Original Research Article

PSYCHOLOGICAL EFFECT OF COVID-19 AMONGST HEALTH-CARE WORKERS IN BHOPAL, MADHYA-PRADESH

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Abstract:

Introduction - Coronavirus Disease 2019 (COVID-19) is caused by the SARS Corona Virus 2 (SARS-COV 2), which was discovered in 2019 at a wet market in Wuhan, China. Healthcare workers' psychological health has been significantly impacted by the coronavirus disease. During epidemics, health care workers (HCWs) are commonly the very first point of contact and are vulnerable to infectious diseases. The aim of the study to measure the psychological effect of Covid-19 amongst healthcare workers in Bhopal city.

Materials and methods- A cross-sectional questionnaire-based study was conducted amongst health care workers of Bhopal city, who were working in government and private hospitals between April 2021 to May 2021. The Depression, Anxiety, and Stress Scale - 21(DASS-21) Items was used to conduct the survey Data analysis was done using SPSS Statistics for Windows, version 22.0 (SPSS Inc., Chicago, Ill., USA). ANOVA test was used to determine to find any significant difference comparing psychological variable between the groups of health care workers. P value < 0.05 was considered statistically significant.

Results- 350 responses were received in total. Health care workers were categorised as doctors, dentists and nurses. Among the respondents 20.9% participants were males and 79.1% were females. It was noted that dentists reported significantly more psychological distress than doctors and nurses. At baseline (n=350), overall mean depression, anxiety and stress of the doctor, dentist and nurses were 20.69±7.55, 29.83±8.34 and 12.86±4.69 respectively, which was significant at p=0.00*.

Conclusion – Health care workers experienced poor psychological health due to pandemic, indicating they may be at risk for greater psychological distress. The results of this study stress the greater need of research in psychological field to facilitate capacity building among healthcare workers.

Key-words: *Psychological Impact, Covid-19, Healthcare Workers, Doctors, Dentists, Nurses*

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1. Introduction

WHO (World Health Organization) declared the Novel Coronavirus Disease (COVID-19) infection as pandemic on 11th March, 2020, and reiterated its call for nations to act quickly and amplify their response to treat, detect, and stop transmission in order to protect people's lives. Since its inception in December 2019, the novel coronavirus illness (COVID-19) has caused a devastating loss of life, as well as economic and social consequences. 1 Medical professionals have been in the frontline of managing and controlling the burden of death and disease in the face of these problems. 2

Prior pandemic experiences have shown that front-line workers are more susceptible to psychological distress and physical exhaustion. Risk factors for a variety of causes include an increase in the number of positive and suspected cases, a heavy workload, shortages of supplies and workforce, extensive media coverage, and the impression that support is insufficient. 34 All of the aforementioned points to the necessity of addressing pandemic issues about the psychological health, emotional wellbeing, and recovery of healthcare professionals caring for COVID-19 patients.

People may encounter the same issues and circumstances worldwide due to COVID19, but local estimates are also significant due to influencing factors like work shifts, disease ambiguity, and a lack of protective gear, worries about infecting family and friends, and the degree of mental preparedness. 5 There has been a decline in the provision of routine and absolutely essential health services, and efforts to resume those services have followed. Personal protective equipment (PPE) overuse, infected family and friends, and a lack of hand-washing facilities were noted to have a detrimental effect on the mental health of healthcare workers, whereas insufficient information on COVID-19 transmission, the provision and trained utilisation PPEs, practising conditioned response, imposing restrictions, implementing infection control and prevention (IPC) measures, ensuring that the safety of family and friends, and positive attitudes were noted to have a positive impact.6 It explains the connection between how working in such an environment takes a physical strain and how that adds to the psychological burden. 7 8 hence this study was conducted to provide an insight on the psychological effect of COVID-19 on healthcare workers and further suggest recommendation to overcome this issue. This survey was conducted to answer the research question "What is the psychological effect of Covid-19 amongst healthcare workers of Bhopal city"

2. Methodology

A cross-sectional questionnaire-based study was conducted amongst healthcare workers of Bhopal City who were working in government and private hospitals between April 2021 to May 2021. Consent from all participants was obtained. The confidentiality of the respondents was maintained. Permission to conduct the study was taken from the Institutional Ethics Committee of Peoples College of Dental Science and Research Center, Bhopal (EC202059). A convenient sampling technique was employed to recruit the study sample. Based on the study of Jianbo Lai et al. 2020 [9] who reported a 31% prevalence, the present study derived a sample size of 330 based on the formula.

$$N = \frac{Z^2 P (1- P)}{d^2}$$

Wherein,

Z = 1.96 (Constant)

P = 35% (Prevalence)

d = 0.05 (significance level)

So,

$$N = \frac{(1.96)^2 \times 0.35\ (1 - 0.35)}{(0.05)^2}$$

= 349.44 rounded off to 350, approximated to 350

An online structured questionnaire was developed. Email, WhatsApp, and Twitter were used to distribute the online survey form. The survey was distributed via Google forms to doctors, dentists and nurses at various government and private hospitals in Bhopal city. The questionnaire used had two sections. Age, gender, profession, and location were all included in the first section's demographic information. The Depression, Anxiety and Stress Scale - 21 Items is in the second section (DASS-21). Three self-report scales comprise the Depression, Anxiety, and Stress Scale - 21 Items (DASS-21), a tool for measuring depression, anxiety, and stress. To demonstrate leading bias, the questionnaire was filled out by the respondents themselves.

3. Statistical Analysis

The obtained data was analyzed using SPSS Statistics for Windows, version 22.0 (SPSS Inc., Chicago, Ill., USA). Qualitative and numeric variables were expressed as numbers, percentages, mean and standard deviation (SD) respectively. One way Analysis of Variance (ANOVA) was used for comparing psychological variables between groups. P value < 0.05 was considered statistically significant.

4. Results

Three hundred fifty responses were obtained and included for assessment, after the questionnaire was distributed through social media platforms such as whatsapp, Facebook and E-mail. The socio-demographic characteristics showed that 20.9% males and 79.1% were females. Out of this sample, 103(29.4%) were doctors, 201(57.7%) dentists and 46(12.9%) nurses. Out of these, 103(29.4%) of the participants were working in government hospitals and 247(70.6%) were working in the private hospitals. (Table 1)

The mean depression of doctor, dentist and nurses were 3.21±2.76, 4.83±3.53 and 1.69±1.26 respectively. (Table 2) The mean depression score were significantly higher in dentists, compared to doctor and nurses. The mean anxiety of the doctor, dentist and nurses were 3.36±3.01, 4.92±2.89 and 2.69±1.89 respectively. The mean stress of the doctor, dentist and nurses was 3.21±2.76, 4.83±3.53 and 2.04±1.65 respectively. Overall mean depression, anxiety and stress of the doctor, dentist and nurses were 20.69±7.55, 29.83±8.34 and 12.86±4.69 respectively, which was significant at p=0.00*.

5. Discussion

This present study represents the psychological effect of COVID-19 amongst health-care practitioners in Bhopal city. It also looked into the factors that contribute to psychological distress in healthcare workers. The levels of depression, anxiety and stress among health-care professionals were described in this study. The DASS-21, an impactful screening tool for psychological distress, was used in this study. In comparison to general practitioners and nurses, dental professionals had significantly greater mean scores of depression, anxiety, and stress, according to our findings. Most of the participants were dental professionals (57.7%). Out of 350 responses, there was female predilection (79.1%) was noticed. Around 84.6% of cases were reported among the 20-30 age group, which was found to be the most common age group affected with psychological distress in our study. The Depression, Anxiety, and Stress Scale - DASS - is widely used scale for diagnosing

mental health issues. [10] The DASS and its shortened version, the DASS-21, are widely recognised for their reliability and validity in assessing depression, anxiety, and stress in adults. Working on the front lines was linked to poor mental health outcomes in all areas of study. Our results raise concerns about the psychological effect of the COVID-19 outbreak on health-care professionals. Close proximity to patients is required for dental professionals, as is the usage of rotating and surgical equipment that generate a visible spray that included drops of water, mucus, blood, microorganisms, and other debris. [11] According to previous study on psychological effect of Covid-19 among dental professionals shows that 85 % of dental professionals said they worried about contracting an infection while performing clinical work. It also had a negative impact on the dental profession because dental practises were restricted to urgent/emergency procedures. By possibly reducing patient turnover and patients' capacity to cover dental costs, this had harmed the economy. This had a deleterious impact on a dentist's financial capacity due to the high risk of financial loss. Income loss, and thus apparent job insecurity, has been linked to an increase in stress and other mental health issues. [12] Shacham M. et al. discovered that, in response to emotional distress, dental practitioners frequently expressed depression (70.2%), anxiety (46.4%), and fear (42.4%). 89.6% of them expressed concern about their future employment prospects. [13] After learning about the COVID19 deaths, 90% of the participants in an online questionnaire survey conducted by Ahmed et al. in 30 countries reported feeling anxious, 92% worried that their families would become infected, and 86% uncomfortable and scared. It has also been stated that 90% of dentists were aware of the safety and prevention recommendations provided by the CDC and the WHO. [14] In a previous study, 89% of healthcare professionals who were in high-risk circumstances during the acute SARS outbreak reported experiencing psychological symptoms. [15] Dental professionals experienced financial difficulties as a result of their shortened work hours and limited access to dental care. The COVID-19 pandemic caused dental practises to experience financial difficulties, according to a study. [16]

6. Limitations

Dental professionals' mental health has been significantly affected by the COVID-19 pandemic. To improve the general social and mental health of dental professionals working in COVID areas, psychological counselling is required. Using the identified factors as a guide, psychological risk assessments should be conducted on a regular basis. Health-care workers should have their mental health closely monitored.

7. Conclusion

Dental professionals' mental health has been significantly affected by the COVID-19 pandemic. To improve the general social and mental health of dental professionals working in COVID areas, psychological counselling is required. Using the identified factors as a guide, psychological risk assessments should be conducted on a regular basis. Health-care workers should have their mental health closely monitored.

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Table 1: Demographic Characteristics

Variable	Frequency	Percentage
Age group		
<20	0	0
20-30 years	296	84.6%
30-40 years	54	15.4%
Profession		
General practitioner	103	29.4%
Dentist	202	57.7%
Nurses	45	12.9%
Gender		
Male	73	20.9%
Female	277	79.1%
Setting		
Government	103	29.4%
Private	247	70.6%
Total	350	100%

Table 2: Depression, Anxiety, and Stress Scale (DASS-21) Mean scores of the respondents.

Variables	N	Mean	S.D	Std.Error	ANOVA Statistic	df	P value
Depression							
Doctors	103	3.2136	2.76409	.27235	23.026	2	0.000*
Dentists	201	4.8308	3.53995	.24969			
Nurses	46	1.6957	1.26262	.18616			
Anxiety							
Doctors	103	3.3689	3.01951	.29752	17.601	2	0.000*
Dentists	201	4.9254	2.89472	.20418			
Nurses	46	2.6957	1.89584	.27953			
Stress							
Doctors	103	3.7670	2.65391	.26150	31.283	2	0.000*
Dentists	201	5.1592	2.68226	.18919			
Nurses	46	2.0435	1.65940	.24467			
DASS – 21							
Doctors	103	20.6991	7.55984	.74489	27.921	2	0.000*
Dentists	201	29.8308	8.34792	.58882			
Nurses	46	12.8696	4.69350	.69202			

*=Significant; NS=Not Significant

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