

State of Mental Health of Caregivers on the Frontline during the Covid 19 Pandemic in Medical College and Tertiary Care Centers of Maharashtra

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ABSTRACT

Healthcare workers have been under immense pressure during COVID 19 pandemic. The novelty of the disease, absence of vaccine, transmission pattern of infection, unpredictable and uncertain nature of infection, unprepared healthcare services were additional factors contributing to the stress of high number of infected cases. These factors can cause significant disturbance in state of mental health of caregivers on the frontline who have direct exposure to infected patients as well as suspected with infected and quarantined individuals. The aim of the study was to evaluate the prevalence of Depression, Anxiety, Stress and Post-Traumatic Stress Symptoms experienced by healthcare workers on frontline in Mumbai and Thane, Maharashtra, India in the midst of outbreak which are the most affected cities of the Nation.

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Introduction

On 31 December 2019, a novel viral pneumonia was announced by the World Health Organization. By the 23rd March 2020, this novel coronavirus (COVID-19) quickly spread across the globe, infecting more than 294,110 people in 187 countries and killing 12,944 individuals. WHO declared the COVID 19 a global pandemic on 11th March 2020, India reported its 1st case on 30th January 2020 in Kerala. Though the spread of disease started in Maharashtra, the first confirmed case of COVID-19 was on the 9th March 2020. As dated on 1st August 2020 India has confirmed 17,51,919 cases to be positive out of which 5,67,636 are active cases, and 37,403 are deceased. Maharashtra being the most affected state of the country has recorded 4,31,719 COVID 19 cases, where 1,49,214 are under treatment, 2,66,883 are recovered and 15,316 are deceased. Mumbai, Pune and Thane are 3 cities of Maharashtra which are affected the most.

Along with the high number of cases, many other factors such as the novelty of the disease, absence of vaccine, transmission pattern of infection, unpredictable and uncertain nature of infection, unprepared healthcare services put immense pressure on health care workers on the frontline. Fear of contagion of disease as a result of direct exposure to COVID 19 positive patients or suspected individuals can cause many other psychological problems such as fear, anxiety, facing marginalization or stigma can lead to develop depressive tendencies. Concerns regarding exposure of contagion to their family and friends can lead to avoidance of contact thus leading to social isolation, helplessness. Incessant stress can cause other psychological problems such as anxiety, distress, trauma, sleep disturbances which further can affect the decision-making abilities of health care workers.

Objective of the Study

We examined Depression, Anxiety, Stress and Post-traumatic stress symptoms experienced by healthcare workers in Mumbai and Thane, Maharashtra, India in the midst of outbreak.

Methods and Findings

From 15th June 2020 to 30th June 2020 healthcare workers from tertiary care hospitals who were caring for patients with COVID 19 in Mumbai and Thane were invited to participate in the study. The questionnaires were self-administered and were distributed to participants via web-based app – Google forms. In addition to Demographic information mentioned in table 1, standardized and validated questionnaires were used to assess the severity of Anxiety, Depression, Stress and Post-Traumatic Stress Disorder experienced by participants. Following questionnaires were used

1. Center for Epidemiologic Studies Depression Scale (CES-D): The Center for Epidemiological Studies-Depression (CES-D), is a 20-item self-report measure which assesses symptoms associated with depression over the past week.
2. Generalized Anxiety Disorder Scale – 7 (GAD – 7): The Generalized Anxiety Disorder Scale-7 (GAD-7) is a 7-item, self-rated scale as a screening tool and severity indicator for Generalized Anxiety Disorder.
3. Perceived Stress Scale (PSS): The Perceived Stress Scale (PSS) is psychological instrument for measuring the perception of stress. Items were designed to tap PSS measures how unpredictable, uncontrollable, and overloaded respondents find their lives.
4. Impact of Events Scale Revised (IES -R): The IES-R is a 22-item self-report that assesses subjective distress caused

by traumatic events. Out of all invited participants, 30 participated in study and 26 of them met inclusion criteria. From 26 participants 17 (65.38%) experienced Depression out of which 5 participants (19.23 %) suffered through Severe Major Depressive Disorder. 16 (61.53%) Experienced Anxiety out of which 5 participants suffered through Severe Generalized Anxiety Disorder (19.23%). 14 (53.84%) experienced Post Traumatic Stress Symptoms out of which 10 met probable diagnosis of Post- Traumatic Stress Disorder (38.46%) and 20 (76.92%) experienced stress and Burnout.

Table 1: Participant Characteristics at Baseline

Characteristics	n= 26	
	Number	Average
Sex		
Male	7	26.92%
Female	19	73.07%
Median age	28.5	
Living Arrangement		
Alone	5	19.23%
with family	11	42.30%
with room mates	10	38.46%
Occupation		
Doctor	26	100%
Other medical conditions		
Hypertension	1	3.84%
No medical conditions	25	96.15%

Table 2: Prevalence of Depression, Anxiety, Stress, and PTSD

Prevalence	n	%
Depression	17	65.38%
Anxiety	16	61.53%
Stress	14	53.84%
PTSD	20	76.92%

Table 3: Mean and SD Scores

Questionnaire	Mean	SD
Center for Epidemiologic Studies Depression Scale (CES-D)	8.653846	6.387126
Generalized Anxiety Disorder Scale – 7 (GAD – 7)	19.30769	11.27748
Perceived Stress Scale (PSS)	19.03846	8.069319
Impact of Events Scale Revised (IES -R)	30.57692	19.77211

Discussion

73.07% participants were female doctors where median age of the participants was 28.5 years old. 96.15 participants did not have any medical condition. Participants who had history of psychiatric illness were excluded from study. Prevalence of Depression, Anxiety, Stress and PTSD were 65.38%, 61.53%, 53.84%, 76.92% respectively. Overall mean scores of Depression, Anxiety, Stress and PTSD was that of similar to those in published research during COVID 19 pandemic and published from previous disease

outbreaks, such as the severe acute respiratory syndrome (SARS). Mustafa et al. reported prevalence of Depression, Anxiety, Insomnia and Distress symptoms to be as 77.6 %, 60.2 %, 50.4%, and 76.4% (Mustafa Kürşat Şahin, 2020). In study conducted by Ruchira et al. it was found that 52.8% of participants had pandemic related burnout. This is similar to our findings in current study.

Limitations

Participation from only one tertiary care hospital is limitation of the current study. Participation of HCWs from other tertiary care centers could strengthen the findings.

Future Directions

Having a longitudinal follow up of participants after timely intervals till Pandemic can give deeper understanding State of Mental Health of caregivers on the frontline during the COVID 19 pandemic.

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