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Evaluation of depression, anxiety and stress among nurses working in a South Indian Covid Hospital – A cross sectional study

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Abstract
Background: The corona virus disease2019 (COVID-19) pandemic has caused great financial and psychological havoc. Health care professionals (HCPs) are among the many groups of people who are in the frontline and facing a risk of direct exposure to the virus. This study aimed to assess the prevalence and predictors of stress, depressive, and anxiety symptoms in nurses worked in Covid care center.
Methods: It was a cross-sectional study. Anxiety, depression and stress among nurses working in Covid care centres was estimated by DASS21 scale.
Results: The study revealed that anxiety, depression and stress were the major psychological symptoms observed in nurses while working in Covid care center. There was no significant difference in all three psychic problems.
Conclusion: The prevalence of stress, depressive, and anxiety symptoms among HCPs in India during the pandemic is comparable with other countries.

Keywords: Pandemic, Covid-19, stress, anxiety, depression, prevalence, risk factors

Introduction
The emergence of the novel corona virus, severe acute respiratory syndrome corona virus (SARS CoV-2), causing the corona virus disease 2019 (COVID-19) over the turn of the year 2020 has wreaked havoc in the medical systems across the world [1]. This has put healthcare professionals (HCP) under tremendous pressures as they deal with many variables some of which are longer working hours, lack of personal protective equipment, lack of specific drugs and protocols, and being away from family. According to previous studies, during the outbreaks of severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS), frontline medical staff had reported high levels of stress that resulted in posttraumatic stress disorder (PTSD) [2, 3]. It was also found that HCPs considered resignation, faced stigmatization, [4] and feared contagion and spread to family and friends, resulting in high levels of stress, depression, and anxiety symptoms [5].

The main source of anxiety in nurses during the COVID-19 pandemic was fear of becoming infected or unknowingly infecting others (Mo *et al*., 2020) [6]. Shanafelt *et al*. (2020) [7] identified other sources of anxiety in nurses, including lack of personal protective equipment (PPE), fear of harbouring the novel corona virus at work, lack of access to COVID-19 testing, fear of transmitting the virus at work, doubt that their institution would support them if they became infected, lack of access to childcare facilities during lockdown, fear of being deployed in an unfamiliar ward or unit and lack of accurate information regarding the disease. While a low level of anxiety is helpful to motivate and arouse excitement in an individual, persistent exposure to anxiety may have negative consequences on their physio psychological health and work performance. A vast number of studies have highlighted the negative effects of higher levels of anxiety, including loss of desire to eat, dizziness, sleep disturbance and vomiting or nausea (Lee, 2020) [8]. Higher anxiety levels were also associated with impairment in some bodily functions, negative coping mechanisms (such as increased intake of alcohol or drugs), stress and depression and increased suicidal ideation (Lee *et al.*, 2020) [8].

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Further, unmanaged anxiety may lead to long-term effects on nurses' work performance and job satisfaction, leading to frequent absenteeism and eventual turnover (Lee *et al*., 2020) [8]. Implementing measures to reduce anxiety among nurses may prevent its adverse consequences and is vital to sustain a well-engaged nursing workforce.

To effectively address nurses' anxiety or fears of COVID-19, it is vitally important to support their mental, psychological and emotional health through evidence-based measures (Mo *et al*., 2020). Personal resilience and social and organisational support were identified in the literature as vital factors protecting against adversity and stress by nurses, allowing them to maintain their mental well-being and psychological health. A person's capacity to 'bounce back' or recover quickly from a specific event, such as the COVID-19 pandemic (Cooper *et al.*, 2020), [9] along with support drawn from colleagues, managers, friends, families and the organisation (Maben & Bridges, 2020), [10] may help nurses effectively endure the burden caused by the pandemic. However, no studies have yet been conducted to examine whether and/or how personal resilience, social support and organisational support contribute to the reduction of anxiety related to COVID-19. Hence, this study was conducted to assess the causal relationships between personal resilience, social support, organisational support and COVID-19 anxiety.

Material and methods
➢ **Design of study:** Cross sectional study.
➢ **Population**: All the nurses working in the COVID hospital.
➢ **Inclusion Criteria**
• All nursing staff involved in the care of COVID-19 patients.
➢ **Exclusion Criteria**
• Past psychiatric history.
• Participants who do not give consent to take part in the study.
➢ **Mode of selection of subjects**: All the subjects who shall meet the fixed criteria will be selected for the study.
➢ **Sampling design:** purposive sampling
➢ **Sample Size:** 60

Methodology
Descriptive quantitative cross-sectional study will include nursing staff attending to COVID-19 patients. Participants who shall meet the fixed criteria will be taken into the study. After explaining about the study, informed consent will be taken from the participants and socio demographic details will be taken using a semi-structured proforma developed in the department of psychiatry.

Statistical analysis
DAS-21 scores obtained will be Statistical analysis with EPI Info software. Demographic characteristics were summarized using descriptive statistics such as frequency and percentages.
➢ **DAS 21**
 The DAS 21 is a self-assessment questionnaire designed to detect anxiety, depression symptoms along with the stress experienced by the individual. The degree of anxiety and depression is rated by the accumulated scores: score 0-7, indicating no anxiety or depression; score 8-10, indicating mild levels of anxiety or depression; score 11 -14, indicating moderate and score 15-21, indicating severe levels of anxiety or depression.
➢ **Planned study variables:** Age, Gender, marital status, Depression, Anxiety and Stress Scale - 21 Items
➢ **Measurements and methods to be used and techniques:** Depression, Anxiety and Stress Scale – 21.

Ethical issues: No risk.
1) Informed consent will be obtained.

Results

Table 1: Age distribution

Age in years	Number	%
18-29	15	25
30-45	35	58.33
46-60	10	16.66
Total	60	100

In our study, majority of the nurses belonging to the age group 30-45 (58.33%)

Table 2: Sex distribution

Age in years	Number	%
Male	02	3.33
Female	58	96.66
Total	60	100

Female nurses was dominant than male ones

Table 3: Educational Status

Education	Number	%
GNM	10	16.66
BSc	45	75
M.Sc	05	8.33
Total	60	100

In our study majority of nurses had B.sc qualification

Table 4: Marital status

Marital status	Number	%
Married	20	33.33
Unmarried	30	50
Widow	05	8.33
Seperated	05	8.33
Total	60	100

Out of 60, 30 (50%) nurses were unmarried followed by married ones (33.33%)

Table 5: Assessment of anxiety by DASS 21

Category	Number (N=60)	%
No anxiety	05	8.33
Mild	15	25
Moderate	30	50
Severe	10	16.66

50% of nurses showed moderate symptoms

Table 6: Assessment of Depression by DASS 21

Category	Number (N=60)	%
No Depression	03	5
Mild	17	28.33
Moderate	35	58.33
Severe	05	8.33

58.33% nurses had also shown moderate depression

Table 6: Assessment of stress by DASS 21

Category	Number (N=60)	%
No stress	04	6.66
Mild	16	26.66
Moderate	35	58.33
Severe	05	8.33

35 individuals found felt stress among 60 nurses

Discussion

This cross-sectional survey investigated the psychological impact of COVID-19 on hospital nurses in Covid care centre. Our study revealed that 50% and 58.33% nurses reported symptoms of anxiety and depression, respectively.

Transmission of COVID-19 often occurs in the hospital setting, as the transmission of COVID-19 frequently occurs through person-to-person contact and contaminated environmental surfaces (Rothan & Byrareddy, 2020) [11] Long-term care facilities, such as nursing care hospitals, are vulnerable to respiratory disease outbreaks, and recently, long-term care facilities in the United States have demonstrated their vulnerability to COVID-19 (McMichael *et al.*, 2020) [12]. Older adults are at high risk of infection in long-term care settings as rooms and bathrooms, which are often filled with microorganisms, are shared.

Once SARS-CoV-2 is introduced in a long-term care facility, it has the tendency to spread rapidly and widely. Knowledge of this fact may cause hospital workers in nursing care hospitals to feel vulnerable to exposure to the virus. Hospital workers in nursing care hospitals provide most of daily living care for patients, which frequently involve direct contact. Many patients in nursing care hospitals are bedridden, and direct contact with these patients is almost inevitable.

In addition, the closed environment of nursing care hospitals can also promote the transmission of COVID-19 and hospital workers and patients may inadvertently carry pathogens from one person to another (Lin *et al.*, 2011). The transmission may occur via direct contact through hands or indirect contact through air or contaminated objects (Tan, Hao, *et al.*, 2020) [13].

Several previous studies have reported the psychological impact of the COVID-19 on healthcare workers. One study (Lai *et al.*, 2020) [14] reported that the prevalence of depression and anxiety symptoms in healthcare workers who treated patients with COVID-19 in China was 50.4% and 44.7%, respectively. More than 70% of healthcare workers experience psychological distress.

Other recent studies (Chew *et al.*, 2020) [15] reported the presence of depression, anxiety, stress and psychological distress in healthcare workers in Singapore and India. The most common symptom was headache, with a prevalence of 32.3% (Chew *et al.*, 2020) [15]. The findings of our study also showed that nurses in Covid care had high prevalence of anxiety and depression. While caring for patients in nursing care hospitals, hospital workers may be exposed to COVID-19, which is potentially fatal. Understanding this reality may intensify their fears and sense of danger. Among infected health workers, 14.8% have been classified as being in severe or critical condition (Wu & McGoogan, 2020), [16] and hospital workers may be concerned about their well-being and the health of their families.

Conclusion

Our study has demonstrated that nurses in Covid care hospitals experience high levels of COVID-19-related psychological symptoms, including anxiety and depression. Comprehensive measures to assess and reduce the psychological stress of hospital workers are needed. Symptoms should be monitored with vigilance, and further intervention should be provided, if necessary. Additionally, hospital workers who are living with people with underlying diseases such as diabetes, hypertension, chronic kidney disease, heart disorders and stroke should be given special attention. Our study is limited in that we did not collect data on the mental health of the hospital workers who participated in our study. Similar studies that also evaluate the mental health of health workers during the COVID-19 epidemic are warranted.

Conflict of Interest: None

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