

# Psychosocial Issues among the “Faceless Corona Warriors” (Hospital Housekeeping Staff and Sanitary Workers on COVID-19 Duty): An Exploratory Survey from a Tertiary Healthcare Center from North India

Swapnajeet Sahoo<sup>1</sup>, Gurmeet Singh<sup>2</sup>, Ranjit PS Bhogal<sup>3</sup>, Aseem Mehra<sup>4</sup>, Arun K Aggarwal<sup>5</sup>, Kapil Goel<sup>6</sup>, Usha Dutta<sup>7</sup>, Ashish Bhalla<sup>8</sup>, Pinnaka Venkata Maha Lakshmi<sup>9</sup>, Goverdhan Dutt Puri<sup>10</sup>, Sandeep Grover<sup>11</sup>

## ABSTRACT

**Background:** The existing literature on the mental health outcomes of frontline healthcare workers (HCWs) is silent over the psychosocial issues being faced by the housekeeping/hospital attendants (HAs) and sanitary attendants (SAs) who are also actively involved in coronavirus disease-2019 (COVID-19) patient care and in biomedical waste management. This group of HCWs can be considered as the “faceless corona warriors,” and their psychosocial issues needs to be focused upon too.

**Aim and objective:** To evaluate the psychosocial issues and problems related to issues specific to carrying out duties in COVID-19 wards among the HAs and SAs.

**Materials and methods:** An interview-based approach (cross-sectional assessment) conducted by healthcare professionals in the local languages of the HAs and SAs was followed. Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) were used to assess depression and anxiety, respectively. Along with it, a self-designed questionnaire was added to evaluate the different emotional states and problems faced by the HAs and SAs during their COVID-19 duty.

**Results:** A total of 100 participants (62 HAs and 38 SAs) were enrolled for this study. Overall, 11% reported mild anxiety and 21% reported mild depressive symptoms (as per the GAD-7 and PHQ-9 grading) with an overall psychological morbidity of 25%. A significant proportion (one-third to one-fourth) of the participants reported negative emotional experiences, such as that of sadness, scared, anxious, loneliness, socially disconnectedness, being used, and feeling stigmatized for working in COVID areas. Overall, 40% of the participants were ‘very scared’ of infecting their family members and two-fifths (39%) reported that their family members were worried for “most of the time” about them getting ill. Further, about one-fifth (19%) of the participants had difficulty in learning the steps of donning and doffing of personal protective equipments (PPEs), and one-fourth (25%) reported forgetting the steps of donning and doffing process. More than half of the participants reported of work overload and hectic duty shifts, and majority of the participants reported feeling uncomfortable and “dizzy,” having headache, and feeling thirsty during duty hours while on PPEs.

**Conclusion:** Our findings suggest that a substantial proportion of HAs and SAs have mild anxiety, depression, and several significant negative emotional states as well as family-related concerns during COVID-19 duty period and while under quarantine. They also reported significant and genuine problems related to PPEs usage and infection control measures. Timely steps in the form of appropriate mental health support as well as adequate counseling and reassurance during training can prove beneficial in allaying the concerns of this group of HCWs engaged on COVID-19 duties.

### Key learning points:

#### What is already known about this subject:

- The existing literature on the mental health outcomes of healthcare workers on COVID-19 duties have mainly focused on the psychological morbidity among the doctors/physicians and nurses.
- No data are currently available on the psychosocial issues and problems faced by the housekeeping/hospital attendants (HAs) and sanitary attendants (SAs) who are actively involved in patient welfare and in biomedical waste management of COVID-19 patients.

#### What this study adds:

- Our findings highlight the presence of anxiety and depressive symptoms (mild in intensity), and negative emotional states in a significant proportion of HAs and SAs on COVID-19 duties.
- We also found significant evidence related to the family concerns and problems being faced by this group of healthcare workers (HCWs) related to infection control measures and personal protective equipment’s usage/training.

#### What impact this may have on practice or policy:

- Our findings highlight the importance of mental health support, proactive reassurance, and counseling which are essential to allay the concerns and anxiety of this group of HCWs.
- The mental health issues of this group of HCWs needs to be addressed as for other front line HCWs (doctors and nurses).

**Keywords:** Anxiety, COVID-19, Depression, Housekeeping staff, Sanitary workers.

*Journal of Postgraduate Medicine, Education and Research* (2020): 10.5005/jp-journals-10028-1389

## INTRODUCTION

The outbreak of coronavirus disease-2019 (COVID-19) pandemic infection and its impact on the healthcare system all over the world has been significant. The healthcare workers (HCWs) have been the major sufferers because of the fact they have been working in close contact with people having COVID-19 infection or those suspected for having COVID-19 infection. There had been alarming rates of deaths and infection rates among the HCWs engaged in COVID-19 duties globally.<sup>1-4</sup> In this sense, the COVID-19 pandemic has evolved as a major threat to the HCWs who are regarded as the frontline warriors in this war-like medical emergency.

HCWs who are involved in the care of patients with COVID-19 infection or those in quarantine after their duties in COVID areas includes doctors/physicians, nursing staff, paramedical laboratory staff, hospital housekeeping and sanitary staff, and security staff. The emerging literature from different parts of the world suggests that a significant proportion of the HCWs have anxiety, depression, insomnia, and post-traumatic stress disorder (PTSD),<sup>5-9</sup> and it is recommended that they are provided timely psychological aid and their well-being should be adequately taken care of.<sup>10,11</sup>

However, the existing literature on HCWs have mostly focused upon the mental health outcomes in the doctors and nurses involved in COVID-19 management, and the literature is silent on the mental health outcomes of the "faceless warriors" of the COVID-19 pandemic, that is the housekeeping/hospital attendants (HAs) and sanitary workers/attendants (SAs) who are equally exposed to the risk of COVID-19 infection and are actively involved in biomedical waste management and patient care in every hospital/COVID designated wards/isolation centers etc.

This class of HCWs are relatively less educated, have lower income, usually have family members dependent on them, have difficulty in understanding the various aspects of use of personal protective equipments (PPEs), and have higher job insecurity as many of them are working on contract basis. Further, it can be hypothesized that possibly they also have lower level of psychological sophistication compared to doctors and nurses. Handling biomedical waste of the patients with COVID-19 infection is one of the toughest and risky job that is being managed by the HAs and SAs of any hospital, and specific guidelines have been developed for segregation, packaging, labeling, transportation, storage, and destruction of the waste generated from the patients and during the patient care so as to avoid the risk of contaminating the environment in accordance with the preexisting biomedical waste management rules.<sup>12,13</sup> Training of the HAs and SAs for biomedical waste management related to COVID-19 is an important part of overall training prior to start of COVID-19 duties.

Till date, there is no published study that has evaluated the psychological issues among the HAs and SAs. Accordingly, this pilot project aimed to evaluate the psychosocial issues and problems related to issues specific to carrying out duties in COVID-19 among the HAs and SAs involved in the care of patients with COVID-19 infection.

## MATERIALS AND METHODS

### Setting

Since the outbreak of COVID-19 infection in India, in our set up, a separate building was designated as COVID-19 hospital, and patients with COVID-19 infection were admitted in isolation wards

<sup>1,4,11</sup>Department of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh, India

<sup>2,5,6,9</sup>Department of Community Medicine and School of Public Health, Postgraduate Institute of Medical Education and Research, Chandigarh, India

<sup>3</sup>Department of Hospital Administration, Postgraduate Institute of Medical Education and Research, Chandigarh, India

<sup>7</sup>Department of Gastroenterology, Postgraduate Institute of Medical Education and Research, Chandigarh, India

<sup>8</sup>Department of Internal Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh, India

<sup>10</sup>Department of Anaesthesia and Intensive Care Unit, Postgraduate Institute of Medical Education and Research, Chandigarh, India

**Corresponding Author:** Sandeep Grover, Department of Psychiatry, Postgraduate Institute of Medical Education and Research, Chandigarh, India, Phone: +91 172-2756807, e-mail: drsandeepg2002@yahoo.com

**How to cite this article:** Sahoo S, Singh G, Bhogal RPS, *et al.* Psychosocial Issues among the "Faceless Corona Warriors" (Hospital Housekeeping Staff and Sanitary Workers on COVID-19 Duty): An Exploratory Survey from a Tertiary Healthcare Center from North India. *J Postgrad Med Edu Res* 2020;54(3):94-99.

**Source of support:** Nil

**Conflict of interest:** None

and Intensive care units (ICUs) in this block. The HCWs who were posted in this block had to stay in isolation in different locations inside the campus or in designated isolation rooms near the hospital. The HAs and SAs during their COVID-19 duty period were also accommodated in specific isolation areas designated for them (a multistory building) in which on duty staff and those on quarantine were separately allocated accommodation with all facilities with proper social distancing. A nodal officer (postgraduate student from the Department of Community Medicine and Public Health) was appointed to look after the welfare of the HAs and SAs staying in the center, and their daily concerns and requirements were looked upon by a welfare committee formed by the Institute's faculty members. Faculty members from Department of Psychiatry were also included in the Welfare committee to look upon the mental healthcare needs of the HCWs working in COVID-19 hospital.

The current study was conducted using the Epicollect5<sup>®</sup> platform in which the questionnaire so designed was added to the platform, and the responses were collected from each participant through direct interview (with following of specific social distancing measures) in their local languages (Hindi and Punjabi) by the on duty nodal officer. The completed Performa's were reviewed by the mental health professionals and those participants who were identified as having significant mental health-related issues were provided psychological aid by the mental health professionals. Strict confidentiality was ensured throughout the study.

The study was approved by the Institute's Ethics Committee. Informed verbal consent was taken prior to participation in the study, and those willing to participate were enrolled. Participants were HAs and SAs who were on COVID-19 duty and/or under quarantine after duty were enrolled.

The questionnaire consisted of the following instruments:

### Personal Characteristics

A basic information sheet included variables such as age, gender, marital status, educational qualifications, current job profile and duty-related questions, etc.

**Self-designed questionnaire** was used to evaluate the psychosocial impact of performing duties in COVID areas in different aspects of their life.

**Patient Health Questionnaire-9<sup>14</sup>**

The Patient Health Questionnaire (PHQ) is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders. The PHQ-9 is the depression module, which scores each of the 9 DSM-IV criteria as “0” (not at all) to “3” (nearly every day). This questionnaire had been found to have excellent reliability and validity, sensitivity, and specificity for detecting major depression.

**Generalized Anxiety Disorder-7 Scale<sup>15</sup>**

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

The data so collected by the Epicollect5® platform/app were analyzed using Statistical Package for Social Sciences (SPSS), 20.0 version and descriptive statistics in the form of mean and standard deviation, frequency, and percentages were calculated.

**RESULTS**

A total of 100 participants were enrolled for this study which included 62 HAs and 38 SAs. The mean age of the participants was 32.52 (SD: 7.74) years. Majority (94%) of the participants were males, were married, and living with their spouse (72%). Most of the participants were educated up to or beyond matriculation (10th standard), and mean number of years of education was 9.86 (SD-3.06) years. About two-third (68%) of the participants were working in COVID-19 isolation wards and ICUs, while the rest were working either in the outpatient department screening people for possible COVID-19 infection or in wards where patients suspected to have COVID-19 infections and awaiting the test reports were kept.

About half of the participants were on COVID-19 duties during the time of assessment, and the other half were under quarantine after duty at the time of assessment (Table 1).

**Anxiety and Depression among the HAs and SAs**

The mean GAD-7 score for the study participants was 1.62 (SD-2.07), and the mean PHQ-9 score was 2.56 (SD-2.61) with 11% of the participants reporting mild anxiety and 21% of them reporting mild depressive symptoms as per the GAD-7 and PHQ-9 grading respectively. Overall, one-fourth of the participants reported anxiety symptoms, depressive symptoms, or both (GAD score ≥5 + PHQ-9 score >4). No significant differences were noted between both categories of study participants (Table 2).

**Table 1: Sociodemographic Profile (n = 100)**

Variables	Frequency (%) / Mean (SD)
Age (in years)	32.52 (7.74); Range: 21–55
Gender: male/female	94 (94.0%)/6 (6.0%)
Marital status: single/married and living with spouse	28 (28.0%)/72 (72.0%)
Educational qualification	
Less than matriculation	29 (29.0%)
Matriculation	30 (30.0%)
Intermediate/10+2	33 (33.0%)
Diploma	8 (8.0%)
Years of education	9.86 (3.062); Range: 0–14
Designation	
Housekeeping staff (hospital attendant)	62 (62.0%)
Sanitary staff (sanitary attendant)	38 (38.0%)
Current place of duty	
Working in COVID isolation wards and ICUs	68 (68.0%)
Working in COVID suspected wards	20 (20.0%)
Screening OPDs of COVID-19 patients	12 (12.0%)
COVID-19 duty status at the time of assessment	
On COVID-19 duty	53 (53.0%)
After COVID-19 duty (under quarantine)	47 (47.0%)

**Table 2: Anxiety and depression among the HAs and SAs on COVID-19 duties**

Variables	Whole sample (n = 100), mean (SD)/frequency (%)	Hospital attendants (HA) (n = 62), mean (SD)/frequency (%)	Sanitary attendants (SA) (n = 38), mean (SD)/frequency (%)	t test/Mann-Whitney U value/Chi-square test (p value)
Mean GAD-7 score	1.62 (2.07), Range: 0–8	1.93 (2.18)	1.10 (1.79)	U = 933.5 (0.044)
Severity of anxiety				
Normal (0–4)	89 (89.0%)	54 (87.1%)	35 (92.1%)	0.200 (0.654) <sup>Y</sup>
Mild (5–9)	11 (11.0%)	8 (12.9%)	3 (7.9%)	
Mean PHQ-9 score	2.56 (2.61), Range: 0–9	2.58 (2.51)	2.52 (2.81)	U = 1143.5 (0.796)
Severity of depression				
Minimal (1–4)	79 (79.0%)	52 (83.9%)	27 (71.1%)	2.33 (0.127)
Mild (5–9)	21 (21.0%)	10 (16.1%)	11 (28.9%)	
Overall prevalence				
% of responders reporting both GAD score ≥ 5 + PHQ-9 score >4	25 (25.0%)	13 (21.0%)	12 (31.6%)	1.415 (0.234)

<sup>Y</sup>Chi-square value with Yate’s correction



### Effect of COVID-19 Duties on Emotions, Feelings and Various Aspects of Life of the HAs and SAs

The effect of COVID-19 duties and subsequent quarantine on emotions, feelings, and various aspects of life was evaluated on a self-designed Likert-type scale with the options of “not at all,” “sometimes,” “most of the time,” and “always” (Table 3).

About 40% of the participants reported that they were feeling tense about the increase in the workload, and 10% of the participants were not able to sleep properly at least for “sometime” during COVID-19–related duties. About one-sixth (18%) of the participants reported that at least for “sometimes,” they were feeling scared of not getting support from the administration, but about 15% reported of feeling scared of not getting adequate PPEs while on duty. In terms of negative emotional responses, about one-third to one-fourth of responders reported experiencing feelings of sadness, scared, anxious, loneliness, socially disconnectedness, being used, and feeling stigmatized for working in COVID areas for “sometimes/most of the time.” About one-eighth (12%) of the participants reported of feeling “sometimes” like running away from the work and more than half (52%) reported were scared of death “sometimes” and 13% for “most of the time.” Among all these adverse situations and feelings, about three-fifths (64%) reported that they were “most of the time/always” feeling optimistic about the situation and 62% reported feeling proud of themselves for “most of the time/always” and reported of feeling useful too (Table 3).

### Perceived Fear of Infecting Family Members and Reaction of Family Members for Being on COVID-19 Duties

As evident from Table 4, 40% of the participants were “very scared” of infecting their family members with COVID-19. Further, two-fifths (39%) reported that their family was worried for “most of the time” about them getting ill and 30% reported their family being worried about them getting infection home. Only 9% of the participants

reported their family was “happy” for them being on COVID duty for “most of the time.”

### Perceived Problems Related to PPEs Usage and Other Infection Control Measures by the HAs and SAs

A segment of the questionnaire dealt about the problems the participants faced during duties related to infection control measures and PPEs. As evident from Table 5, about one-fifth (19%) reported of having difficulty in learning the technique of donning and doffing of PPEs and one-fourth (25%) reported “often/sometimes” forgetting steps of PPE donning and doffing process in-between. Difficulty in carrying out cleaning and sanitization of the COVID areas while in PPEs was reported as “often” by two-fifths of the participants, and 57% reported of work overload and hectic duty shifts. About half of the participants reported “often” feeling uncomfortable and excessive heat during duty hours due to PPEs, two-fifths (40%) reported of feeling dizzy and having headache after doffing “sometimes” and two-thirds (65%) reported feeling thirsty while in PPEs. However, one good thing to know was that majority of the participants did not report of forgetting to wear masks during duty hours and to do frequent hand-wash as advised.

### DISCUSSION

The present study is first of its kind that attempted to explore the psychosocial issues of the HAs and SAs, working in COVID-designated areas who were involved in handling biomedical waste management and patient welfare (distributing foods, changing linens, cleaning washrooms of patients, etc.).

The study findings suggest that overall this group of HCWs have mild level of anxiety and depressive symptoms, with overall prevalence of mild symptoms of around 25%, with prevalence of mild anxiety and mild depressive symptoms to be around 11% and 25%, respectively. These prevalence figures are relatively lower when compared to the existing literature on the mental health outcomes of HCWs from different parts of the world (China, India,

**Table 3:** Effect of COVID-19 duties on emotions, feelings and various aspects of life of the the HAs and SAs (N = 100)

	<i>Not at all frequency (%)</i>	<i>Sometimes frequency (%)</i>	<i>Most of the time frequency (%)</i>	<i>Always frequency (%)</i>
Feeling sad	55 (55.0)	31 (31.0)	13 (13.0)	1 (1.0)
Feeling scared	43 (43.0)	35 (35.0)	19 (19.0)	3 (3.0)
Feeling anxious	66 (66.0)	26 (26.0)	7 (7.0)	1 (1.0)
Feeling angry	86 (86.0)	8 (8.0)	5 (5.0)	1 (1.0)
Feeling demoralized	87 (87.0)	12 (12.0)	1 (1.0)	0 (0.0)
Feeling irritable	90 (90.0)	7 (7.0)	3 (3.0)	0 (0.0)
Feeling lonely	63 (63.0)	31 (31.0)	5 (5.0)	1 (1.0)
Feeling socially disconnected	63 (63.0)	32 (32.0)	4 (4.0)	1 (1.0)
Feeling useful	12 (12.0)	26 (26.0)	56 (56.0)	6 (6.0)
Feeling being used	30 (30.0)	22 (22.0)	41 (41.0)	7 (7.0)
Feeling like running away from work	88 (88.0)	12 (12.0)	0 (0)	0 (0.0)
Feeling optimistic	11 (11.0)	25 (25.0)	53 (53.0)	11 (11.0)
Scared of death	34 (34.0)	52 (52.0)	13 (13.0)	1 (1.0)
Feeling proud of yourself	19 (19.0)	29 (29.0)	43 (43.0)	19 (19.0)
Scared that you will not get support from the administration	80 (80.0)	18 (18.0)	2 (2.0)	0 (0.0)
Scared that you will not get adequate personal protective equipment	81 (81.0)	15 (15.0)	3 (3.0)	1 (1.0)
Not able to sleep properly.	83 (83.0)	10 (10.0)	7 (7.0)	0 (0.0)
Tense about increase in the workload	58 (58.0)	39 (10.0)	2 (2.0)	1 (1.0)
Feeling stigmatized for working in COVID areas	76 (76.0)	20 (20.0)	4 (4.0)	0 (0.0)



**Table 4:** Perceived fear of infecting family members and reaction of family members for being on COVID-19 duties

<i>Perceived fear of infecting</i>	<i>Very scared frequency (%)</i>	<i>Somewhat scared frequency (%)</i>	<i>A bit scared frequency (%)</i>	<i>Not at all scared frequency (%)</i>	
	How much you are scared of infecting your family members?	40 (40.0)	23 (23.0)	29 (29.0)	8 (8.0)
<i>Reaction of family members</i>	<i>Not at all frequency (%)</i>	<i>Sometimes frequency (%)</i>	<i>Most of the time frequency (%)</i>	<i>Always frequency (%)</i>	
	My family is happy for me being on duty	42 (42.0)	42 (42.0)	9 (9.0)	7 (7.0)
	My family is worried about me getting ill	12 (12.0)	35 (35.0)	39 (39.0)	14 (14.0)
	My family is worried about me getting the infection home	21(21.0)	46 (46.0)	30 (30.0)	3 (3.0)

**Table 5:** Perceived problems related to PPEs usage and other infection control measures by the HAs and SAs

<i>Variables</i>	<i>Often frequency (%)</i>	<i>Sometimes frequency (%)</i>	<i>A little frequency (%)</i>	<i>Not at all frequency (%)</i>
Difficulty in learning the technique of donning and doffing	9 (9.0)	10 (10.0)	24 (24.0)	57 (57.0)
Forgetting steps of PPE process in-between	15 (15.0)	10 (10.0)	13 (15.0)	62 (62.0)
Forgetting to wear masks always during duty hours	5 (5.0)	8 (8.0)	13 (13.0)	74 (74)
Forgetting to do frequent hand wash as advised	7 (7.0)	10 (10.0)	10 (10.0)	73 (73.0)
Difficulty in cleaning the COVID area along with PPE	40 (40.0)	10 (10.0)	20 (20.0)	30 (30.0)
Hectic duty hours/shifts and high work overload	57 (57.0)	12 (10.0)	25 (25.0)	6 (6.0)
Uncomfortable and excessive heat during duty due to PPE	50 (50.0)	12 (12.0)	31 (31.0)	7 (7.0)
Feel dizzy and have headache after doffing	12 (12.0)	40 (40.0)	29 (29.0)	19 (19.0)
Feels too much thirsty when using PPE	65 (65.0)	19 (19.0)	13 (13.0)	3 (3.0)

and Italy) which have reported anxiety and depression to be ranging from 24% to 44.6% and 20% to 50%, respectively.<sup>5,6,8</sup> However, it is important to note that the study participants in these studies were mostly nursing staff and doctors/physicians. Further, these studies were web-based surveys done through snowball sampling techniques and participants had done self-rating. In contrast to these studies, the present study was interview based and involved housekeeping and sanitary staff. Another reason for low rates of anxiety and depression as reported in the present study could be the fact that they were interviewed by a healthcare professional, and there is every possibility that the participants underreported their symptoms due to internalized stigma and perceived fear of losing job if they mentioned their problems to be severe enough, as many of them were on contractual jobs. However, due effort was taken to counsel the participants prior to interview while obtaining consent that their responses will not affect their job status, yet they may have underreported or given socially desirable responses.

Despite the abovementioned probabilities with regard to low prevalence of clinically significant anxiety and depression in rating scales used, the other key findings that can be considered important were impact of COVID-19 duties on their emotions and feelings and reaction of the family members while they were performing the COVID-19 duties. The pertinent results which were alarming to note were that a significant proportion (one-third to one-fourth) of the participants reported negative emotional experiences, such as that of sadness, scared, anxious, loneliness, socially disconnectedness, being used, and feeling stigmatized for working in COVID areas. About two-third of the participants also reported that they were scared of death for 'sometimes' or more often during their duty period and while under quarantine. Further, 40% of the participants were "very scared" of infecting their family members, and two-fifths (39%) reported that their family members were worried for "most of the time" about them

getting ill. All these suggest a significant level of perceived stress and perceived fear which needs to be addressed in this group of HCWs. These suggest that this group of workers should be adequately prepared during their training period for doing the duties in COVID areas and should be psychologically supported while on duty. Additionally, ensuring them of insurance, if they suffer from COVID-19 infection can help in their moral boosting. The psychological support can include appropriate counseling, reassurance about safety measures, and proper training in their local languages by using simpler terms needs to be provided so as to ally their anxiety, worries, and concerns related to COVID-19 duties. Steps can also be taken to involve the key family members so as to decrease their preoccupation and worries when one of their family members is engaged in COVID-19 duties. Providing mental health support and reducing psychological morbidity should be adopted with expediency by the healthcare organizations has been recommended globally and needs to be addressed.<sup>16</sup>

Another important finding of the study was related to the perceived problems related to PPEs usage and other infection control measures faced by the study participants. The findings of the present study suggest that about one-fifth (19%) of the participants had difficulty in learning the steps of donning and doffing of PPEs, and one-fourth (25%) reported forgetting the steps of donning and doffing process. This finding suggests that necessary steps needs to be taken, to train this group of HCWs, explaining them the steps, at a slower pace, in their local languages, providing them "hands-on" training prior to joining duty and taking feedback from them after training process might be useful. Although most of these are being followed, yet these needs to be done with more emphasis so as to help this group of HCWs in learning the infection control and safety measures well. In other words, the training of PPEs and infection control measures should be tailor made keeping in mind

the cognitive sophistication of the category of HCWs. One way to do this could be making small videos of this group of HCWs doing doffing and donning and then using the same to provide feedback may be more useful because they would be able to relate with the same in a better way, rather than showing videos of doffing and donning done by the doctors and nurses.

More than half of the participants also reported of work overload and hectic duty shifts and majority of the participants reported feeling uncomfortable and “dizzy,” having headache, and feeling thirsty during duty hours while in PPEs. These issues need to be looked upon from administrative point of view so as to prevent burnout and protect this group of staff from getting exposed due to intolerability issues and health care issues related to PPEs which are not unknown.<sup>17,18</sup>

This study has certain limitations, such as small sample size, limiting the assessment to a single center and using an interview-based approach, rather than using a self-report measure. It is possible that self-report measure could have given slightly different findings. Despite all these limitations, it can be said that it is the first study to evaluate the psychosocial issues among the HAs and SAs involved in COVID-19 duties. The findings of the present study needs to be duly acknowledged so as to help this group of HCWs who are equally stressed and are facing psychological problems as other HCWs (doctors and nurses).

To conclude, the present study reveals that overall prevalence of anxiety and depression (mild in severity) to be 25% among the HAs and SAs. However, a significant proportion of participants had negative emotional states during COVID-19 duty period and while under quarantine. Further, majority reported significant and genuine problems related to PPEs usage and infection control measures. Timely steps in the form of appropriate mental health support as well as adequate counseling and reassurance during training can prove beneficial in allying the concerns of this group of HCWs engaged on COVID-19 duties.

## 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.

## ACKNOWLEDGMENTS

We sincerely acknowledge the contribution of all the healthcare professionals involved in the care of the patients with COVID-19 admitted at Nehru Extension Block, Postgraduate Institute of Medical Education and Research, Chandigarh, India.

## REFERENCES

- 90,000 healthcare workers infected with COVID-19: ICN [Internet]. [cited 2020 May 24]. Available from: <https://www.aa.com.tr/en/europe/90-000-healthcare-workers-infected-with-covid-19-icn/1831765>.
- In Memoriam: Healthcare Workers Who Have Died of COVID-19 [Internet]. Medscape. [cited 2020 May 24]. Available from: <http://www.medscape.com/viewarticle/927976>.
- Jewett C, News LS] KH. Coronavirus is killing far more US health workers than official data suggests. The Guardian [Internet]. 2020 Apr 15 [cited 2020 May 24]; Available from: <https://www.theguardian.com/us-news/2020/apr/15/coronavirus-us-health-care-worker-death-toll-higher-official-data-suggests>.
- Zhan M, Qin Y, Xue X, et al. Death from COVID-19 of 23 health care workers in China. *N Engl J Med* 2020;382(23):2267–2268. DOI: 10.1056/NEJMc2005696.
- Chatterjee SS, Bhattacharyya R, Bhattacharyya S, et al. Attitude, practice, behavior, and mental health impact of COVID-19 on doctors. *Indian J Psychiatry* 2020;62(3):257. DOI: 10.4103/psychiatry.IndianJPsychiatry\_333\_20.
- Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open* [Internet] 2020;3(3):e203976. DOI: 10.1001/jamanetworkopen.2020.3976. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7090843/>.
- Ni MY, Yang L, Leung CMC, et al. Mental health, risk factors, and social media use during the COVID-19 epidemic and cordon sanitaire among the community and health professionals in Wuhan, China: cross-sectional survey. *JMIR Ment Health* 2020;7(5):e19009.
- Rossi R, Socci V, Pacitti F, et al. Mental health outcomes among front and second line health workers associated with the COVID-19 pandemic in Italy. *medRxiv* 2020. DOI: 10.1101/2020.04.16.20067801.
- Zhang W, Wang K, Yin L, et al. Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in china. *Psychother Psychosom* 2020(4):1–9. DOI: 10.1159/000507639.
- Xiang Y-T, Yang Y, Li W, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry* 2020;7(3):228–229. DOI: 10.1016/S2215-0366(20)30046-8.
- Kinman G, Teoh K, Harriss A. Supporting the well-being of healthcare workers during and after COVID-19. *Occup Med* [Internet] 2020. Available from: <https://academic.oup.com/occmed/advance-article/doi/10.1093/occmed/kqaa096/5840707>.
- Central Pollution Control Board, Ministry of Environment, Forest and Climate Change. Guidelines for handling, treatment and disposal of waste generated during treatment/diagnosis/quarantine of COVID-19 patients. Central pollution Control Board, Government of India; 2020.
- Ministry of Health and Family Welfare. Environmental cleaning, disinfection and bio-medical waste management. National training of trainers for COVID-19. Ministry of Health and Family Welfare, GOI; 2020.
- Kroenke K, Spitzer RL, Williams JBW. The PHQ-9. *J Gen Intern Med* 2001;16(9):606–613. DOI: 10.1046/j.1525-1497.2001.016009606.x.
- Spitzer RL, Kroenke K, Williams JBW, et al. A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006;166(10):1092–1097. DOI: 10.1001/archinte.166.10.1092.
- Roycroft M, Wilkes D, Pattani S, et al. Limiting moral injury in healthcare professionals during the COVID-19 pandemic. *Occup Med* [Internet]. 2020. Available from: <https://academic.oup.com/occmed/advance-article/doi/10.1093/occmed/kqaa087/5840700>.
- Loibner M, Hagauer S, Schwantzer G, et al. Limiting factors for wearing personal protective equipment (PPE) in a health care environment evaluated in a randomised study. *PLoS ONE* [Internet] 2019;14(1). DOI: 10.1371/journal.pone.0210775. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6342303/>.
- Ong JYJ, Bharatendu C, Goh Y, et al. Headaches associated with personal protective equipment – A cross-sectional study among frontline healthcare workers during COVID-19. *Headache J Head Face Pain* 2020;60(5):864–877. DOI: 10.1111/head.13811.