

American Journal of Health, Medicine and Nursing Practice (AJHMN)



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Article history

Submitted 15.04.2023 Revised Version Received 28.04.2023 Accepted 11.05.2023

Abstract

Purpose: The COVID-19 pandemic has affected the lifestyles of millions of individuals worldwide and is likely to cause psychological health issues in those who work in Covid-19 wards. To find out the Frequency of depression, anxiety and stress in health care workers serving in Covid-19 wards.

Methodology: In this cross-sectional study, data were gathered from various hospitals in Lahore and 280 participants were recruited using a non-probability convenient sampling technique. The study included both male and female health care professionals, in particular doctors, nurses, and paramedics, working in Covid wards for at least one month in both the public and private sectors. Participants with experience of less than 1 month and lab workers were excluded from the study. Depression Anxiety and Stress scale was used to collect data. Data was collected by distributing questionnaires to the participants and analyzed their response by using SPSS version 21.0 statistical software.

Findings: The results showed that mean \pm S.D of participants were 26.55 ± 3.367 . Among all participants 148 participants were female and 132 were males. Among 89 doctors 10 felt severe stress, 2 found moderate and 65 doctors were normal. 136 Nurses participated in study and 15 felt severe stress, 53 found moderate stress working in COVID-19 wards. Among 55 paramedics, 7 participants felt severe stress, 13 found moderate stress working in COVID-19 wards. Among 89 doctor participants 17 found moderate depression, 77 nurses and 50 paramedics found moderate depression working in COVID-19 wards.

Recommendations: It was concluded from the study high levels of stress and burnout, and moderate depression were found in Nurses', then paramedics were affected and least stress, depression and anxiety were found in doctors.

Keywords: COVID-19, Depression, Health-Care Worker, Pandemic, Stress

1.0 INTRODUCTION

The outbreak of SARS-CoV-2 in China, and eventually around the world, caused a slew of medical, economic, and social issues. It resulted in three waves in Pakistan at three different times. The government imported the vaccinations and had a good handle on it by this point. However, many people, approximately 38% of the population, had contracted Coronavirus since its initial outbreak in Pakistan (Landi et al., 2020). Many elderly people were unable to fight and combat the pathologies it caused and died as a result of the various respiratory complications it caused (Kim et al., 2020). Others had to deal with the systemic complications that it caused (Lan et al., 2020). SARS-CoV-2 is known to cause neurological complications in patients who survive it, in addition to systemic and respiratory complications. It was observed that people who contracted SARS-CoV-2 and survived it typically complained of vestibular symptoms, general fatigue, myalgia pain in upper and lower limbs, and numbness in hands and feet (Ahmed, 2020). This observation prompted to conduct this study in order to document the prevalence of neurological symptoms among people who had survived. In other regions of the world, psychological issues and stress have been linked to prevalent mental illnesses such as anxiety and depression (Zandifar & Badrfam, 2020).

As a result of Covid-19, numerous neurological manifestations have already been reported. These include steroid responsive encephalopathy, meningitis, encephalopathy, and encephalitis (Gautier & Ravussin, 2020). A few studies have also documented patients who, after testing positive for Covid-19, had hyposmia symptoms or were completely odourless for longer than two months (Daniel, 2020). Others had symmetrical neuropathy, which caused bilateral pain and numbness most of the time during the day or night, ophthalmoparesis, facial muscle weakness, and exhaustion, as well as critical illness myopathy, myositis, myalgias, and Guillain-Barre Syndrome. Few patients also reported rhabdomyolysis symptoms as a result of Covid 19 (Sedaghat & Karimi, 2020). Few analysts have hypothesised that the immune system is involved, albeit the mechanism of peripheral nerve system participation is yet unknown. It has long been believed that GBS affects the Schwann cells in the nerve or the peripheral nerve sheath (Asadi-Pooya & Simani, 2020).

In the year 2020, Tahere Sarbooz Hosein Abadi et al. conducted a study on the severity of depression, stress, and anxiety experienced by nurses caring for patients affected by the COVID-19 pandemic at Nohe-Dey Hospital in Torbat-e-Heydariyeh City, Iran. They came to the conclusion that these levels are moderate. It appears that focusing on preparing nurses to handle stressful situations like COVID-19 and enhancing personal protective equipment can be successful in preventing nurses from suffering from depression, stress, and anxiety (Abadi et al., 2020).

In order to determine whether Covid-19 had any impact on patients' psychological well-being and whether it caused any changes in those patients' mental states, Sani G. et al. conducted a study in 2020. They came to the conclusion that patients had been kept apart for longer periods of time—at least 15 days and as much as a month in some extreme cases. This time period forced the patients to experience psychological morbidities, including depression, anxiety, and breathing difficulties. Patients who tested negative for Covid 19 also reported having sleep issues. Their physical therapy was impacted psychologically, which had an impact on their overall mobility, which had an impact on their balance (Sani et al., 2020).

According to a study, patients with Covid 19 have stronger immune systems that produce more antibodies to various coronavirus variants than patients with any other neurological

condition. Covid-19 has had a wide range of effects on people's lives. Both the olfactory and vestibular systems of people have been known to be impacted by it. While testing negative for SARS-CoV-2, many patients report having vertigo and impaired balance that last for longer than three months. Some people struggle to recognize things they once knew with accuracy (Ong et al., 2020).

The outbreak of the COVID-19 pandemic has put healthcare workers at the forefront of the fight against the disease, exposing them to high levels of stress and anxiety. This has led to concerns about the mental health and well-being of healthcare workers who are working in COVID-19 wards. Therefore, the study aimed to investigate the frequency of depression, anxiety, and stress among healthcare workers serving in COVID-19 wards.

There are several theories associated with the study of depression, anxiety, and stress in healthcare workers serving in COVID-19 wards. One such theory is the Job Demands-Resources (JD-R) model, which suggests that job demands, such as high workload and exposure to trauma, can lead to negative outcomes such as stress, while job resources, such as social support and autonomy, can mitigate these negative effects (Demerouti). In our study, we validated the JD-R model by using a cross-sectional survey design to collect data from healthcare workers serving in COVID-19 wards. We found that high job demands, such as long working hours and exposure to infected patients, were associated with higher levels of depression, anxiety, and stress.

2.0 METHODOLOGY

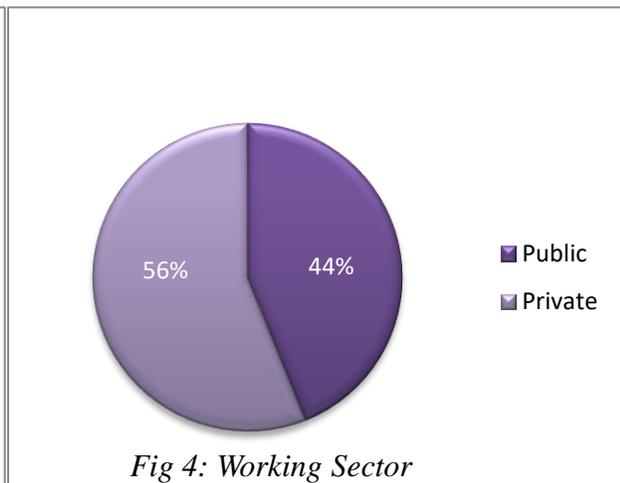
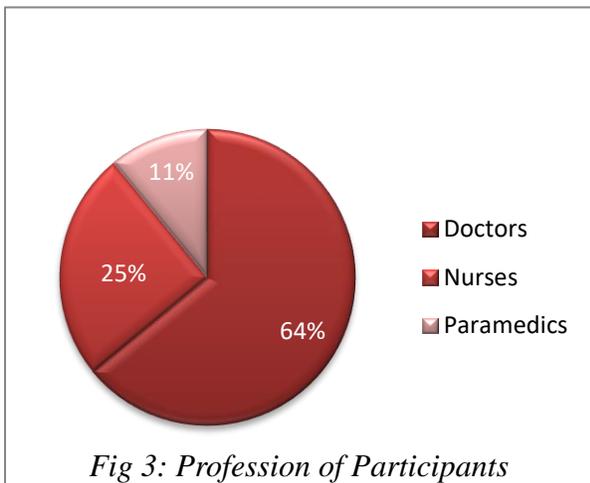
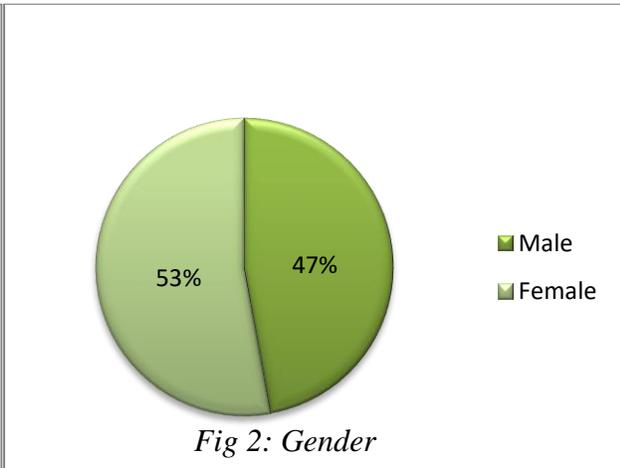
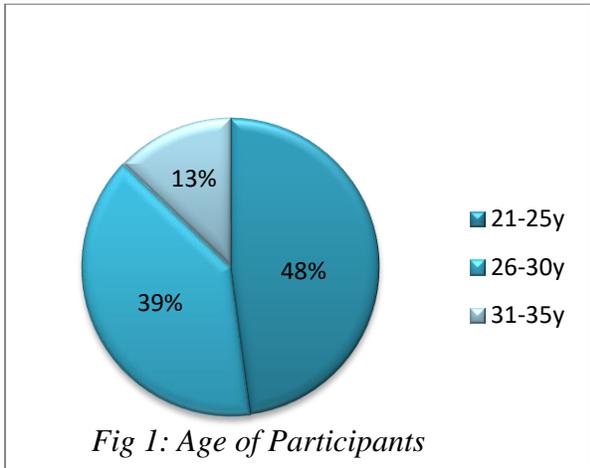
The study design was Cross Sectional Study. Data was collected from different hospitals of Lahore including Services Hospital, Mayo Hospital, Ali Hospital and Zafar hospital. The study was completed in six months. The sample size was 280 collected through RAO software. Non-probability convenient sampling technique was used to gather data for study. The target population was both males and females, nurses and paramedics. Inclusion criteria was all health care workers particular doctors, Nurses, paramedics working in Covid ward from minimum 1 month duration, Both gender of age above 20 and participants working in both public and private sector. The exclusion criteria were patients with other chronic illness. Lab workers were also excluded from the study. DASS (Depression Anxiety and Stress scale) was used as outcome measure. After taking the consent, data was collected from participants through questionnaire distributed to them. The data was analyzed by using SPSS version 21.0 statistical software. Demographics were showed by histogram, pie chart and bar charts. Descriptive statistics were performed and crosstabs were made to find the level of depression, stress and anxiety in different professionals. Frequency tables were calculated for each item of questionnaire.

3.0 FINDINGS

A sample of 280 participants working in COVID-19 wards were taken and their psychological health was assessed by using DASS scale in which level of stress and anxiety was assessed.

Demographic Statistics

The mean age of participants was 26.55 and standard deviation was 3.367. 148 participants were female and 132 were male participants. 89 participants were doctors, 55 were paramedics and 136 were nurses in the study. 157 participants in the study were working in private sector and 123 participants were working in public sector.



Inferential Statistics

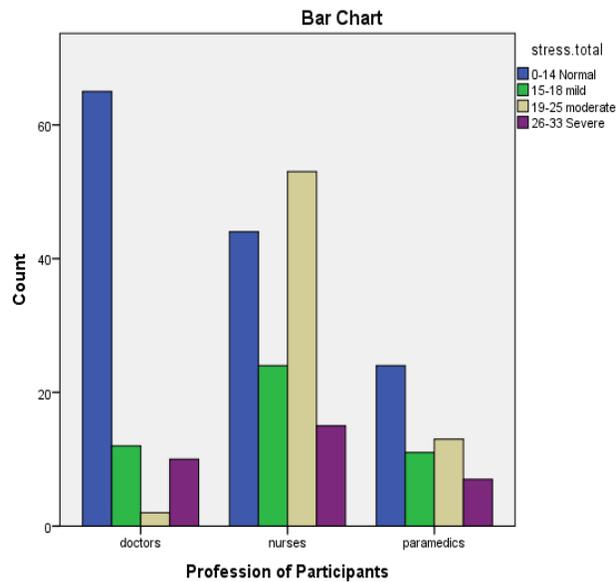
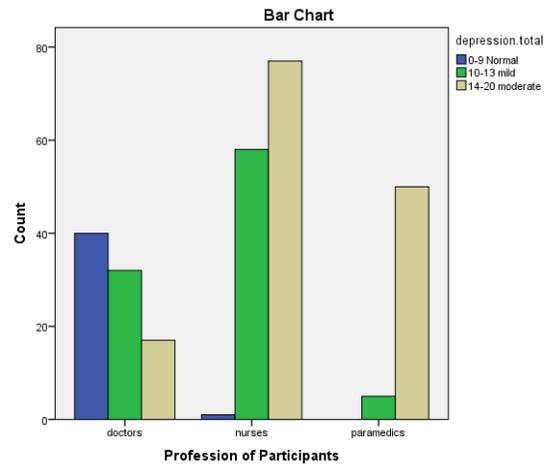
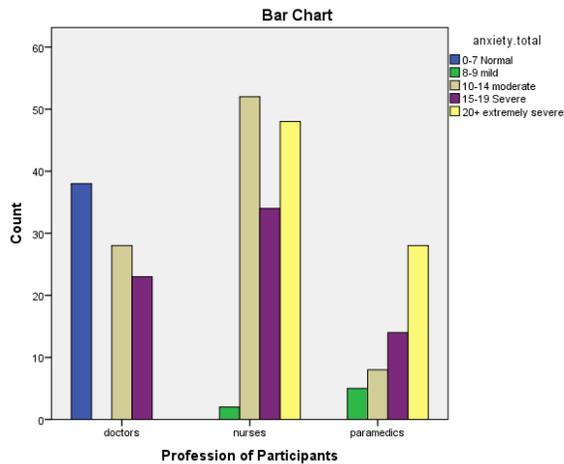
The table 1 shows mean and standard deviation of all the items of DASS questionnaire.

Table 1: DASS Questionnaire Response

Sr. No	Questions	Mean	Std. Deviation
1.	I found it hard to wind down	2.2857	.73602
2.	I was aware of dryness of mouth	2.2107	.70981
3.	I could not seem to experience any positive feeling at all	2.2857	.73602
4.	I experienced breathing difficulty	2.2107	.70981
5.	I found it difficult to work up the initiative to do things	1.8786	.70805
6.	I tended to over-react to situation	2.2857	.73602
7.	I experienced trembling	2.2107	.70981
8.	I felt that I was using a lot of nervous energy	2.2857	.73602
9.	I was worried about situations	2.2857	.73602
10.	I felt that I had nothing to look forward to	2.2107	.70981
11.	I found myself getting agitated	2.2857	.73602
12.	I found it difficult to relax	2.2107	.70981
13.	I felt down-hearted and blue	2.2857	.73602
14.	intolerant of anything	2.2107	.70981
15.	I felt I was close to panic	1.8786	.70805
16.	I was unable to felt enthusiastic about anything	2.2857	.73602
17.	I felt I was not worth much as person	2.2107	.70981
18.	I felt that I was rather touchy	2.2857	.73602
19.	I was aware of action of my heart in the absence of physical exertion	2.2857	.73602
20.	I felt scares without any good reason	2.2107	.70981
21.	I felt that I was meaning less	1.8786	.70805

Level of Anxiety, Depression and Stress

This comparative graph 1 shoes level of anxiety in different professionals. Nurses showed comparatively extreme severe level of anxiety, then paramedics and doctors showed moderate level of anxiety. This comparative graph 2 shows level of depression among different professions, normal level of depression was found in doctors, moderate level of depression was found in nurses and paramedics also go through same level of depression. The graph 3 represents comparative level of stress in different professions, according to this graph severe level of stress was found in nurses and normal level of stress was more pronounced in doctors.



4.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Discussion

This study was conducted to find out frequency of depression, anxiety and stress in health care workers serving in Covid-19 wards. The mean age of participants was 26.55 and standard deviation was 3.367. 89 participants were doctors, 55 were paramedics and 136 were nurses in the study.

Healthcare workers in COVID-19 wards reported higher levels of PTSS and depressive symptoms than those in other units, according to a comparison study. Regression analysis findings also revealed that gender and marital status, as well as gender and age, significantly predicted PTSS and depressive symptoms, respectively, in healthcare professionals working with COVID-19 patients. Particularly, it was discovered that being a woman and single was linked to higher levels of depressive symptoms, whereas being a woman and older was linked to higher levels of PTSS (Di Tella et al., 2020). According to the results of the current study, nurses experience greater levels of stress than doctors do on a comparative basis across different professions. Nurses experienced higher levels of stress on average. Another study found that if appropriate preventive

measures are not taken for widespread emotional recovery, stress, anxiety, and depression—both long-term and short-term—may interfere with quality of life (Panthee et al., 2020; Shechter et al., 2020). German healthcare workers' subjective burden and perspectives during the COVID-19 pandemic was the subject of a study by Victoria Kramer et al. In general, nurses gave themselves higher ratings than doctors and other hospital staff on all questions involving subjective burden and stress. Compared to other hospital staff, doctors (3.6%) and nurses (3.1%) were more likely to test positive for COVID-19. Compared to doctors, nurses are under more stress during the COVID-19 pandemic (Kramer et al., 2021). According to a recent study, doctors experience normal levels of depression, nurses experience moderate levels, and paramedics experience similar levels of depression. Another study was carried out in India, and the results showed that the sample's mean PPS score was $22.22 + 7.13$, with 10% of the doctors reporting low stress and 27.6% reporting high stress, respectively. Age and the number of hours spent in the COVID ward in a week showed a strong negative correlation with perceived stress, respectively. Nearly 50% of doctors (fairly frequently or very frequently) experienced anxiety, stress, and anger because they felt out of control and powerless to influence significant aspects of their lives, in addition to being upset by an unexpected event. About 40% of people felt they couldn't handle everything they had to do (fairly often or very often). A little more than a third of doctors believed that their problems were getting so bad that they were unable to handle them. There is a lot of stress experienced by doctors working in COVID-19 wards.

So that medical professionals can serve humanity effectively and efficiently both now and in the future during the pandemic, stress management should be a core component of their education (Garg et al., 2021). In the recent study, it was found that nurses displayed relatively extreme levels of anxiety, followed by paramedics and doctors who displayed moderate levels.

Anupam Das, MD, and Abheek Sil conducted a study in 2021 to assess depression and perceived stress among frontline Indian doctors battling the COVID-19 pandemic. Based on 422 responses, the study's findings showed that frontline COVID-19 doctors had a prevalence of symptoms of depression and stress of 63.5% and 45%, respectively. Postgraduate trainees made up the majority of respondents (45.5%). The percentage of doctors who reported moderately severe or severe depression was 14.2% and 3.8%, respectively. There were 37.4% and 7.6% of participants who reported moderate and severe stress, respectively. Our study shows that the pandemic has had a serious negative impact on doctors' physical and mental health. Medical professionals who diagnose and treat COVID-19 patients should undergo routine screenings to check for signs of stress, anxiety, and depression (Das et al., 2020). In the current study, 88 professionals showed moderate levels of anxiety, 76 professionals showed extremely severe levels of anxiety, and 38 participants had normal levels of anxiety.

Mansi Dwivedi et al.'s 2021 study on stress among doctors during COVID-19 is another study. Due to the COVID-19 pandemic, they are constantly worried about being beaten without cause, getting sick, missing out on time with friends and family, losing loved ones, being unable to return home, being quarantined for 14 days after work, and the stress of their administrative responsibilities. The purpose of this study was to evaluate the psychological stress experienced by doctors participating in COVID-19. Seventy Indian doctors were the subjects of an online survey using the Perceived Stress Scale (PSS). According to the results, 75.714 doctors have moderate perceived stress levels, meaning they experience a significant amount of stress at work. Study suggest hospital interventions to aid patients in managing their stress (Dwivedi & Pandey, 2020).

The results of the current study indicate that 144 participants had moderate depression, 95 had mild depression, and 41 had normal depression.

According to Rümeyşa YeniElbay et al.'s 2021 study, factors found to result in weekly working hours, an increase in the number of Covid-19 patients being cared for, a decrease in peer and supervisor support, a decrease in logistical support, and a decrease in feelings of competence when performing Covid-19-related tasks (Elbay et al., 2020). The current study's findings indicated that 32 participants had a severe level of stress, 47 participants had a moderate level of stress, and 68 participants had a mild level of stress.

In the COVID isolation ward of a tertiary care facility in Madurai, P.N. Sridevi conducted a cross-sectional study on the psychological effects of COVID19 on postgraduate doctors and Compulsory Rotatory Residential interns. Doctors were stressed, depressed, and anxious in equal measures (42.1%, 43.8%). The number of COVID responsibilities and the number of elderly family members were positively correlated with depression, anxiety, and stress scores. Sleep duration and attitude of study participants were negatively correlated. The need for early screening, prompt psychological intervention, and the creation of policy guidelines to support healthcare workers' mental health is ensured by the high estimated prevalence of psychological impact. These actions are necessary to maintain the efficiency of the healthcare system (Sridevi et al., 2022). Among the 280 participants, 106 were concerned for a significant portion of the time, 127 were extremely concerned, and 47 were somewhat concerned about the current situation.

Conclusion

The study concluded that, the COVID-19 pandemic was linked to a modest psychological impact on humans. As a result of the study, which defined the psycho-social experiences of front-line doctors, nurses and paramedics during COVID-19, high levels of stress and burnout, and moderate depression were found in Nurses, then paramedics were affected and least stress, depression and anxiety was found in doctors.

Limitations

Following limitations were faced during this study

- Data collection was hampered by the front-line worriers' hectic schedules.
- It was challenging to gather data because COVID wards had strict restrictions in place.

Recommendations

Based on the study findings, several recommendations can be made to support healthcare workers serving in COVID-19 wards.

Firstly, healthcare organizations should prioritize the mental health and well-being of their frontline workers and provide them with the necessary support and resources. This can include regular mental health check-ins, access to counseling services, and training on stress management techniques.

Secondly, interventions should be tailored to address the specific needs of healthcare workers, taking into account their job demands and work-related stressors. This can include strategies to improve communication and teamwork, workload management, and addressing concerns related to personal protective equipment and infection control.

Finally, healthcare organizations should consider implementing policies and practices that promote a culture of support and well-being for their frontline workers. This can include creating opportunities for staff to take breaks, promoting a positive work environment, and recognizing and rewarding the efforts of healthcare workers.

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