



Original Research Article

Psychological assessment of paramedical staff working in COVID-19 ward

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ABSTRACT

Background: In a densely populated country like India, the COVID-19 pandemic poses a major concern in front of the already overworked healthcare workers. Paramedical staff deals with patients of COVID-19 throughout their stay in the hospital and hence these workers are susceptible to the psychological changes followed by this stressful exposure. If these symptoms are dealt with in a professional manner and if they receive proper care then their work efficiency will improve immensely.

Materials and Methods: A cross-sectional study was carried out in 65 consecutively selected paramedical staff including 45 nurses and 20 attendants. They were interviewed telephonically after taking their informed consent. Data was collected using semi-structured proforma, Hamilton Anxiety Rating Scale (HAM-A) and Hamilton Depression Rating Scale (HAM-D). Statistical analysis was done using mean, chi square test.

Results: Statistically significant difference was found between married and unmarried participants in total Ham-A score (mean score 7.75 in married and 3.85 in unmarried, $P=0.0008$); insomnia early in the night (28.57% in married and 61.36% in unmarried, $P=0.033$); anxiety psychic (76.19% in unmarried and 84.09% in married; $P=0.004$); anxiety somatic (61.9% in unmarried and 84.09% in married, $P=0.012$); Somatic symptoms gastrointestinal (19.05% in unmarried and 61.36% in married, $P=0.006$); general somatic symptoms (28.57% in unmarried and 68.18% in married, $P=0.006$); HAM-D total score (mean score 2.90 in unmarried and 6.06 in married, $P=0.0003$).

Conclusion: 1. Paramedical staff working in COVID-19 wards are susceptible for psychological symptoms; 2. Anxious mood was the most common symptom reported.

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1. Introduction

Some cases of pneumonia of unknown etiology found in Wuhan City of Hubei province were reported to the China office of World Health Organization (WHO) on December 31, 2019. This disease was later called as the coronavirus disease 2019 (COVID-19) by the WHO. It was declared as a global pandemic on March 11, 2020.

Healthcare workers on the front line who are directly involved in the diagnosis, treatment, and care of patients

suffering from COVID-19 are at risk of developing psychological distress and other mental health symptoms.¹

It has been seen previously that infectious disease outbreaks tend to have a psychological impact on healthcare workers as well as the general population.² A notable example would be the psychological sequelae observed during the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003.

Various studies are being conducted worldwide to assess the mental health of healthcare workers responding to the current pandemic. Still, there is a dearth of data regarding

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the same in the Indian population.

Worries of healthcare workers can include the risk of infecting themselves and others; the misinterpretation of symptoms of other diseases (e.g., a cold) as symptoms of COVID-19 disease with resulting fears of being infected; and caring for family members and children who are alone at home.³

2. Materials and Methods

This was a cross-sectional single interview study carried out in a tertiary care hospital over a period of 3 months. Study was conducted after taking permission from the institutional ethics committee. 65 consecutive paramedical staff including nurses and attendants working in the COVID-19 wards and willing to be a part of study were included. Participants were interviewed during their time of post duty quarantine.

This study aimed at studying anxiety and depressive symptoms in them and to find the correlation, if any of various socio-demographic factors with anxiety and depression. Each participant was individually interviewed telephonically using a semi-structured proforma prepared for the study which included socio-demographic profile, clinical and psychiatric profile. To assess various domains of anxiety, Hamilton Anxiety Rating Scale (HAM –A) was administered. The scale consists of 14 items, which measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56, where <17 indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe. With inter-rater reliability being 0.92. Scoring internal consistency: Y alpha=0.77 to 0.92.⁴ The Hamilton Depression Rating Scale (HDRS), abbreviated HAM-D, is a multiple item questionnaire used to provide an indication of depression and as a guide to evaluate recovery. Each item on the questionnaire is scored on a 3- or 5-point scale, depending on the item, and the total score is compared to the corresponding descriptor. A score of 0–7 is generally accepted to be within the normal range, while a score of 20 or higher indicates moderate severity. High levels of reliability (ra = .91 to .94, rtt = .95 to .96) are present.⁵

3. Results

Out of the total 65 participants, 45 were nurses and 20 were attendants. Mean age of nurses was 30.91 years (SD=5.83) and that of attendants was 38.8 years (SD=9.58). 86.67% of nurses and 50% of the attendants were female. Average number of days for which duty was done was 8.

97.78% of the nurses had completed nursing diploma and 2.22% were graduates. 46.47% of the attendants had completed education up to Higher Secondary (HSSC).

37.78% of the nurses and 80% of the attendants were married.

3.1. Comparison of anxiety items

Average HAM-A score was 6.49. Anxious Mood was reported by 81.53% participants out of which 18.46% reported mild, 47.69% reported moderate and 15.38% reported severely anxious mood. 48.89% of nurses and 45% attendants reported moderately anxious mood.

Insomnia was reported by 61.53% participants including 55.56% of nurses and 75% of attendants.

3.2. Comparison of depression items (mood, insomnia, symptomatic) and occupation

Average HAM-D score was found to be 5.046.

50.07% participants reported insomnia early in the night which included 42.22% nurses and 70% attendants. Insomnia in the middle of the night was reported by 0.2% participants which included 20% nurses and 26.67% of attendants. Anxiety psychic was reported by 81.53% participants. 20% of the participants reported mild, 52.31% moderate and 9.23% reported severe anxiety psychic.

3.3. Comparison between married and unmarried group

Statistically significant difference was found between married and unmarried participants in total HAM-A score (mean score 7.75 in married and 3.85 in unmarried, P=0.0008); insomnia early in the night (28.57% in married and 61.36% in unmarried, P=0.033); anxiety psychic (76.19% in unmarried and 84.09% in married; P=0.004); anxiety somatic (61.9% in unmarried and 84.09% in married, P= 0.012); Somatic symptoms gastrointestinal (19.05% in unmarried and 61.36% in married, P=0.006); general somatic symptoms (28.57% in unmarried and 68.18% in married, P=0.006). A HAM-D total score (mean score 2.90 in unmarried and 6.06 in married, P=0.0003).

4. Discussion

In this study, there was a statistically significant difference found between married and unmarried participants with respect to their total anxiety scores in HAM-A. Married participants explained the reasons behind their anxiety mainly being the worry of infecting family members including spouses, children and elderly relatives. They also reported worries regarding future monetary issues in case of contracting the infection by themselves or by family members.

Participants also reported worries because of the novelty of the COVID-19 disease and due to lack of sufficient data regarding the same.

Table 1: Demographic characteristics of participants by their occupation

Characteristic		Occupation				p value
		Staff Nurses (n= 45)		Attendant (n= 20)		
		No.	%	No.	%	
Age-Group (years)	18 to 29	24	53.33	4	20.00	0.003 (S)
	30 to 45	20	44.44	11	55.00	
	46 to 60	1	2.22	5	25.00	
	Mean ± SD	30.91 ± 5.83		38.8 ± 9.58		
Gender	Male	6	13.33	10	50.00	0.002 (S)
	Female	39	86.67	10	50.00	
	Illiterate	0	0	1	6.67	
Education	Up to SSC	0	0	6	40.00	0.001 (S)
	HSSC	0	0	7	46.67	
	Diploma	44	97.78	0	0.00	
	Graduate	1	2.22	1	6.67	
Marital status	Married	17	37.78	16	80.00	0.157 (NS)
	Unmarried	28	62.22	4	20.00	

Table 2: Comparison of anxiety items (mood, insomnia, symptomatic) and occupation

Variables	Status	Comparison of Anxiety items by occupation				p value
		Staff Nurses		Attendant		
		No.	%	No.	%	
Anxious Mood	None	9	20.00	3	15.00	0.541 (NS)
	Mild	9	20.00	3	15.00	
	Moderate	22	48.89	9	45.00	
	Severe	5	11.11	5	25.00	
Insomnia	Present	25	55.56	15	75.00	0.330 (NS)
	Absent	20	44.44	5	25.00	
Somatic (Muscular) symptoms	Present	17	37.78	8	53.33	0.753 (NS)
	Absent	28	62.22	12	80.00	
Somatic (Sensory) symptoms	Present	11	24.44	3	15.00	0.393 (NS)
	Absent	34	75.56	17	85.00	
HAM-A Total	Mean ± SD	6.09 ± 4.58		7.4 ± 4.41		0.285 (NS)

Table 3: Comparison of Depression items by occupation

Variables	Status	Occupation				p value
		Staff Nurses		Attendant		
		No.	%	No.	%	
Depressed Mood	Mild	1	2.22	0	0.00	0.502 (NS)
	None	44	97.78	20	100.00	
Insomnia (early in the night)	Present	19	42.22	14	70.00	0.085 (NS)
	Absent	6	13.33	6	30.00	
Insomnia (middle in the night)	Present	9	20.00	4	26.67	0.591 (NS)
	Absent	36	80.00	16	106.67	
Insomnia (early hours of the morning)	Present	0	0.00	2	10.00	0.098 (NS)
	Absent	45	100.00	18	90.00	
Somatic Symptoms (GI)	Present	20	44.44	11	55.00	0.541 (NS)
	Absent	25	55.56	9	45.00	
HAM-D Total	Mean ± SD	4.71 ± 3.53		5.8 ± 3.24		0.244 (NS)

In a study conducted by Survanshi N. et al (2020) in hospitals from Maharashtra, 197 healthcare professionals were assessed and their findings included anxiety symptoms reported by 50% participants, depressive symptoms by 47%.⁶ Our study found higher prevalence of anxiety (mild) (81.54%) and a lower prevalence of depressive symptoms (mild) (23.08%) as compared to this study.

Gupta et al conducted a study consisting of 1124 healthcare workers, including 749 doctors, 207 nurses, and 135 paramedics. The prevalence of anxiety and depressive symptoms was found to be 37.2% and 31.4%, respectively. Female gender (30.6% vs 45.5%), age group (20-35 years) (50.4% vs 61.2%), unmarried (21.2% vs 30.6%) and job profile (nurse) (14.7% vs 26.4%) were identified as the risk factors for anxiety.⁷ The gender related findings were congruent and marital status related findings were not congruent to those of our study.

Chew et al conducted a study including 906 healthcare workers; out of which 48(5.3%) were found to have moderate to very-severe depression, 79(8.7%) for moderate to extremely-severe anxiety, 20(2.2%) for moderate to extremely-severe stress, and 34(3.8%) for moderate to severe levels of psychological distress.²

Lai et al carried out a study in 1257 participants including 764 (60.8%) nurses, and 493 (39.2%) physicians. Symptoms of depression (634 [50.4%]), anxiety (560 [44.6%]), insomnia (427 [34.0%]), and distress (899 [71.5%]) were outlined by a significant number of participants.¹

Jizheng et al (2020) conducted a study in 246 healthcare workers and found the incidence of anxiety among them to be 23.04% (53/230). Out of these, the incidence of severe anxiety, moderate anxiety and mild anxiety were reported as 2.17% (5/230), 4.78% (11/230) and 16.09% (37/230), respectively. The incidence of anxiety among nurses was found to be more than that of doctors [26.88% (43/160) to 14.29% (10/70)].⁸

Silva et al carried out a meta-analysis of data available about the symptoms of anxiety, depression and insomnia. They came to the conclusion that, health professionals working against COVID-19 are being more gravely affected by psychiatric disorders associated with depression, anxiety, distress and insomnia, stress, and indirect traumatization than other occupational groups.⁹

5. Conclusion

The paramedical staff working in the COVID 19 wards are susceptible to develop psychological symptoms in the form of anxiety, depression and insomnia.

Prevalence of mild anxiety as per HAM-A was 81.54%. Anxious mood and insomnia were the most common symptoms reported.

Married participants reported mild anxiety symptoms more commonly as compared to unmarried participants.

Prevalence of mild depression as per HAM-D was 23.08%.

Anxiety symptoms were reported more commonly as compared with depressive symptoms.

Psychological assessment is required prior to posting healthcare workers for COVID-19 duties, and they should be oriented about the psychological effects of working in a COVID-19 ward.

6. Limitations

This study was based in a single tertiary care hospital with a considerably small sample size. Interviews were conducted telephonically therefore there is a higher chance of variation in symptom assessment.

7. Source of Funding

None.

8. Conflict of Interest

The authors declare that this research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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