were placed on the front line. All non-emergency leave for health care workers has been canceled for three months.

There is no doubt that this severe and unprecedented crisis has had an inevitable impact on health workers. Our study supports concerns about mental health among health care workers, with 64.7% of doctors experiencing depressive symptoms, 51.6% anxiety and 41.2% stress-related symptoms during the early stages of the outbreak in Turkey. It shows what you have experienced. Regarding the severity of psychiatric disorders, a significant proportion of participants had moderate to severe symptoms. In light of this rapidly changing situation, to our knowledge, only one study has previously examined the psychological impact of the Covid-19 pandemic on health care workers, and our findings are consistent with that study. The authors found that among 1257 medical professionals working in various hospitals in China, 50.4% reported symptoms of depression, 44.6% reported anxiety, We found that 71.5% reported stress (Lai et al., 2019). Studies during previous outbreaks have shown similar findings of high prevalence of psychiatric symptoms among health care workers (Lu et al., 2006; Maunder et al., 2003; Lee et al., 2007).

We found that being married and having children resulted in lower DAS total and subscale scores. On the other hand, those who are younger, female, less experienced, and frontline workers score higher across the sample. Also, those living with a spouse or children scored lower than those living alone. Regression analysis shows that being female, being young; having a history of mental illness, and working on the front lines are independent predictors of worsening mental health across almost all subscales. Similar to the results, Lai et al. noted that women and frontline workers were at increased risk of developing adverse psychiatric outcomes during her Covid-19 outbreak in China (Lai et al., 2019). Another study examining the psychological impact of the SARS outbreak on hospital workers found that younger participants and those working in high-risk areas such as SARS wards were more likely to have severe PTSD symptoms (Wu et al., 2009). Living alone has been found to increase the likelihood that hospital staff will experience high levels of depressive symptoms three years after the SARS outbreak. These factors were found to be independently associated with either total scale scores or subscale scores after regression analysis. Our further finding is that excessive workload is associated with psychological symptoms. For this reason, efforts should be made to ensure reasonable working hours, reasonable rest periods and rotating shifts for workers. Logistical support appears to be another factor related to the psychological health of frontline physicians. Lack of PPE, unsafe work environment and poor working conditions can increase self-perceived risk and fear of contagion to family members. This can lead to negative emotions such as lethargy, hopelessness, and guilt. Employers must therefore prioritize ensuring the safety of healthcare workers and meeting their basic needs. Our results also showed that support from peers and support from supervisors were also associated with psychological well-being. Being able to talk with someone about your experiences, discuss the emotional and physical challenges of work, and share concerns with other colleagues can help reduce feelings of loneliness and stress. They should be encouraged

to talk to each other and support groups should be provided through social media as needed. A system with clear guidelines that provide frontline workers with adequate job preparation, provide accurate information about diseases, the risk of contagion, and how to protect themselves. Developing effective diagnostic and treatment protocols can help reduce stress and boost job confidence.

Conclusion

In summary, this study provides evidence for important factors of sleep quality, physical activity, and dietary habits associated with mental health in medical shift workers. Undesirable symptoms of depression, anxiety, and stress in healthcare shift workers have been shown to be associated with poor sleep quality, likely due to poor biological synchronization of the sleep-wake cycle. Inactivity is also a major factor strongly associated with symptoms of depression and anxiety. Pandemics may increase participants' perceived depression and anxiety due to the need to move dynamically at work due to high patient densities. It is also important to further understand the factors of obesity and diet that are associated with symptoms of depression and stress. The results of this study contribute to certain modifiable factors. Furthermore, the novelty of this study is that it is the first study to date in Malaysia to consider these predictors as some of the factors associated with mental health of medical shift workers during the COVID-19 pandemic. That's it. It will serve as a guide for future research to develop interventions, especially the Lifestyle Module's recommendations on sleep quality, physical activity, and dietary habits for psychological maintenance of medical shift workers. Future health policy directions in the workplace can also focus on these factors to maintain the mental health of shift workers. Further research focusing on longitudinal studies is needed to confirm the causal relationship between these factors and the mental health status of shift workers in the health sector.

References

1. Mohd Azmi NAS, Juliana N, Mohd Fahmi, Teng NI, Azmani S, et al. (2020) Consequences of Circadian Disruption in Shift Workers on Chrononutrition and their Psychosocial Well-Being. *Int J Environ Res Public Health* 17: 2043.
2. Li J, Cao D, Huang Y, Chen Z, Wang R, et al. (2021) Sleep duration and health outcomes: An umbrella review. *Sleep Breath*
3. Roslan NS, Yusoff MSB, Asrenee AR, Morgan K (2021) Burnout prevalence and its associated factors among Malaysian healthcare workers during COVID-19 pandemic: An embedded mixed-method study. *Healthcare* 9: 90.
4. Sahimi HMS, Mohd Daud TI, Chan LF, Shah SA, Rahman FHA, et al. (2021) Depression and Suicidal Ideation in a Sample of Malaysian Healthcare Workers: A Preliminary Study During the COVID-19 Pandemic. *Front Psychiatry* 12: 658174.
5. Azuddin A, Razak Z, Omar N (2021) A Year of Living under COVID-19. Part 1: How the Year-Long Pandemic Impacted Malaysians' Overall Mental and Physical Well-Being.
6. Fancourt D, Steptoe A, Bu F (2021) Trajectories of anxiety and depressive symptoms during enforced isolation due to COVID-19 in England: A longitudinal observational study. *Lancet Psychiatry* 8: 141-149.
7. Mo Y, Deng L, Zhang L, Lang Q, Liao, et al. (2020) Work stress among Chinese nurses to support Wuhan in fighting against COVID-19 epidemic. *J Nurs Manag* 28: 1002-1009.
8. GBD 2019 Mental Disorders Collaborators. Global, regional, and national burden of 12 mental disorders in 204 countries and territories, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019.
9. Fridell A, Norrma HN, Girke L, Bölte S (2022) Effects of the Early Phase of COVID-19 on the Autistic Community in Sweden: A Qualitative Multi-Informant Study Linking to ICF. *Int J Environ Res* 19: 1268.
10. Newacheck PW, Taylor WR (1992) Childhood chronic illness: Prevalence, severity, and impact. *Am J Public Health* 82: 364-371.

11. Martinez W, Carter JS, Legato LJ (2011) Social competence in children with chronic illness: A meta-analytic review. *J Pediatr Psychol* 36: 878-890.
12. Van der Lee JH, Mokkink LB, Grootenhuis MA, Heymans HS, Offringa M (2007) Definitions and measurement of chronic health conditions in childhood: A systematic review. *JAMA* 297: 2741.
13. Van Cleave J, Gortmaker S L, Perrin JM (2010) Dynamics of obesity and chronic health conditions among children and youth. *JAMA* 303: 623-630.
14. Serlachius A, Badawy SM, Thabrew H (2020) Psychosocial challenges and opportunities for youth with chronic health conditions during the COVID-19 pandemic. *JMIR Pediatr Parent* 3: 23057
15. Fancourt D, Steptoe A, Bu F (2021) Trajectories of anxiety and depressive symptoms during enforced isolation due to COVID-19 in England: A longitudinal observational study. *Lancet Psychiatry* 8: 141-149.