

Psychological Issues Faced by the Healthcare Workers during the COVID-19 Pandemic

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ABSTRACT

Aim and objective: The current study aimed to evaluate the psychological issues, including the prevalence of anxiety and depression among healthcare workers (HCWs) working in a tertiary care center.

Materials and methods: This was a cross-sectional online survey in which the survey link was sent to employees of the institute, either through personal messages or using various WhatsApp groups. The survey questionnaire assessed depression, anxiety, and other psychological issues among the HCWs.

Results: The study included 88 participants with a mean age of 32.8 (SD: 9.5) years. A majority of participants were male (54.5%) and were married (53.8%). 29.5% had been quarantined or had to stay in self-isolation for doing duties in coronavirus disease-2019 (COVID-19) area. The anxiety disorder and depressive disorder were present in 15.9 and 13.6%, respectively. All the participants with depressive disorders also had an anxiety disorder. About one-fifth to half of the participants reported “mostly or always” experiencing the feelings of loneliness, social disconnectedness, feeling of being used, running away from work, scared of contacting infection, scared of not getting support from the administration, scared of not getting personal protective equipment (PPE), feeling angry because of lack of adequate safety equipment, tense of getting infected with COVID-19, and tense of unknowingly spreading the infection. However, one-fifth to half of the participants reported “mostly or always” experiencing the feelings of being optimistic and feeling proud of self.

Conclusion: Every seventh HCWs found to be suffering from diagnosable mental disorders. A significant proportion of HCWs are also experiencing a multitude of negative emotions. These findings suggest that there is a need to develop mental health support for all HCWs, and also there is a need to address the concern of HCWs.

Keywords: Anxiety, Depression, Healthcare workers.

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INTRODUCTION

Coronavirus disease-2019 (COVID-19) pandemic has emerged as a major threat to humanity. The COVID-19 virus has infected 13,616,593 people with 585,727 confirmed deaths till July 17, 2020, worldwide.¹ The figures of those infected and those dying due to COVID-19 infection is rising exponentially and the situation is almost like a world war. Healthcare workers (HCWs) and related staff are the most vulnerable to get infected and are under tremendous physical and psychological distress.

Managing patients with COVID-19 require different ways to deal with the medical needs, for which the majority of the HCWs are not trained. Some of the necessary changes include the use of personal protective equipment (PPE) and staying away from family, friends, or relatives. They also have to work with new and frequently changing protocols, caring for patients, and even for colleagues who have fallen sick. Other factors which have been reported to be associated with an increased level of anxiety or stress include working for more extended hours, living away from home,² fear of infecting the family or relatives, family and relatives getting infected with COVID-19, availability of PPE,^{3,4} feeling of uncertainty and stigmatization,^{5,6} and poor social support.^{7,8} All these have contributed to increased workload; besides, the fear of themselves getting infected with the virus.⁹ It is reported that doctors and nurses are more susceptible as compared to other health staff.¹⁰

A few studies have evaluated the psychological issues in HCWs, and available data from different countries suggest the prevalence

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of anxiety to varying from 10.5 to 44.6%¹¹⁻¹⁹ and that for depression to range from 8.9 to 50.4%.^{11-13,15} In general, it is suggested that, compared to the general populations, HCWs are at a higher risk and have a higher prevalence of anxiety and depressive disorders.¹⁶

In terms of factors associated with psychiatric morbidity, female HCWs have been found to have a higher prevalence of depression and anxiety disorder when compared to males.^{11,12,15,16} Among the different HCWs, nurses have been found to have a higher prevalence of depression and anxiety disorder, when compared to doctors.^{11,12,14-16}

There are only three studies from India, which evaluated the psychological morbidity among the HCWs and reported the anxiety disorders from 36.1 to 39.5% and depressive disorders from 9.1 to 34.9%.²⁰⁻²² In this background, the current study aimed to evaluate the psychological morbidity among the HCWs from a tertiary care center in North India.

MATERIALS AND METHODS

This was a web-based cross-sectional study conducted from the period between April 9, 2020 and May 27, 2020. An online survey questionnaire was circulated through WhatsApp. The survey link was sent to employees of the institute, either through personal messages or using various WhatsApp groups. The link was designed in such a way that a person could respond only once using a particular device. The survey questions were both in English and Hindi. The Institute ethic committee approved the study. The opening statement of the survey mentioned that participation in the survey implied providing consent for the study. The persons receiving the survey were at liberty not to respond to the survey.

The survey questionnaires included:

Patient Health Questionnaire-9²³

Patient health questionnaire-9 (PHQ-9) is the self-administered depression module, in which each of the 9 DSM-IV criteria as “0” (not at all) to “3” (nearly every day) are evaluated. It has excellent reliability and validity, sensitivity and specificity of 88% for major depression.

Generalized Anxiety Disorder-7 Scale²⁴

It is a 7-item anxiety scale with good reliability as well as the criterion, construct, factorial, and procedural validity. Cutoff points of 5, 10, and 15 are interpreted as representing mild, moderate, and severe levels of anxiety on the generalized anxiety disorder-7 (GAD-7). Higher scores on GAD-7 are strongly associated with multiple domains of functional impairment. Although GAD and depression symptoms frequently co-occurred, factor analysis shows that these are distinct dimensions. Moreover, GAD and depression symptoms have differing but independent effects on functional impairment and disability. There is a good agreement between self-report and interviewer-administered versions of the scale.

Additionally, a self-designed questionnaire to evaluate the effect of quarantine on stress, anxiety, and feeling of scared and reaction of a family toward the person were included.

Descriptive statistics were applied, and the data collected were analyzed using SPSS 20.0 version. Pearson’s correlation coefficient and Spearman’s correlation coefficient were used to finding the association between different variables.

RESULTS

The study included 88 participants. The mean age of the participants was 32.8 (SD: 9.5) years. Slightly more than half of the participants were male (54.5%) and were married (53.8%). Slightly more than one-fourth (29.5%) of the participants had been quarantined or had to stay in self-isolation for doing duties in COVID-19 area (Table 1).

Prevalence of Anxiety and Depression

The overall prevalence of psychiatric disorder was 15.9%. The anxiety disorder and depressive disorder were present in 15.9 and 13.6%, respectively. All the participants with depressive disorders also had an anxiety disorder (Table 2).

Feeling and Emotions Due to COVID-19 Infection

On the self-designed questionnaire, the participants were asked to express their emotional state in the previous 2 weeks and rate it on 4 points (not at all, sometimes, mostly, and always). About one-fifth to half of the participants reported “mostly or always” experiencing

Table 1: Sociodemographic profile

<i>Variables</i>	<i>Frequency (%) / mean (SD) (n = 88)</i>
Age (in years)	32.8 (9.5)
Gender	
Male	48 (54.5%)
Female	40 (45.5%)
Marital status	
Married and living with spouse	36 (40.2%)
Married and staying away from spouse	12 (13.6%)
Currently single	40 (45.2%)
Education qualification	
10+2	1 (1.1%)
Graduate	5 (5.7%)
Postgraduate	3 (3.4%)
MSc nursing	11 (12.5%)
BSc nursing	11 (12.5%)
MBBS	3 (3.4%)
MD/MS	15 (17.0%)
DM/MCH	7 (8.0%)
Pursuing MD/MS	7 (8.0%)
Pursuing DM/MCH	3 (3.4%)
Others (did not specify)	22 (25.0%)
If you are a healthcare worker, kindly mention your position	
Junior resident	10 (11.4%)
Senior resident	13 (14.8%)
Faculty member	17 (19.3%)
Medical officer	3 (3.4%)
Nursing staff	1 (1.1%)
Paramedical staff	23 (26.1%)
Security staff	3 (3.4%)
Place of current work profile	
General ward duties	24 (27.8%)
Emergency medical OPD	4 (7.8%)
Emergency surgical OPD	3 (3.4%)
Specialty OPD	6 (6.8%)
Screening of COVID-19 patients (i.e., fever, URTI infection OPD)	3 (3.4%)
Managing COVID-19 patients in isolation wards/ICUs	21 (23.9%)
Working in laboratory testing COVID-19 samples	2 (2.3%)
Involved in imaging/neuroimaging testing/X-ray in COVID-19 patients	2 (2.3%)
Involved in transportation of sample	1 (1.1%)
Contact tracing	1 (1.1%)
Part of back-up team	3 (3.4%)
Involved in training of healthcare workers	3 (3.4%)
Triage	2 (2.3%)
Others (did not specify)	13 (14.8%)
Have you been quarantine	
Yes	26 (29.5%)
No	62 (70.5%)

Table 2: Perceived stress, anxiety, depression, and mental well-being during lockdown and comparison of these variables between HCWs and non-HCWs

Variables	Whole sample (N = 88)	
	Mean (SD)/frequency (%)	
Mean GAD-7 score	4.96 (4.89) Range: 0–21 Median: 4.0	
Severity of anxiety		
Normal (0–4)	51 (58.0%)	
Mild (5–9)	23 (26.1%)	
Moderate (10–14)	8 (9.1%)	
Moderate–severe (15–19)	4 (4.5%)	
Severe (≥20)	2 (2.3%)	
Mean PHQ-9 score	4.5 (4.6) Range: 0–22; Median: 3.0	
Severity of depression		
Minimal (0–4)	52 (59.1%)	
Mild (5–9)	24 (27.3%)	
Moderate (10–14)	9 (10.2%)	
Moderate severe (15–19)	2 (2.3%)	
Severe (≥20)	1 (1.1%)	
Overall prevalence		
% of responders reporting GAD-7 score ≥5	37 (42.0%)	
% of responders reporting PHQ-9 score ≥5	36 (40.9%)	
Number of participants having anxiety disorder (GAD-7 ≥10)	14 (15.9%)	
Number of participants having depression (PHQ-9 >10)	12 (13.6%)	
Number of participants having both anxiety and depressive disorder (GAD-7 ≥10 with PHQ-9 >10)	12 (13.6%)	
Number of participants having anxiety disorder only (GAD-7 >10)	2 (2.3%)	
Any psychiatric illness present (GAD-7 ≥10 and PHQ-9 >10)	14 (15.9%)	

the feelings of loneliness, social disconnectedness, feeling of being used, running away from work, optimistic, scared of contacting infection, scared of not getting support from the administration, feeling proud of self, scared of not getting PPE, feeling angry because of lack of adequate safety equipment, tense of getting infected with COVID-19, and tense of unknowingly spreading the infection (Table 3).

In terms availability of the protective gears, only about one-third of the participants were satisfied (slightly or extremely) with the availability of PPE, N-95 masks, provision of testing, and provisions of quarantine. About half or more of the participants were satisfied (slightly or extremely) with the availability of mask other than N-95, sanitizers, cleaning of the area, and food (Table 4).

Family Reaction toward the Person under Quarantine

About half of the participants reported that their family was “mostly or always” worried about them getting ill and about one-third of

Table 3: Feelings and emotions due to COVID-19 (coronavirus) infection

Variables	Not at all	Sometimes	Mostly	Always
Feeling sad	29 (33.0)	51 (58.0)	4 (4.5)	4 (4.5)
Feeling scared	30 (34.1)	45 (51.1)	10 (11.4)	3 (3.4)
Feeling tense	35 (39.8)	42 (47.7)	7 (8.0)	4 (4.5)
Feeling anxious	38 (43.2)	37 (42.0)	10 (11.4)	3 (3.4)
Feeling angry	51 (58.0)	31 (35.2)	5 (5.7)	1 (1.1)
Feeling demoralized	48 (54.4)	32 (36.4)	5 (5.7)	3 (3.4)
Feeling irritable	42 (47.7)	34 (38.6)	9 (10.2)	3 (3.4)
Feeling numb	52 (59.6)	23 (26.1)	9 (10.2)	4 (4.5)
Feeling lonely	42 (47.7)	29 (33.0)	11 (12.5)	6 (6.8)
Feeling socially disconnected	32 (36.4)	30 (34.1)	17 (19.3)	9 (10.2)
Feeling useful	24 (27.3)	22 (25.0)	29 (33.0)	13 (14.8)
Feeling being used	43 (48.9)	26 (29.5)	13 (14.8)	6 (6.8)
Feeling pathetic about self	66 (75.0)	20 (22.7)	–	2 (2.3)
Feeling like running away from work	51 (58.0)	20 (22.7)	8 (9.1)	9 (10.2)
Feeling optimistic	25 (28.4)	29 (33.0)	21 (23.9)	13 (14.8)
Feeling helpless	49 (55.7)	33 (37.5)	4 (4.5)	2 (2.3)
Feeling hopeless	44 (50.0)	28 (31.8)	10 (11.4)	6 (6.8)
Scared of contacting the infection	27 (30.7)	41 (46.6)	15 (17.0)	5 (5.7)
Scared of death	37 (42.0)	28 (31.8)	6 (6.8)	17 (19.3)
Feeling proud of yourself	24 (27.3)	23 (26.1)	22 (25.0)	19 (21.6)
Feeling stigmatized	53 (60.2)	28 (31.8)	5 (5.7)	2 (2.3)
Scared that you will not get the support from the administration	30 (34.1)	33 (37.5)	14 (15.9)	11 (12.5)
Scared that you will not get person protective equipment	20 (22.7)	30 (34.1)	19 (21.6)	19 (21.6)
Feeling angry that there are no adequate safety equipment to function	26 (29.5)	26 (29.5)	18 (20.5)	18 (20.5)
Not able to sleep	39 (44.3)	39 (44.3)	8 (9.1)	2 (2.3)
Worried issues like food and safety	33 (37.5)	41 (46.6)	12 (13.6)	2 (2.3)
Tense about increase in workload	34 (38.6)	38 (43.2)	13 (14.8)	3 (3.4)
Tense about getting infected with COVID-19	11 (12.5)	52 (59.5)	16 (18.2)	9 (10.2)
Tense about unknowingly spreading the infection	8 (9.1)	40 (45.5)	32 (36.4)	8 (9.1)

the participants reported that their family was “mostly or always” worried about they getting the infection home (Table 5).

When asked about how much they were scared of infecting their family members, 29.5% participants reported themselves to be “very scared” and another 22.7% reported themselves to be “somewhat scared”, 29.5% reported “a bit scared”, and only 18.2%



Table 4: Availability and provision of personal protection equipment (PPE), food, and testing

Variables	Extremely dissatisfied	Slightly dissatisfied	Neither satisfied nor dissatisfied	Slightly satisfied	Extremely satisfied
Availability of sanitizers	19 (21.6)	15 (17.0)	11 (12.5)	23 (26.1)	20 (22.7)
Availability of masks (N-95)	32 (36.4)	13 (14.8)	13 (14.8)	11 (12.5)	19 (21.6)
Availability of masks other than N-95	10 (11.4)	19 (21.6)	11 (12.5)	30 (34.1)	18 (20.5)
Availability of PPE	32 (36.4)	13 (14.8)	10 (11.4)	14 (15.9)	19 (21.6)
Cleaning of the area	8 (9.1)	15 (17.0)	20 (22.7)	28 (31.8)	17 (19.3)
Transport	17 (19.3)	10 (11.4)	26 (29.5)	17 (19.3)	18 (20.5)
Food	12 (13.6)	12 (13.6)	17 (19.3)	24 (27.3)	23 (26.1)
Provision of testing	29 (33.0)	8 (9.1)	18 (20.5)	20 (22.7)	13 (14.8)
Provision of quarantine, in case if you are suspected/infected with COVID-19	20 (22.7)	18 (20.5)	17 (19.3)	16 (18.2)	17 (19.3)

Table 5: Reaction of family toward the person under quarantine

Variables	Not at all (%)	Sometimes (%)	Mostly (%)	Always (%)
My family is happy for me being on duty	24 (27.3)	32 (36.4)	19 (21.6)	13 (14.8)
My family is worried about me getting ill	13 (14.8)	29 (33.0)	33 (37.5)	13 (14.8)
My family is worried about me getting the infection home after being discharge from quarantine	22 (25.0)	37 (42.0)	20 (22.7)	9 (10.2)

reported that they were “not at all scared” of infecting their family members. The total score of GAD-7 and PHQ-9 had a positive correlation with each other. Age had a negative correlation with GAD-7 (Table 6).

There was no significant difference noted among male and female in terms of the prevalence of depression and anxiety. Those who were not quarantined or had undergone self-isolation scored significantly high on the GAD-7 and PHQ-9 as compared to those who were quarantined or had undergone self-isolation after controlling the age, gender, and marital status.

DISCUSSION

This cross-sectional study involved the 88 HCWs from a tertiary care center suggest a prevalence of depression to be 13.6% and GAD to be 15.9%, with all participants with depression also fulfilling the criteria for GAD. The overall prevalence of depression seen in the present study is within the reported prevalence range of 8.9–50.4% of depressive disorders in the existing literature.^{11–13,15,20–22,25} The variation among the prevalence rate of depressive disorder in these studies is because of the use of the different scales for the assessment of the depression, different settings, sampling technique, cultural influences, time of assessment (in relation to

Table 6: Relationship between anxiety, distress, sadness, and mental well-being

Variables	Total GAD score r (p value)	Total PHQ-9 scorer r (p value)	Age (in years) r (p value)
Total GAD-7 score	XXX	0.725 (<0.001)**	–0.142 (0.188)
Total PHQ-9 score	0.725 (<0.001)**	XXX	–0.219 (0.04)*

*p <0.05; **p <0.001

the number of cases with COVID-19 infection) in a particular area. When we compare the prevalence of depressive disorder of the present study with those studies which used the PHQ-9 with a cutoff score of 10, findings of the present study are similar to the previous studies which have reported prevalence of 9.1–13.4%.^{19–22}

In terms of anxiety disorders, the prevalence of anxiety disorder in the present study was 15.9%, which is in the reported range of 10.5–44.6%.^{11–22} The studies which have used GAD-7 have reported prevalence of 24.1–37.3%.^{12,13,18–22} The differences can be due to use of different cutoff scores, performed in different settings, with different countries vary in their medical systems, medical specialty, type of staff of the hospital, PPE, cultures, labor and employment conditions, the policies of lockdown, the ease of working from home and maintaining a living in a pandemic, and the information in both mainstream and social media, infection of the colleagues, number of cases, etc.

These findings suggest that there is a need to provide psychological support to the HCWs who are playing an important role in managing patients infected with COVID-19 and providing care to patients with other ailments, who can be potentially infected with COVID-19 infected. Additionally, they should be provided with adequate PPE and other protective measures to fight the pandemic.

In addition to syndromal depression and anxiety, a significant proportion of the participants reported a whole experiencing range of negative emotions “mostly or always”, in the form of loneliness, social disconnectedness, feeling of being used, running away from work, scared of contacting infection, scared of not getting support from the administration, feeling angry because of lack of adequate safety equipment, tense of getting infected with COVID-19, tense of

unknowingly spreading the infection, and scared of not getting PPE. These findings suggest that there is an urgent need for providing psychological support, fulfil the logistic needs like providing them with adequate PPE and other safety instruments, rationalize their working hours, proper rotation of duty between high-risk and low-risk areas, providing them living facilities to be comfortable about not infecting their own family members. However, a significant proportion of participants also reported feeling optimistic and feeling proud of self. These features reflect the dedication and possibly the personality traits and adaptive coping when faced with the stress.

This study is limited by small sample size, cross-sectional study design, and use of self-administered questionnaires. Furthermore, the study was limited to a single tertiary care center. The other confounding factors like a family history of mental illness, history or mental or physical illness among the participants, working area, etc., were not taken in to account.

To conclude, this study shows that about one-seventh of the HCWs suffer from diagnosable mental disorders. However, a significant proportion of them are also experiencing a multitude of negative emotions. These findings suggest that there is a need to develop mental health support for all HCWs. This should involve regular screening for mental morbidity, providing them an opportunity for addressing the psychological crisis, and providing psychological support on a regular basis. In addition, there is also a need to address the concern of HCWs of non-availability of PPE and provide adequate insurance coverage.

ETHICAL APPROVAL

The research was approved by the Institute's Ethics Committee at Postgraduate Institute of Medical Education and Research, Chandigarh, India. All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

INFORMED CONSENT

Informed written consent was obtained from all individual participants included in the study.

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