How to Cite:
Sargaiyan, V., Arya, J., Jain, S., Misurya, R., Swarnkar, S. K., & Dhakray, V. (2022). A web-based cross-sectional survey to assess mental health of medical professionals during COVID-19 outbreak. *International Journal of Health Sciences*, *6*(S2), 1745–1751. https://doi.org/10.53730/ijhs.v6nS2.5305

A web-based cross-sectional survey to assess mental health of medical professionals during COVID-19 outbreak

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***Abstract*---**Background: There have been numerous studies about the health implication of COVID-19 on patients, but little attention has been paid to the impacts of the pandemic on physicians. Our paper attends to this gap by exploring the mental health of physicians in Madhya Pradesh, India during the COVID-19 pandemic. Methodology:

International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.
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Manuscript submitted: 27 Jan 2022, Manuscript revised: 18 Feb 2022, Accepted for publication: 09 March 2022

This study examined medical professionals' mental health outcomes by evaluating the prevalence and associated potential risk factors of anxiety and depression. Using a web-based cross-sectional survey, we collected data from 100 Medical professionals. Seven-item Generalized Anxiety Disorder (GAD-7) scale and Nine-item Patient Health Questionnaire (PHQ-9) were used to measure the anxiety and depression, respectively. Result: 36 % males and 34 % females had anxiety. 26 % males and 29 % females had depression and 38 % males and 37 % females none. Findings revealed that marital status, work per day and current job location were the main risk factors for anxiety while sex, age, and marital status were the main risk factors for depression.Conclusion: Our results highlight the need to implement policies and strategies for positively impacting the mental health of physicians during and after the COVID-19 pandemic.

***Keywords*---**COVID-19, anxiety, depression, physicians, medical professionals, dental professionals.

Introduction

COVID-19 outbreak has been declared as a pandemic resulting global health concern. The coronavirus spreads primarily through droplets of saliva and discharges from the nose and mouth when a COVID-19 patient coughs or sneezes. [1-3] Still no effective treatment is available of COVID-19, although many accomplishments including virus information, clinical features, and diagnosis have been achieved. Medical professionals are first-line responders treating patients with COVID-19 and face a high risk of being infected because of exposure to long and distressing work-shifts to meet health requirements every day. A number of studies have been conducted in different countries on the mental health conditions of different professionals [2-7], but no research on mental health problems of Medical professionals during the COVID-19 outbreak in India has been reported so far. Since poor mental health may hinder the professional performance of Medical professionals and adversely affect the quality of healthcare provided, it is also likely to adversely influence patient health outcomes. [8-20] Hence, the purpose of this study was to evaluate Medical professionals ' mental health during the COVID-19 outbreak in India by quantifying the magnitude of symptoms of anxiety and depression and to explore the potential risk factors associated with these symptoms.

Methodology

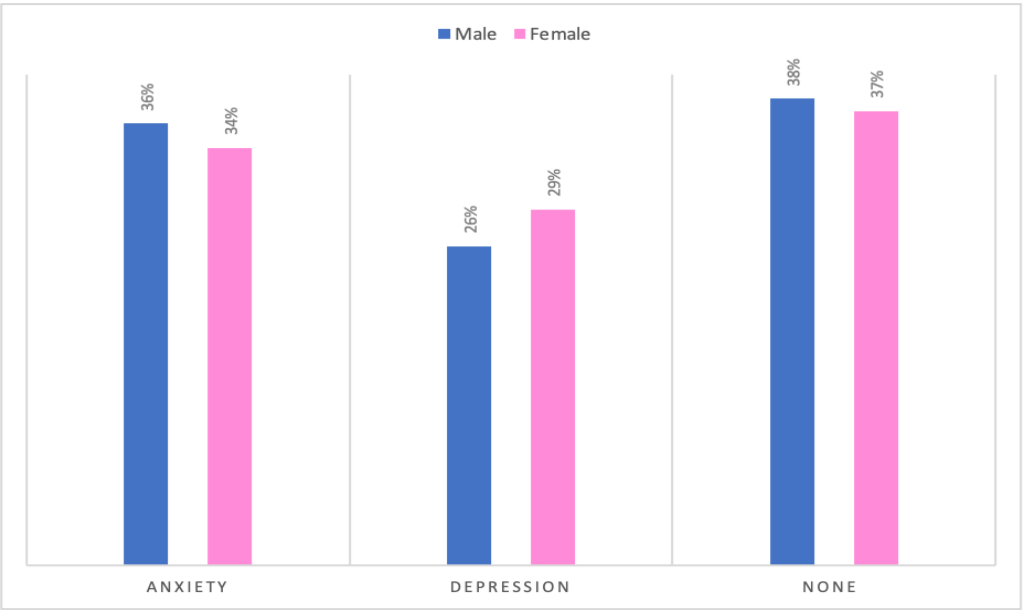
A cross-sectional study was carried out as the data were collected from 100 Medical professionals through a questionnaire created via Google Form on the internet. Medical professionals registered by the India Medical & Dental Council and working in India were considered as potential participants in this study. The participants were selected through convenient sampling technique from the closed Facebook and Messenger groups of the Medical professionals in India. All Medical professionals using these closed groups across the country were eligible to participate, and those who completed the survey provided their unique email

address in order to reduce the problem of duplicate entries. Medical professionals participated anonymously in this survey on the Internet and all participants reported their demographic and professional information during COVID-19 outbreak. [1-10] They also completed two standardized questionnaires which assessed their generalized anxiety disorder (GAD) and 9-item Patient Health Questionnaire (PHQ-9). Participants who had psychiatric disorders prior to COVID-19 were excluded from the platform. We used the Generalized Anxiety Disorder-7 (GAD-7) [11-17] scale to assess the participant's anxiety symptoms which is valid for Asian region.[18] In this study, we defined a GAD total score of 9 points or greater as the presence of anxiety. [19] This study used the 9-item Patient Health Questionnaire (PHQ-9) [20-27] to assess the severity of depression in this research. Descriptive statistical methods and multivariate logistic regression models were performed to analyze the data. A well-known statistical package, SPSS (Statistical Package for Social Sciences) version 24.0 was utilized to obtain the necessary results.

Results

Of the 100 participants 72 % were men and 28 % were women. It was found that 56% participants was <35 years and 44 % was ≥35 years. Among the participants, 20 % were unmarried, 80 % were married. Just below half of the participants 48.2% lived in rented accommodation. Results also show that 35 % participants were living alone while majority of the participants 65 % were living with their family. It was revealed that 58.8% participants worked ≥8 h per day while 41.2% participants worked <8 h. Among the participants, 50 %) were frontline workers and 50 % were second line workers. Prevalence of Anxiety and Depression During COVID-19 according to gender is shown in Figure 1. 36 % males and 34 % females had anxiety. 26 % males and 29 % females had depression and 38 % males and 37 % females none.

Figure 1 : Prevalence of Anxiety and Depression During COVID-19 according to gender



A multivariate logistic regression was used to assess the potential risk factors of anxiety and depression during COVID-19 outbreak and the results of the multivariate logistic regression model. It was observed that Medical professionals who worked ≥8 h per day (OR = 2.50, 95% CI: 1.06–5.86, $p < 0.05$) had more chance to experience anxiety compared to Medical professionals who worked <8 h per day. Medical professionals aged 35 years or more (OR = 0.33, 95% CI: 0.12–0.96, $p < 0.05$) had less chance of experiencing depression than younger Medical professionals .

Discussion

Both anxiety and depression are higher in Medical professionals in India during COVID-19 than has been found in previous epidemics . Nevertheless, longitudinal research on the psychological impact of previous epidemics found a reduction in depression, anxiety and other psychological disorders 1–3 years post-epidemic, although not reducing to the pre-epidemic levels.[21-29] This highlights the need for ongoing measurement of psychological distress throughout and post-epidemic, in order to best support Medical professionals now and into the future. If this is undertaken within the healthcare organizations where Medical professionals work (as opposed to only by researchers), then interventions can be implemented quickly and within the practice context of Medical professionals ' working days.

According to the results of multivariate logistic regression model, marital status, current job location and working hours per day were found to be significant predictors for anxiety. In addition, gender, age and marital status were highly significant predictors for depression. By considering the magnitude of these selected factors, findings of this study demonstrated that depression were less

likely to occur among Medical professionals who were married compared to their counterparts. During the SARS outbreak, a study conducted among hospital employees also found similar relationships [26]. Our study revealed that workload was associated with the mental health of the participants. Medical professionals who worked ≥8 h a day had higher likelihood of experiencing anxiety compared to those who worked <8 h a day. Previous research has found that females endure more job related stress than men [27-29] we assume this might be a plausible explanation of this result. Our results suggest the need to implement stress management programs (or other interventions aimed at protecting mental health) for younger Medical professionals in order to manage their mental health. Although a study in China showed that during COVID-19, frontline healthcare workers were more likely to experience mental health problems than other healthcare workers [18] we did not find that the working position of the physician had any significant effect on anxiety and depression. Overall, the results of this study indicate that mental health of the Medical professionals require special attention during and after the COVID-19 pandemic, with a specific focus on the particular groups of Medical professionals identified in this research.

Conclusion

Our findings revealed that the prevalence of anxiety and depression were high among the Medical professionals . Marital status, work per day and current job location were risk factors for anxiety whereas sex, age, and marital status were risk factors for depression. Governments may consider findings of this study for a better health management and an improved health outcome for both Medical professionals and patients.

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