

Factors Contributing to Anxiety among Nurses in India during the COVID-19 Pandemic - A Brief Review

Revathy Githa Sasidharan¹, Vishnu Sukumaran Pillai²

^{1,2} Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andrapradesh, 517502

Email: revustarrevathy[at]gmail.com

Abstract: ***Background:** The COVID-19 pandemic has imposed unprecedented challenges on healthcare workers, particularly nurses, impacting their mental well-being. This systematic review synthesizes insights from ten studies conducted in India in 2020, aiming to understand the factors contributing to anxiety among nurses. **Method:** A rigorous methodology involved searching Google Scholar, PubMed, and Wiley, with strict inclusion criteria applied. The selected studies, employing diverse measuring scales, collectively comprised 4,270 healthcare workers, predominantly nurses. **Result:** The synthesis reveals nuanced factors such as demographic variables, personal protective equipment availability, work-related stressors, and pandemic-related fears contributing to anxiety. The review underscores the need for comprehensive tools for accurate assessments. **Conclusion:** While affirming heightened psychiatric impact, the review highlights variability in stress levels among healthcare workers, emphasizing the importance of tailored interventions. These insights contribute to strategies prioritizing the mental well-being of healthcare workers on the pandemic frontlines, offering crucial guidance for future support systems.*

Keywords: COVID-19 pandemic, healthcare workers, nurses, anxiety, factors

1. Introduction

The COVID-19 pandemic has unfolded as an unprecedented global crisis, challenging healthcare systems and frontline healthcare workers across the world. As of May 22nd, 2020, over 5.1 million laboratory-confirmed cases of COVID-19 have been reported in 195 countries out of which 1.5 million are in the US. Worldwide COVID-19 has resulted in over 333 thousand deaths out of which 94,000 have been in the U.S.A. Among these dedicated professionals, nurses play a pivotal role in providing care and support to those affected by the virus. The impact of the pandemic extends far beyond physical health, deeply affecting the psychological well-being of healthcare workers. In the context of India, the challenges faced by nurses have been examined across various studies, each shedding light on the contributing factors to anxiety during the COVID-19 pandemic^[1].

This review seeks to consolidate and synthesize the findings from ten critical studies conducted in India, which collectively provide a comprehensive understanding of the factors contributing to anxiety among nurses. These studies offer valuable insights into the intricate web of stressors and challenges that healthcare workers, particularly nurses, face on the frontlines of the pandemic.

2. Background

The COVID-19 pandemic, caused by the Novel corona virus SARS-CoV-2, has rapidly evolved into a global public health crisis, with far-reaching implications for healthcare systems, economies, and societies worldwide. Since its emergence in late 2019, the virus has posed unprecedented challenges to healthcare workers, particularly nurses who are at the forefront of patient care. As the world is battling the COVID-19 pandemic, frontline healthcare workers (HCWs) are among the most vulnerable groups at risk of mental

health problems. The many risks to the well-being of HCWs are not well understood^[2].

The role of nurses in the healthcare system is pivotal, involving direct patient care, administration of treatments, and emotional support for patients and their families. During the pandemic, nurses have faced several daunting tasks. Most frontline workers agonize about the infection itself, being a carrier of the infection, concerns over the adequacy of protection, access to healthy and tasty food, and separation from families. In addition to the professional anxieties, nurses also have personal concerns, which have exacerbated the psychological strain they experience. Recent evidence suggests that individuals who are kept in isolation and quarantine experience significant distress in the form of anxiety, anger, confusion, and post-traumatic stress symptoms.

Simultaneously, interventions to reduce transmission of the virus from patients by proper usage of adequate personal protective equipment (PPE) have been hampered by shortages of the same^[3]. Female nurses with close contact to COVID-19 patients appeared to have the highest mental health risks^[4].

As we delve into the mental health challenges faced by nurses during the COVID-19 pandemic, it is crucial to understand the multifaceted factors contributing to anxiety and psychological distress. These factors include gender disparities, living arrangements, educational qualifications, marital status, access to PPE, and past experience in dealing with epidemics. While a growing body of research has examined the psychological impact of the pandemic on healthcare workers, including nurses, in the Indian context, the findings are not uniform, and the studies have identified various determinants of psychological distress among nurses. Understanding these factors is essential to implement

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targeted interventions and support systems that mitigate the mental health challenges nurses encounter, ensuring their well-being during the ongoing pandemic and beyond.

This systematic review aims to synthesize and critically analyze the existing body of literature to provide a comprehensive understanding of the factors contributing to anxiety among nurses in India during the COVID-19 pandemic. By integrating the insights from multiple studies, we seek to offer a holistic perspective that will inform strategies, interventions, and support systems to address the multi-dimensional nature of the challenges faced by nurses on the frontlines. Our objective is to contribute to the collective efforts aimed at safeguarding the mental well-being of healthcare workers, particularly nurses, as they continue to serve on the frontlines of the COVID-19 pandemic.

3. Methods

The systematic review methodology involved a comprehensive search of Google Scholar, Pub Med and wiley, applying strict inclusion and exclusion criteria. Included studies examined the mental health impact of COVID-19 on Indian healthcare workers (HCWs), specifically nurses, during 2020. Exclusion criteria involved studies unrelated to pandemics or the mental health of HCWs, those conducted outside India, and systematic reviews. Two independent reviewers meticulously assessed titles, abstracts, and full texts for study selection.

Data from selected studies were meticulously extracted, focusing on study details, methodologies, sample sizes, and key findings regarding anxiety among Indian nurses during the COVID-19 pandemic. Selected studies underwent rigorous evaluation for methodological quality and risk of bias. The finding were tabulated as follows

S.No	Authors	Type of study	Study population	Study Tool	Methodology	Factors contributing to anxiety
1.	Gupta, B.etal.,2020 ^[5]	Cross-sectional design	368 (140 nurses)	7-item Generalized Anxiety Disorder (GAD-7) scale, a single-item Sleep Quality Scale to measure sleeps quality.	online survey.	Gender, Age, Availability of Personal Protective Equipment (PPE)
2.	Suryavanshi,N.etal., (2020) ^[6]	Cross-sectional design	197 (47 nurses)	A structured survey questionnaire[GAD-7,a one-item quality of life (QoL-1) visual analogue scale, mental stress were assessed using a multiple-choice question]	online survey.	Work-related stressors, Workload and patient-related stress, Discrimination from co-workers or family members, Isolation and uncertainty related to the epidemic, Fear of infecting family members.
3	Raj,R.etal.,2020 ^[7]	Cross-sectional design	300 (80 nurses)	structured questionnaire	Online survey	Fear of Covid 19 pandemic
4	Jithin Thomas Parel et al. (Year: 2020) ^[8]	Cross-sectional design	1131 nurses	Structured questionnaire include (socio-demographic variable)Depression, Anxiety, and Stress Scale (DASS-21).	online survey	Professional Concerns: Risk of infection due to close contact with patients, shortages of PPE, extended duty hours, the absence of standardized protocols, and the emotional toll of witnessing patient deaths. Personal Worries, Gender Disparities.
5	Wilson W.,etal (2020) ^[9]	Cross-sectional design	350 (55 nurses)	Cohen's perceived stress scale. Depression and anxiety were assessed using the tools Public Health Questionnaire—9 and Generalized Anxiety Disorder—7.	online survey.	Pandemic-Related Stress, the shortage of personal protective equipment, Gender Disparities, Loneliness and Living Arrangements, burnout, limited staff and resources.
6	Mathur, S.,etal(2020) ^[10]	Cross-sectional design	200 (26 nurses)	Adjustment Disorder New Module (ADNM-6) Depression, Anxiety, and Stress Scales (DASS-21)	online survey	demographics, quarantine experiences, and the timing of data collection
7	Tan, B., etal 2020 ^[11]	Cross-sectional design	470(161 nurses)	DASS-21 and the Impact of Events Scale-Revised (IES-R)	Online survey	Less anxiety than non-medical persons due to reduced accessibility to psychological support, less access to first-hand medical information on the outbreak, and less intensive training on personal protective equipment and infection control measures. Educational interventions and psychological support are recommended for this vulnerable group to address psychological distress.
8	Sharma SK.,etal 2020 ^[12]	Cross-sectional design	354 nurses	Hospital Anxiety and Depression Scale (HADS) and the World Health Organization Quality of Life-	Online survey	Age, Gender, and Time in COVID Units .

				BREF (WHOQOL-BREF)		
9	Jacob J., etal 2020 ^[13]	Cross-sectional design	700 (87.4 %nurses)	Depression, Anxiety, and Stress Scale (DASS-21), screener for somatoform disorder (SSD).	Online survey	Gender, Inadequate Personal Protective Equipment (PPE), Constrained Infrastructure, Fear of Infection, living with high-risk family members
10	Avadhani, V. D.,etal 2020 ^[14]	Cross-sectional design	200 nurses	self-administered questionnaire general questions& Depression, Anxiety, and Stress Scale (DASS-21)	Online survey	dealing with at-risk patients and family members, managing household responsibilities and childcare, high duty schedule

4. Result and Discussion

The systematic review meticulously screened 50 studies and, based on stringent inclusion criteria, distilled them down to a final selection of 10. All chosen studies were cross sectional in design and relayed on online surveys as the primary data collection method. The cumulative sample size across these studies comprised 4,270 healthcare workers, with a substantial subset of 2,606 being nurses.

In terms of the instruments used to measure anxiety, 5 out of the 10 studies employed the DASS 21 scale, while 3 utilized the GAD scale. One study adopted the HAD scale, and some studies incorporated structured questionnaires to gauge anxiety levels among healthcare workers.

The synthesis of findings across these studies revealed a nuanced understanding of the factors contributing to anxiety among nurses in the Indian context during the COVID-19 pandemic. The intensity of anxiety were consistently documented through various measuring scales, shedding light on the multifaceted challenges faced by healthcare workers, particularly nurses, on the frontline.

The use of diverse measuring scales highlights the complexity of anxiety as a construct and emphasizes the importance of employing comprehensive tools for accurate assessments. The systematic review provides a consolidated overview of the mental health landscape among healthcare workers in India during the pandemic, with a specific focus on nurses, offering valuable insights for future interventions and support systems tailored to their unique challenges.

The ten selected studies revealed a nuanced understanding of the factors contributing to anxiety among healthcare workers, particularly nurses, during the COVID-19 pandemic. Notably, the identified factors were consistent across multiple studies, providing a robust foundation for discussion.

4.1. Demographic Variables

Age and gender emerged as pivotal demographic variables influencing anxiety levels, with four studies (Studies 1, 2, 4, and 5) consistently highlighting their significance. The age-related variations and gender disparities in anxiety underscore the need for tailored interventions considering the diverse demographic profiles of healthcare workers.

4.2. Protective Equipment Availability

The availability of Personal Protective Equipment (PPE) during the COVID-19 pandemic was identified as a critical

factor in four studies (Studies 1, 2, 4, and 5). Insufficient access to PPE not only heightened anxiety but also underscored the essential role of adequate protective measures in maintaining the mental well-being of healthcare workers.

4.3. Work-related Stressors

Study 2 delved into the interconnected nature of work-related stressors, workload, discrimination, isolation, and the fear of infecting family members. This study highlighted the multifaceted challenges faced by healthcare workers, emphasizing the need for comprehensive support systems to address these stressors collectively.

4.4. Fear of the Pandemic

Unique to Study 3, the fear of the COVID-19 pandemic itself was identified as a standalone contributor to anxiety. This finding emphasizes the broader psychological impact of the pandemic on healthcare workers, transcending specific work-related concerns.

4.5. Professional Concerns and Personal Worries

Studies 4 and 5 provided insights into the professional concerns and personal worries of healthcare workers, including risks of infection, shortages of PPE, and the emotional toll of witnessing patient deaths. Gender disparities were also highlighted, emphasizing the need for gender-sensitive interventions.

4.6. Pandemic-related Stress

Study 5 encapsulated pandemic-related stress, shortage of PPE, loneliness, burnout, and challenges related to limited staff and resources. This comprehensive approach shed light on the collective burden faced by healthcare workers, necessitating systemic changes to alleviate stressors.

4.7 Demographics, Quarantine Experiences, Timing of Data Collection

Studies 6, 7, 8, and 9 introduced nuanced factors such as demographics, quarantine experiences, and the timing of data collection. These variations highlighted the importance of considering individual circumstances and contextual factors in understanding anxiety among healthcare workers.

4.8 Unique Challenges

Study 10 delved into unique challenges, including dealing with at-risk patients, managing household responsibilities

and childcare and high-duty schedules. These specific challenges underscored the diverse experiences of healthcare workers and the need for tailored support mechanisms.

Our systematic review aligns with prior research, particularly Naushad et al.'s study^[15], emphasizing the heightened risk of adverse psychiatric impact among healthcare workers (HCWs) in emergency units, intensive care units, and infectious disease wards. Our current review reaffirms this vulnerability among HCWs, indicating a pervasive nature of adverse psychiatric outcomes in this professional cohort.

However, our results reveal nuances, especially for front-line health workers. While one study in our review suggests a higher risk for front-line workers compared to their peers, another study presents contradictory evidence, finding no significant difference in stress levels based on the department of work.

5. Conclusion

In summary, our systematic review of ten selected studies unveils key contributors to anxiety among healthcare workers, particularly nurses, during the COVID-19 pandemic. Demographic factors, availability of protective equipment, and interconnected work-related stressors emerged as central themes. The nuanced findings underscore the necessity for tailored interventions, recognizing the diverse challenges faced by healthcare professionals. While echoing prior research on heightened psychiatric impact, our review emphasizes the variability in stress levels, urging targeted support systems. This insight aims to inform strategies that prioritize the mental well-being of healthcare workers, crucial for their resilience on the pandemic frontlines.

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