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Original Article

Assessing Anxiety and Depression among ICU Nurses' Caring for Psychiatric Clients during COVID-19 Outbreak

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ABSTRACT

Worldwide the health systems are under unprecedented pressure of coronavirus disease 2019 (COVID-19), with Intensive Care Unit (ICU) nurses on the front line not only experiencing physical but also psychological challenges. The current study examines the psychological distress experienced by ICU nurses handling psychiatric clients during a global epidemic, with a focus on anxiety and distress scores evaluated by utilizing the Hospital Anxiety and Depression Scale (HADS). The research, carried out in multiple hospitals using a cross-sectional survey of 300 ICU nurses, assessed their experiences through HADS examinations. The results reveal that 45 percent of the nurses exhibited clinically significant anxiety levels, while 40 percent demonstrated abnormal levels of depression. Younger, less experienced nurses reported more psychological distress, as did those caring for a larger number of psychiatric patients. The results underscore the significance of dedicated mental health assistance also tailored education for ICU nurses, particularly those caring for mentally ill patients in a respiratory isolation ward or other high-pressure setting. These outcomes emphasize the importance of measures to help healthcare professionals cope with mental health issues during global health crises.

Introduction

The COVID-19 plague has significantly influenced the psychological health of psychiatric clients as well as ICU nurses, as evidenced by elevated levels of anxiety and depression. This

period has been characterized by increased psychological distress among ICU staff, particularly nurses, according to research. Ishigami et al. (2024) found that 38.6% of ICU personnel reported anxiety, with nursing technicians reporting the highest rates at 42.2%. According to longitudinal data, the occurrence of depression and anxiety indications amongst nurses increased considerably over two years, culminating in rates of 33.7% for depression and 26.4% for anxiety by the conclusion of the study (Grasmann et al., 2024).

According to Roger et al. (2024), 22.8% of ICU staff reported anxiety, with variables such as dread of managing COVID-19 patients and lack of instruction contributing to these emotions. Viral epidemics and pandemics adversely manipulate the emotional comfort of healthcare professionals (Cabarkapa et al., 2020). Because they work in high-risk environments, subjectively perceive a high level of threat, experience significant work stress, and sometimes have inadequate expertise, their mental health is particularly vulnerable (Serrano-Ripoll et al., 2020). Holmes et al. (2020) stress that key healthcare professionals are a particularly vulnerable demographic during pandemics, as they may experience anxiety regarding infection and lack access to support systems. A high subjective burden likely correlates with a high risk of virus exposure, patient anxiety, high future concerns, and a heavy caseload (Kramer et al., 2021). Additionally, difficult emotions and the observation of critical end-of-life decisions in patients exacerbate depression symptoms (Azoulay et al., 2020).

Researchers discovered that among healthcare workers, the combined prevalence of anxiety and depression was 23.2% and 22.8%, respectively, according to meta-analyses mainly examining data from China during the early months of the pandemic (Pappa et al., 2020). Furthermore, those workers who treated COVID-19 patients experienced slightly higher rates of anxiety (25.8%) and depression (24.3%) (Salari et al., 2020).

A systematic review of studies from Europe, North America, and Australia revealed distressingly high levels of anxiety and depression, with prevalence rates rising to 65.2% and 57.9% in areas significantly affected by the initial wave of the pandemic (Kunz et al., 2021). Various studies from across Europe, including research conducted in France (Azoulay et al., 2020), the United Kingdom (Wanigasooriya et al., 2020), Germany (Morawa et al., 2021; Skoda et al., 2020), Italy (Lasalvia et al., 2020; Rossi et al., 2021), and Spain (Alonso et al., 2022), have also shown an increase in anxiety and depression following the first wave of COVID-19.

According to Lee et al. (2023), the overall rates of depression and anxiety were found to be 28.5% and 28.7%, respectively, in a meta-analysis of studies published between January 2020 and February 2022. Patients with psychiatric conditions in the ICU present unique challenges, as the stress of being in an intensive care setting can worsen existing mental health issues, like anxiety and depression. The isolation measures implemented during the pandemic, including restricted communication and visitation with family members, further exacerbated their mental health. 64.29% and 10% of COVID-19 patients, respectively, reported anxiety and depression, and their symptoms significantly worsened after the infection. The stressors of the pandemic have exacerbated pre-existing mental health conditions, resulting in a greater need for treatment (Praun et al., 2024).

Consequently, ICU nurses were obligated to address the psychological requirements of these patients in addition to managing their physical health, frequently without the necessary training or support. This research aimed to examine the influence of COVID-19 upon the mental health of ICU nurses, with a particular emphasis on those who provide care for psychiatric patients. The researcher assessed the prevalence of anxiety and depression among healthcare professionals by employing HADS.

Methodology

Study Design

A cross-sectional study design was adopted to evaluate the influence of COVID-19 on intensive care unit (ICU) nurses' psychological health who managed mentally ill patients. A questionnaire was administered to ICU nurses from various hospitals, concentrating on those who actively treated patients with mental disorders during the pandemic. The Hospital Anxiety and Depression Scale (HADS) have been utilized as the main instrument to evaluate the anxiety and depression prevalence among recruited participants. Hospital environments, particularly during emergencies like the COVID-19 epidemic, have extensively validated the scale, establishing its suitability for evaluating the emotional well-being of ICU nurses.

Sampling and Participants

1. The study particularly targeted intensive care unit (ICU) nurses actively involved in providing care to psychiatric clients during the COVID-19 outbreak. The criteria for participant inclusion were:
   Nurses who have performed their duty at least one month in a psychiatric intensive care unit during COVID-19 outbreak.
2. Nurses who have administered care to individuals with mental illness during the pandemic.
   Nurses who willingly agreed to take part in this research by filling out an online questionnaire.

Hospital networks, social media platforms, and nursing organizations conducted the recruitment process. The researchers used convenience sampling to enlist participants, extending invitations to nurses via email and social media platforms. Participants were not provided any incentives, whereas volunteer participation was optional. To ensure adequate representation, a sample size of 300 nurses was the intended goal, aiming to achieve a minimum response rate of 70%. The sample size was determined by synthesizing data from other research that used HADS for psychological evaluations, ensuring that the findings would have sufficient statistical power to identify significant variations in anxiety and depression levels.

Data Collection

The data-gathering procedure included disseminating a comprehensive online survey to participants. The survey was accessible for two weeks, during which participants may

retrieve the questionnaire by using a secure hyperlink supplied to their email addresses or by connecting with nursing organization networks. To ensure convenient accessibility and usability, the survey was created using an internet-based platform like Google Forms. The survey consisted of two primary sections:

Population Demographic Overview

Data in this area included information on participants' age, gender, years of experience in the intensive care unit (ICU), number of psychiatric patients treated during the epidemic, and any personal history of mental health problems.

The HADS questionnaire consisted of 14 questions out of which 7 items measuring anxiety (HADS-A) and 7 items measuring depression (HADS-D). Each item was evaluated using a 4-point Likert scale, with answers ranging from 0 (indicating no occurrence) to 3 (indicating frequent occurrence). The cumulative scores for each subscale span from 0 to 21, where greater numbers correspond to more severe symptoms. A total score ranging from 0 to 7 is regarded as normal; scores ranging from 8 to 10 suggest borderline abnormal levels; and values ranging from 11 to 21 constitute clinically severe anxiety and depression (Zigmond & Snaith, 1983).

This questionnaire has undergone thorough validation in healthcare settings, making it a suitable tool for this research. Past studies have shown the reliability of the instrument in evaluating psychological distress among healthcare professionals, particularly in the course of COVID-19 outbreaks (Herrmann, 1997; Bjelland et al., 2002). In addition, the poll contained inquiries about participants' encounters with the provision of care for mental patients during the epidemic, as well as any perceived escalation in workload or stress levels resulting from the COVID-19 crisis.

Ethical Considerations

All nurses received an informed consent form detailing the study's goals, methods, potential hazards, and prospective benefits before their involvement. Participation was entirely voluntary and anybody may withdraw at any moment without any repercussions. The questionnaire answers were anonymous, therefore guaranteeing the strictest secrecy. Only the study team had access to the adequately safeguarded data. The research adhered to the ethical guidelines for the participants’ confidentiality.

Statistical Analysis

The data analysis was done through Statistical Package for the Social Sciences (SPSS) version 24. Initially, descriptive statistics were calculated to summarize the demographic features of the sample, such as age, gender, years of experience in the intensive care unit (ICU), and the number of mental patients treated. Frequencies and percentages were used to explain the demographic data. Zigmond and Snaith in 1983 developed the well-established HADS scoring method, which classified the scores into three categories: normal, borderline abnormal, and abnormal.

Results

Demographic Characteristics

Overall 300 ICU nurses took part in this study, the mean age of participants was found 35 years (Range: 24–58 years). In this study, most participants were female (80%), and 70% had more than 5 years of experience working in ICUs. Most nurses reported having cared for an average of 20 psychiatric patients during the COVID-19 outbreak, whereas some nurses reporting as many as 50 psychiatric patients. Table 1 provides a detailed summary of the participant's demographic characteristics, including age, gender, years of experience, and the number of psychiatric patients cared for

Table 1: Demographic Characteristics of ICU Nurses

Demographic Variable	Frequency	Percentage of Nurses (%)
Age $\leq$ 35	165	55
Age $\geq$ 35	135	45
Male	60	20
Female	240	80
Work Experience $\leq$ 5 years	90	30
Work Experience $\geq$ 5 years	210	70
Psychiatric Patients Cared For ($\leq$ 20 patients)	120	40
Psychiatric Patients Cared For ($\geq$ 20 patients)	180	60

Anxiety and Depression Levels

The study result revealed that a significant proportion of ICU nurses experienced anxiety and depression during the COVID-19 pandemic. These findings align with previous research that has identified heightened psychological distress among healthcare workers in high-stress environments, particularly during the pandemic (Pappa et al., 2020; Salari et al., 2020).

Out of the 300 nurses, 45% were categorized in the abnormal range for anxiety (HADS-A $\geq$ 11), indicating clinically significant levels of anxiety. 30% of the nurses fell within the borderline abnormal range (HADS-A 8–10), while the remaining 25% scored within the normal range (HADS-A 0–7).

Similarly, the results for HADS-D discovered that 40% of nurses scored in the abnormal range for depression (HADS-D $\geq$ 11), while 35% were categorized as borderline abnormal (HADS-D 8–10) however 25% study participants fell under normal range for depression (HADS-D 0–7).

Table 2 below presents a breakdown of the HADS-A and HADS-D scores among the ICU nurses which disclose the occurrence of anxiety and depression during this pandemic disease.

Table 2: Distribution of Anxiety and Depression Levels Among ICU Nurses (HADS Scores)

HADS Subscale	**Score Range**	**Percentage of Nurses (%)**
Anxiety (HADS-A)		
Normal	(0–7)	25
Borderline	(8–10)	30
Abnormal	(11–21)	45
Depression (HADS-D)		
Normal	(0–7)	25
Borderline Abnormal	(8–10)	35
Abnormal	(11–21)	40

Anxiety and Depression Levels

According to the current study, 45% of nurses were classified in the abnormal range anxiety, 30% fell within the borderline abnormal range, and 25% scored in the normal range. Similarly, for depression, 40% of the nurses scored in the abnormal range, 35% in the borderline abnormal range, and the remaining 25% in the normal range (Fig.1 and Fig.2).

Figure 01: ICU Nurses' Anxiety and Depression Distribution

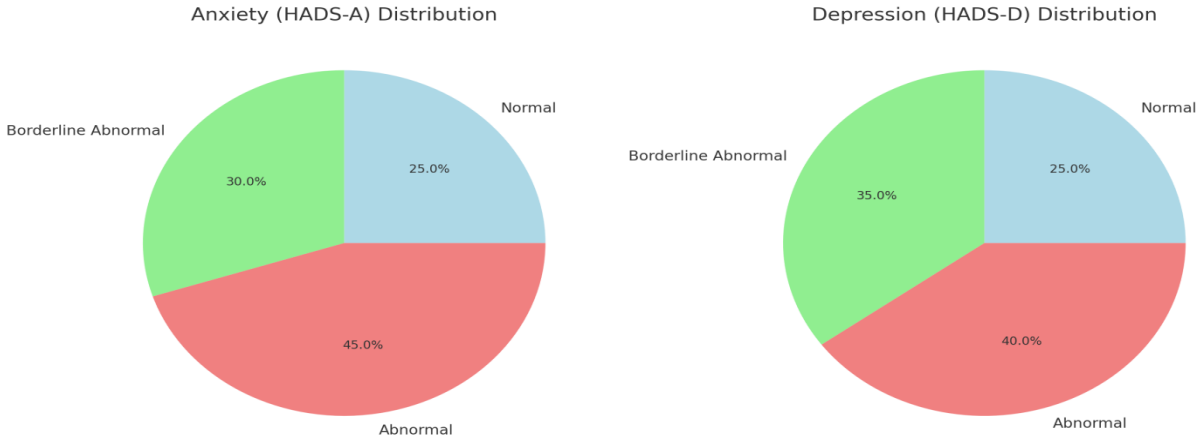
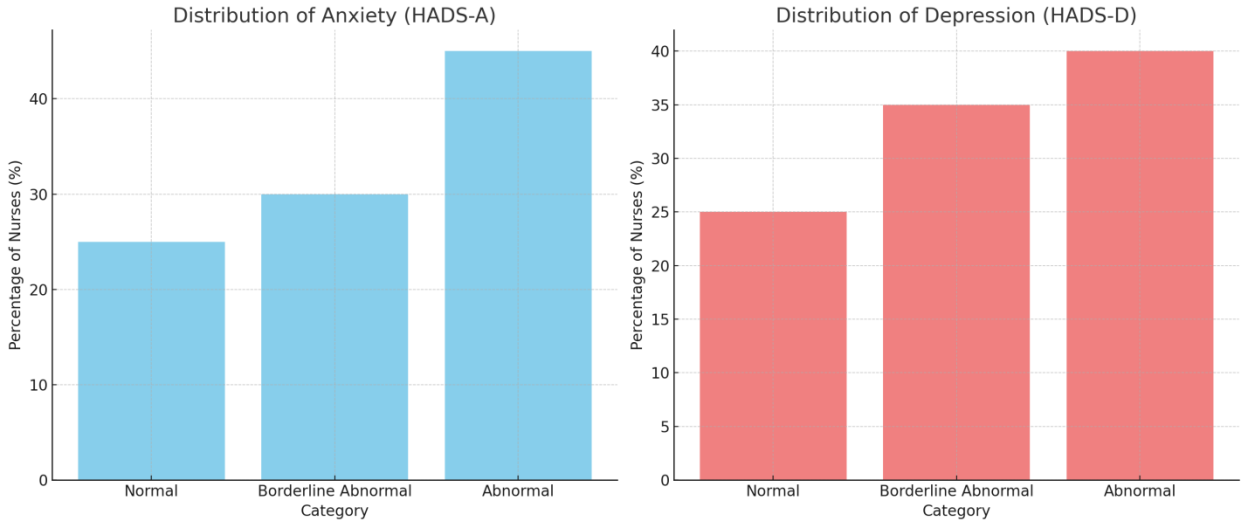


Figure 2: ICU Nurses' Anxiety and Depression Distribution



According to these results, throughout the pandemic, almost half of the intensive care unit nurses suffered from seriously elevated levels of depression and anxiousness. The significant psychological effects of the pandemic on healthcare providers are highlighted by the high frequency of these mental health conditions.

T-tests were used to evaluate the mean anxiety and depression scores against a certain threshold of 10, which is frequently seen as suggestive of borderline abnormal levels on the HADS scale, in order to further strengthen the data' relevance. The t-test yielded a very significant p-value of 2.99 ($p < 0.05$) for anxiety (HADS-A), indicating that the mean anxiety scores of ICU nurses were considerably greater than the limit of anxiety.

Similarly, for depression (HADS-D), the t-test yielded a p-value of 6.571 ($p < 0.05$), indicating that their average depression levels were also significantly elevated. These results confirm that the elevated anxiety and depression levels among ICU nurses are statistically significant and not due to chance. Overall, the findings highlight the substantial psychological impact of the COVID-19 pandemic on ICU nurses, particularly those caring for psychiatric patients, and underscore the need for attention to their mental health.

Discussion

The results of this research demonstrate the profound psychological consequences of the COVID-19 widespread on intensive care unit nurses, especially those who are responsible for providing care for mentally ill patients. A significant portion of ICU nurses, specifically 45%, were identified as experiencing heightened levels of anxiety, while 40% displayed abnormal levels of depression. These results align with earlier studies that have similarly highlighted the mental health struggles faced by healthcare workers during the pandemic (Pappa et al., 2020; Salari et al., 2020).

The peak occurrence of anxiety and depression detected in current study supports with earlier studies conducted in the course of the pandemic. Pappa et al. (2020) reported 23.2% of

healthcare workers experienced anxiety, while 22.8% suffered from depression. In our study, the prevalence rates were even higher, suggesting that ICU nurses caring for psychiatric patients may face more intense psychological stress compared to their peers in other specialties. This may be due to the dual challenge of managing critically ill patients' physical and mental health needs during an unprecedented global health crisis. Additionally, the isolation measures and restrictions on family visitation imposed during the pandemic further complicated patient care, potentially exacerbating the psychological burden on nurses (Azoulay et al., 2020).

Moreover, these results corroborate the findings from Rossi et al. (2021), who observed similar trends of emotional distress among healthcare personnel in Italy. They also used HADS to measure anxiety and depression which identified significant psychological encounters among frontline employees, particularly those working in ICU settings. The consistent pattern across different regions and healthcare environments suggests that the mental health toll on ICU nurses is a widespread phenomenon that transcends geographic and healthcare system differences.

One of the key findings of this study is that years of ICU experience and the number of psychiatric patients cared for were significant predictors of anxiety and depression levels. Nurses with less than 5 years of ICU experience were more likely to experience abnormal levels of anxiety and depression compared to their more experienced counterparts. This reported data is consistent with former research that has shown that younger, less experienced healthcare employees are more vulnerable to psychological distress during pandemics, as they may lack the coping mechanisms and resilience that come with years of experience (Holmes et al., 2020; Wanigasooriya et al., 2020). Likewise in present study, less experienced nurses had considerably sophisticated anxiety and depression scores, indicating that they were particularly susceptible to the emotional toll of the pandemic.

Furthermore, nurses who cared for a greater number of psychiatric patients during the pandemic were more likely to exhibit elevated anxiety and depression scores. This finding is notable, as psychiatric patients present unique challenges, particularly in an ICU setting where their mental health needs may be compounded by the stress of critical illness and isolation. Managing psychiatric patients requires specialized skills and attention, which may not be adequately covered in standard ICU training. Consequently, the added responsibility of caring for these patients during the pandemic may have contributed to the higher levels of psychological distress observed among nurses in this study (Rossi et al., 2021).

Psychiatric patients in the ICU setting pose a unique set of challenges that likely aggravated the psychological health burden on ICU nurses during the COVID-19 pandemic. These patients frequently have pre-existing emotional health illnesses, such as anxiety or depression, which can be additional heightened by the hospitalization stress in a high-intensity environment. Additionally, isolation measures, including restricted visitation and limited communication with family members, may have heightened the emotional distress experienced by psychiatric patients. The combination of these factors placed an additional burden on ICU nurses, who were already stretched thin by the demands of the pandemic (Praun et al., 2024).

The positive correlation between the number of psychiatric patients cared for and higher HADS scores for anxiety and depression indicates that the mental health needs of these patients likely played a role in increasing the psychological distress of ICU nurses. This finding underscores the importance of providing specialized training and support for nurses caring for psychiatric patients, particularly during health crises like the COVID-19 pandemic. Without adequate training and mental health resources, nurses may struggle to effectively manage both the physical and psychological needs of these patients, leading to increased stress and burnout (Azoulay et al., 2020).

The elevated rates of anxiety and depression among ICU nurses caring for psychiatric patients highlight the urgent need for mental health interventions. Supporting the psychological well-being of healthcare workers is vital not only for their own health but also for the quality of care they deliver to patients. Targeted mental health resources should be accessible to ICU nurses, especially those working with psychiatric patients. This support could encompass regular mental health screenings, counseling services, peer support programs, and resilience training. Additionally, hospitals could implement mentorship programs pairing seasoned nurses with less experienced colleagues to offer guidance and emotional support.

Moreover, hospitals must invest in specialized training for ICU nurses on how to care for psychiatric patients, particularly during crises. This training could include strategies for managing the mental health needs of patients in critical care, as well as techniques for mitigating the emotional toll on healthcare workers. Equipping nurses with essential tools and resources to manage their patients effectively can alleviate their psychological burden and enhance patient outcomes (Kramer et al., 2021).

Ultimately, the study underscores the importance of healthcare institutions prioritizing the mental well-being of their workforce. The elevated levels of anxiety and depression identified among healthcare professionals indicate that mental health should be regarded as a public health imperative, especially during global health emergencies. By offering ICU nurses adequate mental health support, training, and resources, healthcare organizations can help reduce the psychological strain on their staff, enabling them to maintain their capacity to deliver high-quality care to patients.

Study Limitations

Despite the valuable insights this research provides into the psychological health challenges ICU nurses face during the COVID-19 pandemic, it is important to acknowledge certain limitations. The selection of study participants using convenience sampling may limit generalizing results to a wider ICU nurse population. Notably, our purposive sampling, which selects participants likely to provide comprehensive data, may not generalize to all ICU nurses in other regions and circumstances during the pandemic.

Also, using self-reported data for this study may have introduced response bias. However, as seen in other studies, participants may have inevitably under or over-reported their anxiety and depression because such symptoms are commonly prone to social

desirability and recall bias. Thus, the extent to which mental health issues have been reported may not exactly mirror the real psychological burden of ICU nurses.

Furthermore, the cross-sectional study nature confines understanding of whether anxiety and depression levels among nurses changed at different time points during the pandemic years because it provides an isolated view of their mental health status at one specific point. However, little is known about longitudinal changes (increases or decreases) in psychological distress during different pandemic periods. This constrains the ability to gather data on the long-term mental health effects for ICU nurses.

Despite the validation and widespread use of the HADS questionnaire for assessing anxiety and depression levels, it may not fully capture the complexity of psychiatric nursing issues. Further and possibly more nuanced tools or qualitative techniques may offer a greater understanding of the emotional struggles faced by these nurses, especially about their role in treating patients who required treatment for both physical and mental health disorders during this crisis.

Recommendation

Upcoming investigators must ponder adopting a longitudinal study design to track changes in anxiety and depression levels among ICU nurses over time, particularly as the pandemic evolves. Additionally, future studies could explore the effectiveness of specific mental health interventions for ICU nurses, such as resilience training and peer support programs. Comparative studies across various healthcare settings and regions could enhance our understanding of how different factors impact the mental health of ICU nurses during global health crises.

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