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DEPRESSION, ANXIETY, STRESS LEVELS AMONG HEALTHCARE WORKERS IN COVID-19 PANDEMIC

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ABSTRACT
Aim: To investigate anxiety, stress, and depression levels among healthcare workers during the Covid-19 outbreak. **Material and Method**: To assess psychological responses of healthcare workers and related factors during Covid-19 outbreak, an online survey was conducted. It consisted of three sub sections: 1) sociodemographic data 2) information on individuals working condition 3) Depression Anxiety and Stress Scale-21 (DAS-21). **Results**: Of all 206 participants, 91 (44.17%) had symptoms of depression, 76 (36.89%) anxiety, and 39 (18.93%) stress. Lower level of support from peers and supervisors, increase in weekly working hours as well as increase in number of Covid-19 patients cared for, lower logistic support were most probably the factors associated with depression, anxiety and stress among healthcare workers. **Conclusion**: Anxiety/depression among frontline doctors of India warrants the need to address mental health of doctors caring for patients during this pandemic.

KEYWORDS: Anxiety, COVID-19, Depression, Frontline Workers, Knowledge.

INTRODUCTION
First described in Wuhan, China in December 2019, the world is facing a new contagious disease, Covid-19. The rapid transmission of the disease and increasing influx of infected cases and associated deaths lead to an enormous panic and anxiety in public. In an early study investigating immediate psychological response during Covid-19 epidemic among general population in China, 53.8% of participants rated the psychological impact of the outbreak as moderate or severe.[1]

Besides psychological aspects of the outbreak on society, healthcare workers (HCWs) are subjected to an additional stress due to engaging directly in the treatment of infected patients and increased risk for contagion, fear of transmission to their families, concerns about health of self and loved ones, feeling stigmatized and rejected and working under extreme pressures. On the other side, the increasing number of cases and disease-related deaths, heavy workload for extended period of time and depletion of personnel protection equipment (PPE) cause emotional and physical burnout over time.[2]

Psychiatric symptoms and illnesses may emerge secondary to an infectious disease outbreak. They may appear during the acute phase or at later stages. Several presentations could appear, ranging from mild mood and anxiety symptoms to psychosis and significant cognitive deficits. The outbreak itself is a stressful event and it is even more stressful to be a healthcare provider who works in the first line to tackle such serious illness. Several factors play important roles in responses to trauma, including the presence of prior psychiatric history, coping styles, culture, and support systems. In addition to being overwhelmed, it is also stressful to deal with shortages of medical equipment and concerns over infecting family members.[3] In China, where COVID-19 started, a cross-sectional study was conducted on 31 hospitals to measure factors linked with mental health outcomes among healthcare providers who encountered COVID-19; this study showed that frontline nurses and healthcare providers had a greater risk of negative mental health outcomes.[4] This study aimed to explore the depression and anxiety prevalence among healthcare providers during the COVID-19 outbreak in northern India.

MATERIALS AND METHODS
Study design: For this study, data was collected via a cross-sectional survey during the COVID-19 outbreak in May 2020. An online survey to minimize face to face interactions and to facilitate participation of healthcare workers who work extensively during this emergency period was done. The aim of the study was elucidated

and the participants gave informed consent to participate in the study. This study included both male and female participants who were healthcare providers. The survey was shared on various social network groups from different specialities. All respondents provided an informed consent at the beginning of the survey with a yes-no question confirming their willingness to participate in the study.

Survey instrument: Sociodemographic data were collected on age, gender, marital status, specialties, number of children, composition of the household, comorbid medical diseases, history of mental disorders, smoking status, alcohol consumption and time spent daily on social media since the outbreak. Participants were also asked whether they have ever diagnosed with Covid-19 so far. The Depression Anxiety Stress Scale (DASS) 21 is a self-report tool containing 21 items that assess three constructs: Depression, Anxiety, and Stress (Lovibond and Lovibond, 1995).[5] Each subscale includes 7 statements. Items consist of statements referring to the previous week, respondents are asked to read these statements and rate the frequency of the negative emotions. Ratings are made on a series of 4-point Likert type scales from 0 (did not apply to me at all/ never) to 3(applied to me very much/ always). Higher scores indicate more severe emotional distress. The validity and reliability studies of the Turkish version of the DASS-21 were performed by Sarıçam et al. in 2018[6] and it was concluded that the scale was a valid and reliable instrument in the assessment of depression, anxiety, and stress levels.

Statistical analyses

Data were analysed using SPSS version 25 (SPSS Inc., Chicago, IL). In addition to descriptive statistics, we first conducted univariate analyses to explore the associations between psychiatric symptoms and related factors by using either Student's t-test and ANOVA test or Pearson`s correlation test. Then, we conducted multiple linear regression analyses to identify the unique contribution of relevant predictors on the DAS total and subscale scores, separately. With this purpose, lifetime psychiatric history and correlates that showed statistical significance at p-value less than 0.05 in the univariate analyses were included in the regression analysis. As work experience and age were highly correlated variables, we only included age as a covariate in the regression analyses to avoid multicollinearity.

Participant characteristics

206 people participated in the study. The mean age was 38.05±6.23. There were more females than males in the sample (53.88% vs 46.11%). 14.07% (n:29) of the overall sample were smokers. Of these, 9 reported an increase, whereas 11 reported a decrease in daily cigarette consumption after the outbreak. 62 people (30.09%) were alcohol consumers in the whole sample. Of these, 6 reported an increase, while 39 reported a decrease in alcohol consumption. We asked participants to rate their social media usage during the outbreak. 6.3% reported reduced social media use and 55.82% reported no change.

RESULTS OF THE DEPRESSION ANXIETY STRESS SCALE

Of all participants, 96 (46.60%) had symptoms of depression, 41 (19.90%) anxiety and 93 (45.14%) stress. For depression subscale, 20.87% of the sample were reported mild depressive symptoms, 27.4% were reported moderate, 19.41% were reported severe and 13.5% were reported extremely severe depressive symptoms. For anxiety subscale, 36.58% of the sample were considered to have mild anxiety symptoms, 26.83% were considered to have moderate, 29.26% were considered to have severe and 7.3% were considered to have extremely severe anxiety symptoms. For stress subscale, 44.08% of the sample were reported mild stress symptoms, 23.65% were reported moderate, 19.35% were reported severe and 12.90% were reported extremely severe anxiety symptoms.

DISCUSSION

It is important to investigate mental health conditions among healthcare providers due to the possible impacts of such conditions on their health and on the quality of patient care.[7] This study investigates the prevalence of depression and anxiety during the COVID-19 outbreak among healthcare providers. It was found that female respondents had significantly higher mean score of anxiety. During the COVID-19 outbreak, a Chinese study similarly reported a high prevalence of psychiatric symptoms among 1257 health-care providers, mainly depression, anxiety and distress (50.4%,44.6% and 71.5% respectively). In addition, similar recent results of depression and anxiety prevalence were found among ophthalmologists in Saudi Arabia during COVID-19 pandemic (50.5% and 46.7%, respectively). A Jordanian study, identified females and pulmonologists at a higher risk of depression group among healthcare providers during COVID-19 pandemic.[8] In another Chinese study, nurses expressed irritability, excitability, and signs of psychological distress. Medical staff were fearful about transmitting the virus to their families. They prioritized the need for rest and protective supplies and psychological skills training for dealing with the patients' emotional distress.[9] In our study, females would had significantly higher levels of anxiety as this disorder is generally more frequent among women.[10] A similar total anxiety prevalence (52%) was found in 2017 among emergency healthcare workers. Anxiety during emergency situations may be explained by work-related stress and high job demands.[11] Other studies that were conducted among healthcare providers during the SARS outbreak suggested some sources of distress: social stigmatization; family members' ostracism; social isolation; loss of control; health of self, family and others; changes in work; and spread of the virus.[12,13] A lack of recognition of anxiety symptoms may lead to serious psychological consequences.[14] Previous studies

that were conducted among healthcare providers during pandemics illustrated that clinical staff (doctors and nurses)and staff who were working with SARS patients reported significantly higher levels of anxiety.[12] Our findings also revealed peer support is also associated with psychological wellbeing. Ability to talk to someone about their experiences, discussing the emotional and physical challenges of their work, sharing their concerns with other colleagues may help to reduce the feelings of loneliness and stress. Doctors on duty should be encouraged to talk to each other and groups should be provided via social media, if needed. Finally, feelings of occupational competence during Covid-19 related tasks seem to be related with the psychological burden of workers. Providing adequate pre-job training on those who will work in the frontline, explaining accurate information on the disease, risk of contagion and ways of protection, establishing systematic diagnostic and treatment protocols with clear guidelines may help relieve stress and increase occupational confidence.

CONCLUSION

For ensuring the sustainability of healthcare services during struggle with Covid-19, providing mental wellbeing of healthcare workers is crucial. Our findings show that women, young and less experienced people and particularly those working in the frontline positions are in the risk group and should be followed closely. Our study further indicated that the excessive workload (increased total number of patients cared for and increased weekly working hours, working in both daytime and night-shifts), lower logistic support, lower support from peers and supervisors and lower feelings of occupational competence during covid-19 related tasks cause a more emotional impact in physicians who work in the frontline.

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