



Psychocentrum Review

ISSN 2656-8454 (Electronic) | ISSN 2656-1069 (Print)

Editor:  Mirza Irawan

Publication details, including author guidelines

URL: <http://journal.unindra.ac.id/index.php/pcr/about/submissions#authorGuidelines>

Sociodemographic Profile, Perceived Stress, and Coping Strategies Among ICU Nurses in a Tertiary Care Hospital in Western India

Roshan Meena, Rajendra Kumar Acharya, Ashok Seervi, Sanjay Gehlot

Bhadraji kua, Sardarshahr, Churu, Rajasthan, India, JIET Medical College and Hospital, Jodhpur, Rajasthan, India. Dr. S.N. Medical College, Jodhpur, Rajasthan, India.

Article History

Received : 25 June 2025

Revised : 17 July 2025

Accepted : 14 October 2025

How to cite this article (APA 6th)

Meena, R., Acharya, R. K., Seervi, A., Gehlot, S. (2025). Sociodemographic Profile, Perceived Stress, and Coping Strategies Among ICU Nurses in a Tertiary Care Hospital in Western India. *Psychocentrum Review*, 7(3), 136-149. DOI: [10.26539/pcr.734170](https://doi.org/10.26539/pcr.734170)The readers can link to article via [https://doi.org/ 10.26539/pcr.734170](https://doi.org/10.26539/pcr.734170)

Correspondence regarding this article should be addressed to:

Ashok Seervi, dr.ashokmedicaledu@gmail.com, Dr. S.N. Medical College, Jodhpur, Rajasthan, India.

SCROLL DOWN TO READ THIS ARTICLE



Universitas Indraprasta PGRI (as Publisher) makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications. However, we make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Universitas Indraprasta PGRI. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information.

This work is licensed under a [Creative Commons Attribution-NonCommercial 4.0 International License](https://creativecommons.org/licenses/by-nc/4.0/).

Copyright by Meena, R., Acharya, R. K., Seervi, A., Gehlot, S. (2025).

The authors whose names are listed in this manuscript declared that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest, and expert testimony or patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript. This statement is signed by all the authors to indicate agreement that the all information in this article is true and correct.

Original Article

Sociodemographic Profile, Perceived Stress, and Coping Strategies Among ICU Nurses: A Cross-Sectional Study from Western India

Roshan Meena¹, Rajendra Kumar Acharya², Ashok Seervi^{3*}, Sanjay Gehlot⁴

Bhadr ji ka kua, Sardarshahr, Churu, Rajasthan, India¹, JIET Medical College and Hospital, Jodhpur, Rajasthan, India². Dr. S.N. Medical College, Jodhpur, Rajasthan, India^{3,4}.

Abstract. Intensive Care Unit (ICU) nursing is one of the most demanding healthcare specialities, with nurses facing significant occupational stress. In India, critical nursing shortages and resource constraints further compound these challenges. Understanding the relationship between sociodemographic factors, perceived stress, and coping strategies is essential for developing targeted interventions. This cross-sectional study examined sociodemographic profile, perceived stress levels, and coping strategies among 184 ICU nurses at a tertiary care hospital in Western India. Data were collected using a sociodemographic questionnaire, Perceived Stress Scale (PSS-10), and COPE Inventory. Results revealed 70.7% of participants experienced moderate to high perceived stress (48.4% moderate, 22.3% high). Significant associations were found between stress levels and younger age ($p<0.001$), unmarried status ($p<0.001$), higher educational qualifications ($p=0.004$), limited ICU experience ($p<0.001$), nuclear family structure ($p<0.001$), and absence of children ($p<0.001$). Gender, service area, and duty shift showed no significant associations. Nurses predominantly employed adaptive coping strategies, including positive reinterpretation (73.4%), acceptance (66.3%), instrumental social support (65.2%), and active coping (62.5%). Maladaptive strategies were less frequent, with behavioral disengagement at 27.7% and substance use at 13.6%. Religious coping was utilized by 15.8%, reflecting cultural influences. Findings highlight a substantial psychological burden among ICU nurses and identify vulnerable subgroups requiring targeted interventions. The predominant use of adaptive coping suggests existing resilience that can be strengthened through comprehensive support programs, mentorship for younger nurses, and culturally appropriate stress management interventions.

Keywords: ICU nurses, perceived stress, coping strategies, sociodemographic profile, tertiary care, Western India

Correspondence author: Ashok Seervi, dr.ashokmedicaledu@gmail.com, Dr. S.N. Medical College, Jodhpur, Rajasthan, India.



This work is licensed under a CC-BY-NC

Introduction

Intensive care unit nursing represents one of healthcare's most psychologically demanding specialities, characterised by life-and-death decision-making, technical complexity, and regular exposure to human suffering (Moss et al., 2016). The psychological toll on ICU nurses has gained international attention, with research consistently documenting elevated rates of burnout, anxiety, depression, and post-traumatic stress disorder—challenges that intensified dramatically during the COVID-19 pandemic (Wahlster & Hartog, 2022; Hovland et al., 2024).

The Indian healthcare context presents additional challenges for ICU nurses. Resource constraints, staffing shortages, and high patient-to-nurse ratios are common in tertiary care settings, compounding the inherent stressors of critical care nursing. A study from Pune documented a stress prevalence of 52.4% among ICU staff overall, with 68.3% of nurses specifically experiencing stress as measured by the DASS scale (Kumar et al., 2016). Even more concerning, research has reported burnout rates as high as 80% among Indian ICU professionals, underscoring the critical need for systematic psychological support and intervention strategies (Saravanabavan et al., 2019).

Understanding how ICU nurses experience and manage stress requires examining the complex interplay of sociodemographic, professional, and organizational factors. Research consistently shows that younger nurses often report higher stress levels, potentially due to limited clinical exposure and less developed coping mechanisms, while personal factors such as marital status and family support can serve as protective buffers (Milutinović et al., 2012; Fortunatti & Palmeiro-Silva, 2017). Educational background adds another layer of complexity, with some studies suggesting that higher qualifications may correlate with increased stress due to elevated expectations and responsibility (Andolhe et al., 2015).

The role of coping strategies in managing ICU-related stress cannot be overstated. Research indicates that adaptive coping approaches—such as problem-solving, seeking social support, and positive reframing—significantly enhance resilience and reduce burnout among nurses in high-stress environments. Conversely, maladaptive strategies like avoidance and behavioral disengagement are associated with poorer psychological outcomes and increased secondary traumatic stress (Barmawi et al., 2019). However, cultural context influences coping patterns, with studies in similar settings showing tendencies toward religious and social support mechanisms (Zhang et al., 2014; Burgess et al., 2010).

Despite growing recognition of mental health challenges facing ICU nurses, significant gaps remain in our understanding of stress patterns within the Indian context, particularly in Western Indian regions such as Rajasthan. Most existing research has focused on metropolitan areas or international settings, leaving a critical knowledge gap for tertiary care hospitals in smaller cities and states. This study addresses that gap by examining the sociodemographic profile, perceived stress levels, and coping strategies among ICU nurses in Jodhpur, providing essential data to inform targeted interventions and support programs.

Method

Study Design and setting

We conducted a cross-sectional, questionnaire-based study among nurses working in intensive care units at Dr. S.N. Medical College and attached hospitals, Jodhpur, Rajasthan, India. The study encompassed multiple ICU specialties including medical, surgical, cardiac, and neurological intensive care units. All nursing staff currently employed in these units across different shifts were considered eligible for participation.

Participants

Inclusion Criteria: Registered nurses working in any shift within the ICUs with a minimum of six months of ICU experience who provided informed consent.

Exclusion Criteria: Nurses on leave during the data collection period, those with documented pre-existing psychiatric illness prior to ICU assignment, and participants providing incomplete survey responses.

Sample Size Calculation: Sample size was determined using the standard formula: $n = (Z_{1-\alpha/2})^2 \times P(1-P)/E^2$, where $Z_{1-\alpha/2} = 1.96$ for 95% confidence interval, $P = 0.747$ (expected

stress prevalence based on literature review), and $E = 0.05$ (absolute allowable error). The calculated minimum sample size was 142, which we increased to 200 to account for potential non-response and ensure adequate statistical power.

Data Collection Procedures

Following institutional ethics committee approval, participants were approached at their workplaces during shift changes to minimize workflow disruption. Study objectives were explained in detail, and written informed consent was obtained from all participants. Anonymous questionnaire packets were distributed with collection boxes placed in each ICU to ensure confidential submission. Data collection was conducted over six months to accommodate shift rotations and maximize participation rates.

Instruments

Sociodemographic Questionnaire: This investigator-developed instrument collected personal demographic data (age, gender, marital status, educational qualifications, monthly income, number of dependents) and professional variables (total nursing experience, ICU-specific experience, current unit assignment, shift pattern, and specialized critical care qualifications).

Perceived Stress Scale (PSS-10): Developed by Cohen and Williamson (1988), this validated instrument measures perceived stress over the preceding month using 10 items rated on a 5-point Likert scale (0=never to 4=very often). Total scores range from 0–40, with higher scores indicating greater perceived stress. The scale demonstrates excellent reliability (Cronbach's $\alpha = 0.78$ – 0.91). Stress levels were categorized as low (0–13), moderate (14–26), or high (27–40) based on established cut-off points.

COPE Inventory: This comprehensive coping assessment tool, developed by Carver (1997), evaluates various coping strategies through multiple subscales including active coping, planning, positive reframing, acceptance, humor, religion, emotional support, instrumental support, self-distraction, denial, venting, substance use, behavioral disengagement, and self-blame. Items are rated on a 4-point scale (1="haven't been doing this at all" to 4="been doing this a lot"). The instrument demonstrates good internal consistency (Cronbach's $\alpha = 0.82$).

Statistical Analysis

Data analysis was performed using IBM SPSS Statistics version 26.0. Descriptive statistics summarized participant characteristics, with categorical variables presented as frequencies and percentages. Associations between categorical variables (stress levels, sociodemographic factors, coping strategies) were examined using chi-square tests. Statistical significance was set at $p < 0.05$.

Result and Discussion

Results

Participant Characteristics

Table 1 presents the sociodemographic profile of the study participants:

Table 1. Sociodemographic Profile of ICU Nurses (n = 184)

Variable	Category	n (%)
Age (years)	21–30	54 (29.3)
	31–40	89 (48.4)
	41–50	35 (19.0)
	51–60	6 (3.3)
Gender	Male	65 (35.3)
	Female	119 (64.7)
Marital Status	Married	146 (79.3)
	Unmarried	34 (18.5)
	Widow	4 (2.2)
Educational Qualification	DGNM	123 (66.8)
	B.Sc Nursing	27 (14.7)
	PBB.Sc	34 (18.5)
Years in ICU	<1 year	13 (7.1)
	2–5 years	60 (32.6)
	5–10 years	79 (42.9)
	10–15 years	23 (12.5)
	>15 years	9 (4.9)
Family Type	Nuclear	121 (65.8)
	Alone	30 (16.3)
	Extended	19 (10.3)
	Joint	14 (7.6)
Children	None	40 (21.7)
	One	79 (42.9)
	Two	58 (31.5)
	More than two	7 (3.8)

A total of 184 ICU nurses participated in the study, representing a 92% response rate from our initial target of 200 participants. The majority were female (64.7%, n=119) and aged between 31-40 years (48.4%, n=89). Most participants were married (79.3%, n=146), with 18.5% (n=34) unmarried.

Regarding educational qualifications, two-thirds held a Diploma in General Nursing and Midwifery (66.8%, n=123), while 14.7% (n=27) had completed B.Sc. Nursing and 18.5% (n=34) possessed post-basic B.Sc. degrees. The largest proportion of nurses had 5-10 years of ICU experience (42.9%, n=79), followed by those with 2-5 years of experience (32.6%, n=60). Most participants lived in nuclear family arrangements (65.8%, n=121), and 78.3% had at least one child.

Perceived Stress Levels

The distribution of perceived stress levels among ICU nurses is presented in Table 2:

Table 2. Perceived Stress Levels among ICU Nurses (PSS-10)

Stress Level	Score Range	n (%)
Low Stress	0–13	54 (29.3)
Moderate Stress	14–26	89 (48.4)
High Stress	27–40	41(22.3)
Total	–	184 (100)

Analysis of perceived stress levels revealed that 29.3% (n=54) of participants reported low stress levels, while 48.4% (n=89) experienced moderate stress, and 22.3% (n=41) reported high stress levels. Notably, over 70% of the nursing staff experienced at least moderate levels of perceived stress, indicating a substantial psychological burden within this population.

Factors Associated with Perceived Stress

Table 3 demonstrates the association between sociodemographic variables and perceived stress levels:

Table 3. Association Between Sociodemographic Variables and Perceived Stress Levels (n = 184)

Variable	Category	Low Stress (%)	Moderate Stress (%)	High Stress (%)	Chi-square (df)	P-value
Age (years)	21–30	3 (5.6)	24 (27.0)	27 (65.9)	60.15 (6)	<0.001
	31–40	27 (30.3)	53 (59.6)	9 (10.1)		
	41–50	18 (51.4)	12 (34.3)	5 (14.3)		
	51–60	6 (100.0)	0 (0.0)	0 (0.0)		
Gender	Male	22 (40.7)	28 (43.1)	15 (36.6)	1.30 (2)	0.521
	Female	32 (59.3)	61 (56.9)	26 (63.4)		
Marital Status	Married	48 (88.9)	77 (86.5)	21 (51.2)	42.87 (4)	<0.001
	Unmarried	2 (3.7)	12 (13.5)	20 (48.8)		
	Widow	4 (7.4)	0 (0.0)	0 (0.0)		
Living with	Yes	48 (88.9)	74 (83.2)	19 (46.3)	27.65 (2)	<0.001
	No	6 (11.1)	15 (16.8)	22 (53.7)		
Education	B.Sc Nursing	4 (7.4)	12 (13.5)	11 (26.8)	15.41 (4)	0.004
	DGNM	44 (81.5)	53 (59.6)	26 (63.4)		
	PBB.Sc	6 (11.1)	24 (27.0)	4 (9.8)		
Years in ICU	<1 year	1 (1.9)	6 (6.7)	6 (14.6)	59.90 (8)	<0.001
	2–5 years	6 (11.1)	27 (30.3)	27 (65.9)		
	5–10 years	28 (51.9)	47 (52.8)	4 (9.8)		
	10–15 years	11 (20.4)	8 (9.0)	4 (9.8)		
	>15 years	8 (14.8)	1 (1.1)	0 (0.0)		
Family Type	Alone	0 (0.0)	12 (13.5)	19 (46.3)	50.69 (6)	<0.001
	Extended	14 (25.9)	3 (3.4)	2 (4.9)		
	Joint	4 (7.4)	7 (7.9)	3 (7.3)		
	Nuclear	36 (66.7)	67 (75.3)	17 (41.5)		
No. of Children	None	3 (5.6)	15 (16.9)	22 (53.7)	45.65 (6)	<0.001
	One	20 (37.0)	44 (49.4)	15 (36.6)		
	Two	26 (48.1)	28 (31.5)	4 (9.8)		
	>Two	5 (9.3)	2 (2.2)	0 (0.0)		
Duty Shift	Day	26 (48.1)	35 (39.3)	25 (61.0)	10.38 (6)	0.11
	Evening	12 (22.2)	26 (29.2)	8 (19.5)		
	Night	11 (20.4)	25 (28.1)	8 (19.5)		
	Variable	5 (9.3)	3 (3.4)	0 (0.0)		
Service Area	Adult ICU	46 (85.2)	70 (78.7)	31 (75.6)	1.67 (4)	0.797
	NICU	4 (7.4)	8 (9.0)	4 (9.8)		
	PICU	4 (7.4)	11 (12.4)	6 (14.6)		

Analysis revealed several sociodemographic variables with statistically significant associations with stress levels. Age demonstrated a particularly strong relationship ($\chi^2=60.15$, $df=6$, $p<0.001$), with younger nurses (21-30 years) experiencing predominantly high stress (65.9%), while older nurses (51-60 years) reported exclusively low stress levels.

Marital status showed significant association with stress levels ($\chi^2=42.87$, $df=4$, $p<0.001$). Unmarried nurses displayed higher stress rates (48.8% high stress) compared to married nurses (14.4% high stress). Similarly, living arrangement with spouse demonstrated significant association ($\chi^2=27.65$, $df=2$, $p<0.001$), where nurses not living with their spouse experienced elevated stress levels.

Educational qualification significantly influenced stress patterns ($\chi^2=15.41$, $df=4$, $p=0.004$), with B.Sc. Nursing graduates reporting higher stress rates compared to diploma holders. Years of ICU experience showed a strong inverse relationship with stress ($\chi^2=59.90$, $df=8$, $p<0.001$), where nurses with less experience (2-5 years) reported higher stress levels (65.9% high stress) compared to their more experienced colleagues.

Family structure significantly affected stress levels ($\chi^2=50.69$, $df=6$, $p<0.001$), with nurses living alone experiencing the highest stress levels (46.3% high stress). The number of children was inversely related to stress levels ($\chi^2=45.65$, $df=6$, $p<0.001$), where childless nurses experienced higher stress rates. Gender ($p=0.521$), service area ($p=0.797$), and duty shift ($p=0.110$) did not show statistically significant associations with perceived stress levels, suggesting these factors may have less influence on stress experience in this particular setting.

Duty Shift Analysis

Table 4. Association Between Duty Shift and Perceived Stress Levels Among ICU Nurses (n = 184)

Duty Shift	Low Stress (n, %)	Moderate Stress (n, %)	High Stress (n, %)	Chi-square (df)	p-value
Day	26 (30.2%)	35 (40.7%)	25 (29.1%)	10.379 (6)	0.110
Evening	12 (26.1%)	26 (56.5%)	8 (17.4%)		
Night	11 (25.0%)	25 (56.8%)	8 (18.2%)		
Variable	5 (62.5%)	3 (37.5%)	0 (0.0%)		

*Chi-square test applied. $p < 0.05$ considered statistically significant

Table 4 provides detailed analysis of stress distribution across different duty shifts. Day shift nurses showed the highest proportion of high stress (29.1%), compared to evening (17.4%) and night shift workers (18.2%). However, this difference did not reach statistical significance ($\chi^2=10.379$, $df=6$, $p=0.110$).

*Coping Strategies***Table 5. Coping Strategies Reported by ICU Nurses (n = 184)**

Coping Strategy	n (%)
Positive Reinterpretation	135 (73.4)
Acceptance	122 (66.3)
Instrumental Social Support	120 (65.2)
Active Coping	115 (62.5)
Planning	89 (48.4)
Emotional Social Support	69 (37.5)
Suppression of Competing Activities	63 (34.2)
Behavioural Disengagement	51 (27.7)
Mental Disengagement	40 (21.7)
Humour	39 (21.2)
Venting	37 (20.1)
Restraint	37 (20.1)
Denial	25 (13.6)
Substance Use	25 (13.6)
Religion	29 (15.8)

Table 5 presents the coping strategies employed by ICU nurses as assessed by the COPE Inventory. Analysis of coping strategies revealed that ICU nurses predominantly employed adaptive approaches. The most frequently utilized strategies were positive reinterpretation (73.4%, n=135), acceptance (66.3%, n=122), instrumental social support (65.2%, n=120), and active coping (62.5%, n=115). Planning was employed by nearly half of participants (48.4%, n=89).

Less adaptive coping strategies were used less frequently. Behavioral disengagement was reported by 27.7% (n=51) of nurses, while mental disengagement was used by 21.7% (n=40). Humor as a coping mechanism was employed by 21.2% (n=39) of participants. Potentially harmful coping strategies such as substance use and denial were reported by only 13.6% (n=25) each. Religious coping was utilized by 15.8% (n=29) of nurses, reflecting cultural influences on stress management approaches.

Discussion

This study provides a comprehensive analysis of the sociodemographic profile, perceived stress, and coping strategies among ICU nurses in a tertiary care hospital in Western India. The findings offer valuable insights into the psychological well-being of critical care nurses and the factors that influence their stress experiences, with important implications for both practice and policy..

Demographic Profile and Professional Characteristics

The demographic composition of our study population mirrors broader trends in the nursing workforce, with female predominance and a substantial proportion of younger professionals. This pattern is consistent with findings from other low- and middle-income

countries where nursing remains largely female-dominated (Guerrer & Bianchi, 2008; Dewi et al., 2019). The high representation of nurses aged 31–40 years with 5–10 years of ICU experience suggests a relatively experienced workforce, yet the significant stress burden indicates that experience alone may not be sufficient without adequate institutional support for psychological resilience.

The predominance of diploma-holding nurses aligns with patterns observed across India, Indonesia, and Nigeria, where diploma programs serve as the primary entry point into clinical nursing practice (Faremi et al., 2019; Dewi et al., 2019). This demographic profile underscores the importance of tailoring stress-management interventions to various educational backgrounds and professional development levels.

Stress Prevalence and Patterns

Our finding that over 70% of ICU nurses experience moderate to high perceived stress represents a significant public health concern within the healthcare workforce. This prevalence is consistent with international research, including studies from Saudi Arabia where over 80% of ICU nurses reported moderate stress levels (Alharbi & Alshehry, 2019), and research from Ethiopia documenting consistently high stress levels among critical care nurses (Bolado et al., 2024). The demanding nature of ICU work—characterized by life-and-death decisions, complex patient care, and high-pressure environments—is universally recognized as a source of occupational stress (Vahedian-Azimi et al., 2019).

These findings are particularly concerning when viewed within the context of Indian healthcare systems, where resource constraints and elevated patient-to-nurse ratios compound the inherent stressors of ICU nursing. Comparable research from India has highlighted significant emotional burden and post-traumatic symptoms in critical care settings (Mathew & Mathew, 2023), suggesting that our findings represent part of a broader pattern requiring systematic attention.

Age, Experience, and Professional Development

The strong inverse relationship between age, ICU experience, and perceived stress represents one of our most consistent findings. Younger nurses and those with limited experience reported significantly higher stress levels, a pattern observed across diverse cultural contexts including Brazil, Iran, and Indonesia (Guerrer & Bianchi, 2008; Vahedian-Azimi et al., 2019; Dewi et al., 2019). This relationship suggests that novice ICU nurses face unique challenges related to clinical confidence, time management, and professional relationships, making them particularly vulnerable to psychological distress.

Interestingly, our finding that B.Sc. Nursing graduates reported higher stress rates than diploma holders challenges conventional assumptions about education and stress management. While some international research suggests that higher education typically correlates with better stress management and job satisfaction (Edwards-Maddox, 2023), other studies have reported increased burnout among more educated nurses (Gesner et al., 2022). This apparent paradox may reflect a disconnect between academic preparation and workplace realities, particularly in resource-constrained settings where theoretical knowledge may not align with practical demands and available support systems.

Social Support and Family Dynamics

The protective effect of marriage and family support emerged as a crucial finding, with unmarried nurses and those not living with spouses experiencing significantly higher stress levels. This pattern aligns with research from Iran and Brazil, where married status and family support serve as protective factors against occupational stress (Vahedian-Azimi et

al., 2019; Guerrer & Bianchi, 2008). The relationship between family structure and stress levels is particularly relevant in collectivist cultures, where extended family networks traditionally provide crucial psychological and practical support.

Our finding that nurses with children reported lower stress levels, despite the additional responsibilities parenthood entails, suggests that family relationships may provide meaningful perspective and emotional grounding that helps buffer work-related stress. This finding aligns with research demonstrating that perceived social support mediates the relationship between occupational stress and job satisfaction among nurses (Liu et al., 2025).

Non-Significant Factors

Gender, service area, and duty shift did not significantly influence stress levels in our study. This contrasts with some international studies that report higher stress among female nurses or night shift workers, suggesting that in our setting, stressors may affect all groups equally (Versa et al., 2012; Vahedian-Azimi et al., 2019). The lack of significant differences across shifts may reflect the overall high stress environment of ICUs, regardless of specific work patterns. The relatively even distribution of stress across shifts suggests that while time-of-day workload may vary, the qualitative intensity of ICU work remains constant, warranting universal stress mitigation approaches irrespective of shift timing.

Coping Strategies and Cultural Considerations

The predominant use of adaptive coping strategies among study participants represents an encouraging finding. The high utilization of positive reinterpretation, acceptance, instrumental support, and active coping aligns with research from Oman, Nigeria, and Indonesia, where adaptive coping has been linked to improved mental health outcomes and job retention (Al-Yaqubi, 2023; Faremi et al., 2019; Dewi et al., 2019). The relatively low use of maladaptive coping strategies, such as substance use and denial, is encouraging and suggests that most nurses are equipped to manage stress constructively. Behavioral disengagement remained prevalent, reported by over a quarter of participants, suggesting potential emotional exhaustion.

Religious coping, noted by 15.8% of nurses, underscores the role of spirituality as a culturally embedded stress-response mechanism, particularly in South Asian settings, where spirituality often plays a protective role against stress and burnout. A large-scale study across 159 ICUs in 16 Asian countries found that religiosity was significantly associated with lower burnout levels in ICU doctor and nurses (See et al., 2018). Similarly, Alharbi and Alshehry (2019) reported that while disengagement and self-blame increased stress, belief in religion reduced it. Bakir et al. (2017) further highlighted that spiritually informed nurses were more likely to integrate spiritual care into patient interactions, enhancing both care quality and personal resilience. These findings support the value of culturally aligned interventions that incorporate spirituality into clinical practice. In contrast, resilience among ICU nurses in the United States is often fostered through mindfulness, social support, and spiritual practices, which help mitigate PTSD risk and improve retention (Mealer et al., 2012, 2014). Together, these insights underscore the need for stress-reduction strategies that are both psychologically sound and culturally responsive.

Implications for Practice and Policy

These findings have immediate implications for healthcare administrators and policymakers. The concentration of high stress among younger, less experienced nurses

suggests that mentorship programs, structured orientation processes, and ongoing professional development could significantly impact nurse well-being and retention. Healthcare institutions should consider implementing graduated responsibility systems, peer support networks, and access to mental health services as standard components of ICU nurse support.

The protective effect of social support highlights the importance of fostering collegial relationships and family-friendly policies within healthcare institutions. Flexible scheduling, family support services, and workplace social activities could help strengthen the social networks that serve as crucial buffers against occupational stress.

Limitations and Future Directions

Several limitations should be considered when interpreting these results. The cross-sectional design limits our ability to establish causal relationships or track changes over time. Data collection from a single tertiary care hospital may limit generalizability to other regions or healthcare settings within India. The reliance on self-reported measures introduces potential response bias, and the exclusion of nurses with pre-existing psychiatric conditions may have led to underestimation of overall stress levels.

Future research should employ longitudinal designs to better understand the trajectory of stress and coping over time, and multi-center studies would enhance generalizability. Intervention studies evaluating specific support programs or coping skills training would provide crucial evidence for policy development. Additionally, qualitative research could provide deeper insights into the lived experiences of ICU nurses and the cultural factors that influence stress and coping.

Conclusion

This study reveals a substantial burden of perceived stress among ICU nurses in Western India, with key sociodemographic factors particularly younger age, limited ICU experience, higher educational attainment, and absence of family support significantly associated with elevated stress levels. While the high prevalence of moderate to high stress is concerning, the predominant use of adaptive coping strategies suggests that most nurses possess fundamental skills for constructive stress management. These findings highlight the urgent need for comprehensive, multi-level interventions that address individual and systemic contributors to ICU nurse stress. Early-career support programs, mentorship initiatives, and family-friendly policies could improve nurse well-being and retention significantly. By fostering resilient nursing workforces through targeted interventions, healthcare institutions can enhance nurse satisfaction and critical care delivery quality. The developing culturally suitable stress management programs that leverage existing adaptive coping strategies and address the specific challenges faced by ICU nurses in resource-limited settings is vital for enhancing healthcare worker well-being and ultimately improving patient outcomes in Indian tertiary care hospitals.

Acknowledgement

We thank all the ICU nursing staff who participated in the study and provided valuable information for this research.

References

- Al Barmawi, M. A., Subih, M., Shoqirat, N., Abdel-Azeez Eid Abu Jebbeh, R., Sayyah Yousef Sayyah, N., & Salameh, O. (2019). Coping strategies as moderating factors to compassion fatigue among critical care nurses. *Brain and Behavior*, *9*(4), e01264. doi:10.1002/brb3.1264
- Alharbi, H., & Alshehry, A. (2019). Perceived stress and coping strategies among ICU nurses in government tertiary hospitals in Saudi Arabia: A cross-sectional study. *Annals of Saudi Medicine*, *39*(1), 48–55. doi:10.5144/0256-4947.2019.48
- Al-Yaqoubi, S. (2023). Exploring work-related stress and coping strategies among Omani nurses working in tertiary governmental hospitals at Muscat: A cross-sectional study. *Open Journal of Nursing*, *13*, 368–385. doi:10.4236/ojn.2023.136025
- Andolhe, R., Barbosa, R. L., Oliveira, E. M. D., Costa, A. L. S., & Padilha, K. G. (2015). Stress, coping e burnout entre profissionais de enfermagem de Unidade de Terapia Intensiva: Fatores associados [Stress, coping and burnout among Intensive Care Unit nursing staff: Associated factors]. *Revista da Escola de Enfermagem da USP*, *49*(Spe), 58–64. doi:10.1590/s0080-623420150000700009
- Bakir, E., Kilic, S. P., & Samancioglu, S. (2017). Spiritual experiences of Muslim critical care nurses. *Journal of Religion and Health*, *56*(6), 2118–2128. doi:10.1007/s10943-017-0382-4
- Bolado, G. N., Ataro, B. A., Gadabo, C. K., Ayana, A. S., Kebamo, T. E., & Minuta, W. M. (2024). Stress level and associated factors among nurses working in the critical care unit and emergency rooms at comprehensive specialized hospitals in Southern Ethiopia, 2023: Explanatory sequential mixed-method study. *BMC Nursing*, *23*(1), 341. doi:10.1186/s12912-024-02004-w
- Burgess, L., Irvine, F., & Wallymahmed, A. (2010). Personality, stress and coping in intensive care nurses: A descriptive exploratory study. *Nursing in Critical Care*, *15*(3), 129–140. doi:10.1111/j.1478-5153.2009.00384.x
- Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine*, *4*(1), 92–100. doi:10.1207/s15327558ijbm0401_6
- Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on Applied Social Psychology* (pp. 31–67). Sage Publications.
- Dewi, Y. S., Hargono, R., & Rusdi, A. (2019). Factors correlated to job stress among ICU nurses in Surabaya, Indonesia. *Jurnal Ners*, *14*(1), 23–27. doi:10.20473/jn.v14i1.12125
- Edwards-Maddox, S. (2023). Burnout and impostor phenomenon in nursing and newly licensed registered nurses: A scoping review. *Journal of Clinical Nursing*, *32*(5–6), 653–665. doi:10.1111/jocn.16475
- Faremi, F. A., Olatubi, M. I., Adeniyi, K. G., & Salau, O. R. (2019). Assessment of occupational related stress among nurses in two selected hospitals in a city Southwestern Nigeria. *International Journal of Africa Nursing Sciences*, *10*, 68–73. doi:10.1016/j.ijans.2019.01.008
- Gesner, E., Dykes, P. C., Zhang, L., & Gazarian, P. (2022). Documentation burden in nursing and its role in clinician burnout syndrome. *Applied Clinical Informatics*, *13*(5), 983–990. doi:10.1055/s-0042-1757157
- Guerrer, F. J., & Bianchi, E. R. (2008). Caracterização do estresse nos enfermeiros de unidades de terapia intensiva [Characterization of stress in intensive care unit nurses]. *Revista da Escola de Enfermagem da USP*, *42*(2), 355–362. doi:10.1590/s0080-62342008000200020

- Hovland, I. S., Skogstad, L., Diep, L. M., Ekeberg, Ø., Ræder, J., Stafseth, S. K., Hem, E., Rø, K. I., & Lie, I. (2024). Burnout among intensive care nurses, physicians and leaders during the COVID-19 pandemic: A national longitudinal study. *Acta Anaesthesiologica Scandinavica*, *68*(10), 1426–1435. doi:10.1111/aas.14504
- Kumar, A., Pore, P., Gupta, S., & Wani, A. O. (2016). Level of stress and its determinants among Intensive Care Unit staff. *Indian Journal of Occupational and Environmental Medicine*, *20*(3), 129–132. doi:10.4103/0019-5278.203137
- Liu, Z., Yan, X., Xie, G., Lu, J., Wang, Z., Chen, C., Wu, J., & Qing, W. (2025). The effect of nurses' perceived social support on turnover intention: The chain mediation of occupational coping self-efficacy and depression. *Frontiers in Public Health*, *13*, 1527205. doi:10.3389/fpubh.2025.1527205
- Mathew, C., & Mathew, C. (2023). PTSD symptoms in Indian ICU nurses. *Indian Journal of Critical Care Medicine*, *27*(5), 330–334. doi:10.5005/jp-journals-10071-24448
- Mealer, M., Conrad, D., Moss, M., Jooste, K., Rothbaum, B., Solyntjes, J., & Evans, J. (2014). Feasibility and acceptability of a resilience training program for intensive care unit nurses. *American Journal of Critical Care*, *23*(6), e97–e105. doi:10.4037/ajcc2014747
- Mealer, M., Jones, J., & Moss, M. (2012). A qualitative study of resilience and posttraumatic stress disorder in United States ICU nurses. *Intensive Care Medicine*, *38*(9), 1445–1451. doi:10.1007/s00134-012-2600-6
- Milutinović, D., Golubović, B., Brkić, N., & Prokeš, B. (2012). Professional stress and health among critical care nurses in Serbia. *Archives of Industrial Hygiene and Toxicology*, *63*(2), 171–180. doi:10.2478/10004-1254-63-2012-2140
- Moss, M., Good, V. S., Gozal, D., Kleinpell, R., & Sessler, C. N. (2016). An official Critical Care Societies Collaborative statement—Burnout syndrome in critical care health-care professionals: *A call for action*. *Chest*, *150*(1), 17–26. doi:10.1016/j.chest.2016.02.649
- Padilla Fortunatti, C., & Palmeiro-Silva, Y. K. (2017). Effort-reward imbalance and burnout among ICU nursing staff: A cross-sectional study. *Nursing Research*, *66*(5), 410–416. doi:10.1097/NNR.0000000000000239
- Saravanabavan, L., Sivakumar, M. N., & Hisham, M. (2019). Stress and burnout among Intensive Care Unit healthcare professionals in an Indian tertiary care hospital. *Indian Journal of Critical Care Medicine*, *23*(10), 462–466. doi:10.5005/jp-journals-10071-23265
- See, K. C., Phua, J., Fang, W.-F., Binh, N. G., Faruq, M. O., Al Rahma, H. N., Detleuxay, K., Wahjuprajitno, B., Shrestha, B. R., Wong, W. T., Nakataki, E., Nafees, K. M. K., Palo, J. E., Chittawatnarat, K., Zhao, M. Y., Ong, V., Divatia, J. V., & Arabi, Y. M. (2018). Professional burnout among physicians and nurses in Asian intensive care units: A multinational survey. *Intensive Care Medicine*, *44*(12), 2079–2090. doi:10.1007/s00134-018-5432-1
- Vahedian-Azimi, A., Hajiesmaeili, M., Kangasniemi, M., Fornés-Vives, J., Hunsucker, R. L., Rahimibashar, F., Pourhoseingholi, M. A., Farrokhsavar, L., & Miller, A. C. (2019). Effects of stress on critical care nurses: A national cross-sectional study. *Journal of Intensive Care Medicine*, *34*(4), 311–322. doi:10.1177/0885066617696853
- Versa, G. L., Murasaki, A. C., Inoue, K. C., de Melo, W. A., Faller, J. W., & Matsuda, L. M. (2012). Estresse ocupacional: Avaliação de enfermeiros intensivistas que atuam no período noturno [Occupational stress: Evaluation of intensive care nurses who work at nighttime]. *Revista Gaúcha de Enfermagem*, *33*(2), 78–85. doi:10.1590/s1983-14472012000200012
- Wahlster, S., & Hartog, C. (2022). Coronavirus disease 2019 aftermath: Psychological trauma in ICU healthcare workers. *Current Opinion in Critical Care*, *28*(6), 686–694. doi:10.1097/mcc.0000000000000994

Zhang, X.-C., Zhang, J.-L., Guan, P., Zhao, W.-J., Wang, X., Zhang, S.-P., Sun, L.-F., Liu, L.-H., Zhang, L.-H., Hu, L.-H., Gu, C.-M., Zhen, L.-Y., Yu, X.-J., Huang, D.-S., & Li, H.-F. (2014). Job burnout among critical care nurses from 14 adult intensive care units in northeastern China: A cross-sectional survey. *BMJ Open*, *4*(6), e004813. doi:10.1136/bmjopen-2014-004813