ORIGINAL ARTICLE

COVID-19 PANDEMIC-KNOWLEDGE, PERCEPTION, ANXIETY AND DEPRESSION AMONG FRONTLINE HEALTHCARE WORKERS OF AYUB TEACHING HOSPITAL ABBOTTABAD, PAKISTAN

Saqib Malik, Najma Rehman, Farhat Naz, Sadia Rehman, Zainab Syed, Huma Mushtaq, Abdul Haseeb

Department of Medicine, Ayub Medical College, Abbottabad-Pakistan

Background: The COVID-19 pandemic is a viral infection that spreads through different mediums and has a high rate of mortality. At its initial stages, there is no particular medicine that can cure patients of COVID-19. The aim of the present study was to understand the COVID-19 knowledge, perception, and its effects in terms of anxiety and depression among frontline health care workers of Ayub Teaching Hospital, Abbottabad. **Methods:** This cross-sectional study was conducted in Ayub Teaching Hospital, Abbottabad from June to July 2021 in which data was collected from 200 hospital healthcare workers who have performed duties in COVID isolation wards through standard questionnaire. SPSS version 24.0 was used for data analysis. **Results:** Out of 200 participants in the study 100 (50.0%) were male. Regarding safety measures taken during COVID -19, 144 (72.0%) individuals reported that they have not been given training to handle known or suspected cases of COVID-19. Moderate anxiety and depression was found in 153 (76.5%) healthcare workers, mild in 25 (12.5%) and 22 (11.0%) had severe anxiety and depression at the time of COVID-19 pandemic. **Conclusion:** This study revealed that a significant anxiety and depression was found in frontline healthcare workers during the COVID-19 pandemic. In addition, a more extensive study should be conducted which involves many other hospitals like Ayub Teaching Hospital.

Keywords: COVID-19 pandemic; Anxiety; Depression; Healthcare workers

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INTRODUCTION

Coronavirus Pandemic started in December 2019 from Wuhan, China, and was reported to be spread by the local seafood market. The nature of this virus is exceptional as it is a highly contagious and deadly virus. Coronavirus belongs to the family of single-stranded enveloped RNA viruses and is named SARS-CoV-2 as it causes the severe acute respiratory syndrome. In March 2020, WHO declared the coronavirus disease as a pandemic and recommended serious safety measures to reduce the number of cases and rate of death. Symptoms for the disease vary from mild to severe. It includes fever, flu, cough, loss of taste and smell, shortness of breath, and in some severe cases; it may lead to lungs failure and causes severe respiratory distress syndrome.[1] It was also found that in some cases, the infected person may show no symptoms at all. Due to the highly contagious nature of this virus, the asymptomatic person can transfer the disease to others and may particularly prove to be detrimental for immunocompromised individuals. SARS-COV-2 is an airborne disease and spreads by aerosols via sneezing, coughing, speaking and breathing.[2] The preventive measures recommended by WHO include maintaining a social distancing of 6 feet, avoid gatherings, and frequent hand washing.[3]

In Pakistan, the first case was reported on 26th February 2020 and within no time, it rose up to 20,000 cases in April 2020. Luckily, the mortality rate was much lower in Pakistan as compared to European countries like Italy, the USA, and Iran. But as a third-world country, the health sector in Pakistan did not have enough resources to face the pandemic. Like many other developing countries, the fragile health care system, with its limited resources including limited health care facilities and shortage of frontline health workers, became overwhelmed with the rising number of cases and increased mortality rate. There was an alarming situation for the healthcare staff. Hospitals were short of ventilators and intensive care facilities due to which, health care workers faced extreme difficulties in treating COVID-19 patients. In addition, health care workers were also facing unavailability of necessary personal protection equipment (PPE) which was required for their own protection. All of these circumstances led to creating a state of anxiety and depression among

frontline workers.[4] Corona viruses may cause acute or chronic diseases in both humans and animals. It may lead to multiple organ failures such as lungs, kidneys, and liver failure which can prove to be fatal.–In the past decades, coronavirus infected many people and caused respiratory illnesses. In 2003, China was badly affected by the SARS virus. It became an epidemic with high transmissibility and high mortality rate, accounting for 1800 deaths.[5] In the recent pandemic of Covid-19, the number of cases increased in an exponential manner and reached hundreds to thousands of cases. It has affected more than 3 million people worldwide with a 2% mortality rate.[6]

Frontline healthcare workers have played a vital role in the COVID-19 pandemic as they are first ones to come in contact with the infected individuals. Doctors, nurses, and other paramedical staff are the pillars of the healthcare system. They are the people who are at the greatest risk of getting infected and are more prone to it.[7]

Continuous working hours and prolonged duties induce many psychological effects and disturb mental health badly. In order to expect quality performance from frontline workers, it is of extreme importance to take care of their mental health. As the Covid-19 pandemic has spread rapidly within no time, there are not enough researches available for the evaluation of psychological problems among frontline workers. Therefore, it is high time to conduct a study based on the knowledge and perception of healthcare workers in pandemic situations. The purpose behind conducting this study was to explore the impact of the COVID-19 pandemic on the psychological health of frontline health care workers.

The results of this study may play a role in grabbing the attention of higher authorities to overcome and reduce the factors which are responsible for these traumatic situations. This study may also lead to more researches of its kind in order to improve and upgrade our healthcare system.

MATERIAL AND METHOD

This cross-sectional study was carried out in Ayub Teaching Hospital, Abbottabad from June 2021 to Jul 2021. Data was collected from all the employees who were willing to participate No. 200 were included in the study and who performed duties in COVID-19 isolation wards through a standard questionnaire. The questionnaire was pretested before adopting final version. Variables of the study were age, gender, and designation of healthcare worker, safety measures, working conditions in Covid-19 isolation ward, anxiety, and depression during COVID-19 pandemic. After ethical approval data was collected and SPSS version 24.0 was used for its analysis.

RESULTS

A total of 200 health care workers were included in the study. Mean age was 32.2250± 7.88959 ranging from 20 to 55 years. Hundred out of 200 participants in the study were male (50.0%). Regarding safety measures taken during Covid-19 144(72.0%) individuals reported that they have not been given training to handle known or suspected cases of Covid-19.

With respect to working conditions in Covid isolation ward,185(92.5%) individuals reported that the hospital is fully equipped to handle cases of COVID -19, while 8(4%) individuals reported that hospital is not fully equipped and the remaining 7(3.5%) responded they were not sure.

Total anxiety depression among different age groups of healthcare workers during Covid-19 pandemic. 101 (74.8%) healthcare workers below 30 years suffered from moderate anxiety and depression followed by mild in 24 (17.8%) and severe in 10 (7.4%). On the other hand, healthcare workers aged 30 and above, 52 (80%) had moderate, 12 (11%) had severe and 1 (1.5%) had mild anxiety and depression respectively. Overall highest proportion of anxiety and depression was found in moderate category that is 153 (76.5%) healthcare workers, followed by mild in 25(12.5%) and severe in 22 (11.0%). This difference was statistically significant with a p-value of 0.001.

Anxiety depression among healthcare workers with respect to their gender. 78 (78.0%) male healthcare workers suffered from moderate, 12 (12.0%) from severe and 10 (10.0%) had mild anxiety and depression. Similarly, among female healthcare workers 75 (75.0%) had moderate, 15 (15.0%) had mild and 10 (10.0%) had severe anxiety and depression. Overall highest moderate anxiety and depression was found in both genders 153(76.5%), mild in 25 (12.5%) and 22 (11.0%) had severe anxiety and depression.

With respect to designation, out of 23 staff nurses, 18 (78.3%) suffered from moderate, 3 (13.0%) from severe and 2 (8.7%) from mild anxiety and depression. Among 62 house officers, 49(79.0%) had moderate, 10 (16.1%) had mild and 3 (4.8%) had severe anxiety and depression. Similarly, about 45 (73.8%) cases of moderate anxiety was found in TMOs followed by mild in 12 (19.75%) and severe in 4 (6.6%). Similar findings were found among consultants, i.e., 41(75.9%) faced moderate anxiety and depression. In this group severe anxiety was found in 12 (22.2%) consultants as compared to mild anxiety in 1 (1.9%) consultant only. Overall

moderate anxiety and depression was observed in 153 (76.5%) healthcare workers followed by mild in 25 (12.5%) and severe in 22 (11.0%). This difference was found to be statistically significant with p value of 0.006.

DISCUSSION

During current COVID-19 pandemic the prime focus of doctors, consultants, nurses, and health care workers is to deal with the psychological as well as physical symptoms of patients suffering from the COVID-19 infection. This study explored the mental health of frontline health care workers of Ayub Teaching Hospital. The significance of the study is that it was conducted during the COVID-19 pandemic.

According to our study findings, a significant anxiety and depression was noticed among frontline health care workers. Similarly, in another study by Amin F *et al*, it was stated that during the early stages the anxiety, stress, and depression level of frontline health care workers significantly increased.[8] Both genders reported equal levels of psychological stress, anxiety, and depression. However, the findings of another study revealed that doctors having less than or 35 years of age reported high levels of stress, anxiety. The common reasons stated were they have young children at home which makes them anxious and stressed. They might catch the virus or get infected by the novel COVID-19 these were the thoughts that make them exponentially distressed and anxious.[9]

A significant difference was noticed in the people having knowledge and awareness about the disease. The anxiety, stress, and depression were low to moderate among doctors and senior faculty. While high levels of depression and anxiety were noticed among nurses, and trainees. The scores of knowledges between trainees, nurses, and doctors were not significantly different because as COVID-19 was a novel disease so everyone had almost the same kind of knowledge or have no experiential knowledge.[10] It was revealed that to some extent the increase in use of safety measures was noticed among health care workers. Similar findings were revealed in another study that reported that the use of masks (N-95) and safety measures were necessary for doctors in developed and as well as developing countries was noticed during COVID-19 periods. But with all these protective measures doctors feel unprotected and it consequently increases the fear in doctors.[11]

Another study by Lai J *et al*., in China, revealed that mild to moderate symptoms of anxiety and depression was noticed during COVID-19 in doctors.[12] Another small survey in China revealed high levels of psychological distress among health care workers.[13]

Before the pandemic when doctors were assessed on the basis of their mental health working in tertiary care hospitals. The findings of the study revealed that doctors especially females have high levels of anxiety and depression.[14] Similarly, the findings of studies conducted on the general population revealed high levels of depression and anxiety among females.[15] But somehow these contradict the findings of the present study as an equal number of male and female participants were included in the study and they suffered almost equal level of anxiety and depression. Similarly, a great difference was noticed in working hours during the COVID-19 period. The frontline health care workers also highlighted this point as distressing. Studies from other regions also highlighted the extra workload as distress for doctors such as due to workload and social distancing decrease the social interaction. Doctors worked continuously for 20 hours in the most crucial periods.[16, 17]

Furthermore, quarantine, lockdown, and social distancing have negative impacts on the psychological wellbeing of the general population. For exploring it in more depth there should be more studies conducted on the psychological or physical effects of lockdown or social distancing. Studies revealed that social distancing leads to cognitive impairments, and psychological problems in the general population such as anxiety and depression.[18,19]

This study has some limitations. First limitation, it was conducted on the selected sample of 200 frontline health care workers from Ayub Teaching Hospital. So, the findings cannot be generalized. In addition, the study was conducted in limited time duration and financial resources. The strengths of this study were that the study was conducted in the hard periods of the Covid-19 pandemic. Secondly, the data was collected by approaching each and every participant of the study.

It is recommended that as it is a new disease in history of medicine, so all the healthcare workers must be given proper briefing regarding how to protect themselves from getting disease by following proper SOPs to reduce their anxiety. Secondly junior doctor and staff has anxiety how to treat the disease so all guidelines must be available on Ayub Teaching Hospital Website and must also be displayed in COVID unit. It has been observed that doctors and other staff were overburdened during this pandemic so it is recommended that duty of 30 hours a week must be allotted to them otherwise anxiety will increase due to exhaustion. It is also recommended that doctors from all specialties must contribute to

perform duty in COVID wards not just major specialties doctors, as happening throughout the world; otherwise, we will exhaust our main doctors. Another important thing is that to improve the mental health of doctors and frontline healthcare workers proper psychological help should be given to them. Furthermore, the major causes should be explored which lead to anxiety and depression among frontline healthcare workers. And lastly, doctors and staff must not feel their work is being taken for granted, they must get appreciation in the form of award, shields or at least incentive in the form of extra pay to reduce their anxiety and depression.

CONCLUSION

From this study we concluded that Covid-19 had significantly affected the mental health of frontline healthcare workers. To cope up with the disturbances caused by the Covid-19 pandemic it is needed to be tackled and understand well in terms of giving healthcare workers social and mental support.

AUTHORS' CONTRIBUTION

SM: Literature search, write-up. NR: Data analysis. FN: Proof reading. SR: Data collection, conceptualization of study design. ZS: Statistical analysis. HK, AH: Data interpretation.

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Address for Correspondence:

Dr. Farhat Naz, Department of Medicine, Ayub Medical College Abbottabad-Pakistan
Cell: +92 331 574 4594
Email: drfarhatmed10@gmail.com