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EXPLORING THE DETERMINANTS AND IMPACT OF PROFESSIONAL BURNOUT IN ICU NURSING STAFF

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ABSTRACT

Background: *Nurses working in high-intensity environments such as critical care units are often exposed to prolonged stress, leading to professional burnout. Organizational support and workload management are key factors influencing the well-being and performance of nurses.*

Aim: *This study aimed to assess the relationship between workload factors, burnout levels, and organizational support among nurses in critical care settings.*

Methods: *A cross-sectional quantitative study was conducted among 208 nurses working in intensive care and critical care units. Data were collected using a structured questionnaire comprising validated scales for measuring workload factors (WF), burnout (BO), and organizational support (OS). Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity confirmed the suitability of data for factor analysis. Pearson correlation was used to explore relationships among variables.*

Results: *The sample consisted of 69.2% females and 30.8% males, with the majority aged between 20–30 years. Most participants were single (73.1%) and held a diploma in nursing (41.8%). KMO values ranged from 0.554 to 0.868, and Bartlett's test was significant ($p < 0.001$) for all variables. Correlation analysis showed a significant positive relationship between WF and BO ($r = 0.322^{**}$), WF and OS ($r = 0.362^{**}$), and BO and OS ($r = 0.446^{**}$), indicating interdependence among these factors.*

Conclusion: *The findings highlight that workload and organizational support are significantly associated with burnout among nurses. Effective workload management and supportive work environments are essential to mitigate burnout in critical care nurses.*

Keywords: *Workload factors, Burnout, Organizational support, Nurses, Critical care, Occupational stress.*

INTRODUCTION

Burnout is a psychological syndrome that results from chronic workplace stress and is characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. Key terms include burnout, defined as a prolonged response to emotional and interpersonal stressors; emotional exhaustion, the feeling of being emotionally drained and fatigued; and ICU nursing staff, who work in high-stress, high-acuity environments providing critical care. These healthcare professionals often face intense workloads, life-and-death decision-making, and emotional labor, which make them particularly vulnerable to burnout (Demerouti et al., 2001; Chuang et al., 2016).

The prevalence of burnout in ICU nurses has become a growing concern worldwide. A study in Belgium during the COVID-19 pandemic reported that ICU nurses had one of the highest levels of burnout risk (Bruyneel et al., 2021). Egyptian nurses exhibited alarmingly high rates of emotional exhaustion and depersonalization (Anwar & Elareed, 2017). Similar

findings were noted in mental health and public sector nurses, emphasizing that the phenomenon is not restricted to one department but is highly prevalent in high-stress environments (Alenezi et al., 2019; Bao & Zhong, 2019).

Research highlights that burnout is driven by both individual and organizational factors. The Job Demands-Resources (JD-R) model postulates that high job demands and insufficient resources jointly contribute to burnout (Bakker et al., 2005; Demerouti et al., 2001). ICU nurses often experience high workload, time pressure, and role ambiguity, all of which elevate stress and diminish their coping ability (Chang et al., 2014; Chuang et al., 2016). Without adequate support, this can lead to emotional exhaustion, detachment, and impaired performance.

Organizational support has emerged as a protective factor against burnout. Perceived organizational support, defined as the belief that the organization values employee contributions and cares for their well-being, has been inversely associated with burnout (Eisenberger et al., 1986; Eisenberger et al., 1997). Supportive environments promote resilience and professional commitment among ICU nurses (Byrne & Hochwarter, 2008; Bao & Zhong, 2019). However, many nurses perceive their institutions as indifferent to their emotional needs, thereby worsening burnout levels (Cohen & Wills, 1985).

Demographic variables also influence burnout vulnerability. A meta-analysis found that gender, marital status, and having children significantly predict burnout levels in nurses (Cañadas-De la Fuente et al., 2018). Female nurses with dependent children reported higher emotional exhaustion due to dual responsibilities (Demir et al., 2003). Younger nurses and those with fewer years of experience were also more susceptible to professional fatigue (Alfuqaha & Alsharah, 2018; Chang et al., 2018).

Burnout not only impacts individual nurses but also affects patient care quality, safety, and institutional outcomes. Exhausted nurses demonstrate reduced attention, memory, and decision-making capacity, increasing the risk of medical errors and patient dissatisfaction (Hart & Staveland, 1988). Long-term burnout may also lead to higher turnover intentions, absenteeism, and reduced organizational loyalty (Chang et al., 2018; Eisenberger et al., 1997).

Despite increasing global attention, burnout in ICU settings remains underexplored, especially in low-resource environments. This study addresses this critical gap by examining the determinants and consequences of burnout among ICU nurses, offering insight into both personal and systemic factors. Understanding the mechanisms of burnout and identifying effective preventive strategies is essential to promote staff well-being, retention, and patient safety (Bakker et al., 2004; Hayes & Matthes, 2009).

Methodology

This study employed a quantitative, cross-sectional, deductive approach to assess the level of perceived stress and professional burnout among nurses working in critical care units. The research aimed to explore the impact of prolonged occupational stress on professional quality of life. An online structured questionnaire was used as the primary tool for data collection. The sample size was 208.

Data Collection Procedure

Data were collected through an online questionnaire distributed to nurses currently working in various intensive and critical care settings, including ICU, CCU, PICU, SICU, and MICU. Only nurses with at least one year of professional experience in critical care units were eligible to participate, ensuring that respondents had substantial exposure to job-related stressors. Nurses with less than one year of experience were excluded from the study. Responses were gathered electronically. The questionnaire included 33 items adapted from the Professional Quality of Life Scale (ProQOL), designed to measure burnout, compassion fatigue, and compassion satisfaction. The instrument was reviewed and refined with expert input for clarity and relevance.

Data Analysis Procedure

After data collection, responses were entered into SPSS V 27 for analysis. Descriptive statistics such as mean, standard deviation, frequency, and percentages were used to summarize demographic data and burnout levels. Inferential statistics, including correlation and regression analysis, were conducted to examine associations between demographic variables and levels of burnout. Normality of the data was assessed using skewness and kurtosis values. Reliability of the instrument was confirmed through Cronbach's alpha to ensure internal consistency of the scale.

Results and Analysis

The majority of participants were female (69.2%), while males comprised 30.8% of the sample. Most respondents were aged between 20–30 years, with 40.9% aged 20–25 and 38.9% aged 26–30. In terms of qualification, 41.8% held a Diploma in Nursing,

followed by Post RN (26.4%) and BSN Generic (25.5%). Regarding marital status, 73.1% were single, and 26.9% were married. [Table 1].

Table 4.1: Demographic Profile of Respondents (N = 208)

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	64	30.8
	Female	144	69.2
Age	Up to 20	6	2.9
	20–25	85	40.9
	26–30	81	38.9
	31–35	22	10.6
	36–40	5	2.4
	40+	9	4.3
Qualification	Diploma Nursing	87	41.8
	BSN Generic	53	25.5
	Post RN	55	26.4
	MSN	2	1.0
	Other	11	5.3
Marital Status	Married	56	26.9
	Single	152	73.1

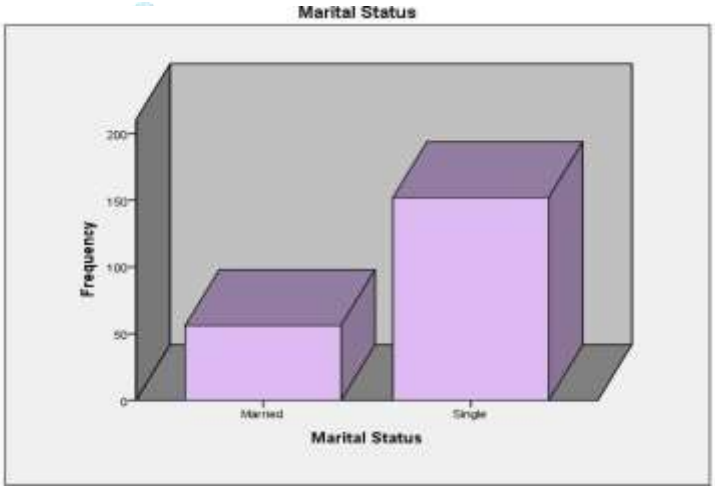

Figure 1: Marital Status of the participants

Out of the total participants, 73.1% were single, while 26.9% were married. This indicates that the majority of the study population was unmarried.

The Kaiser-Meyer-Olkin (KMO) measures show sampling adequacy for factor analysis, with BO (0.868) indicating excellent adequacy, OS (0.682) showing moderate adequacy, and WF (0.554) being acceptable. Bartlett's Test of Sphericity was significant for all variables ($p < 0.001$), confirming that the correlation matrices are suitable for factor analysis [Table 2].

Table 2: Validity Tests (KMO and Bartlett's Test)

Variable	KMO Measure	Bartlett's χ^2	df	p-value
WF	0.554	21.629	3	<0.001
BO	0.868	1469.947	231	<0.001
OS	0.682	290.096	28	<0.001

The correlation matrix shows significant positive relationships among all three variables at the 0.01 level. Workload Factors (WF) are moderately correlated with Burnout (BO) (r = 0.322**) and

Organizational Support (OS) (r = 0.362**). Similarly, BO and OS also show a moderate positive correlation (r = 0.446**), indicating that as one variable increases, the others tend to increase as well. [Table 3].

Table 3: Correlations Between Variables

Variable	WF	BO	OS
WF	1	0.322**	0.362**
BO	0.322**	1	0.446**
OS	0.362**	0.446**	1
**p < 0.01			

Discussion

In Pakistan, mental health has historically been neglected and stigmatized due to the lack of mental health literacy(Thornicroft et al., 2007). Although comparatively less than the general population, the stigma and misinformation are prevalent among the medical fraternity as well(Kishore et al., 2011). Stress and emotional burnout could easily be considered as the most prevalent and the most ignored mental health conditions even among the health service providers. Our study found that around 9 out of 10 nurses were suffering from moderate stress. The figure is quite large and in conformity with many other studies conducted in similar tertiary care hospitals in developing countries(Alharbi & Alshehry, 2019; Bodke & Dhande, 2018). Similarly, we found only 37.5% of total variance in turnover intention is explained by model. Table 10 is showing that significance level ($p<0.05$) for hypothesis 1. Table 11 is describing that 1% change in destructive leadership will bring about 81.1% change in job satisfaction. It means that destructive leadership has strong negative and significant impact on job satisfaction. For hypothesis 1 models shows positive and significant values, so its' accepted. With the increase in destructive leadership job satisfaction tend to decrease. This epidemic-like-situation of stress in tertiary cares could be a distinct sign of continuous negligence in combating this indistinct menace, which could potentially compromise the quality of treatment and the health outcome of a substantial number of patients, when put in a national or global perspective(Hatch et al., 2018; Rodrigues et al., 2017)A demanding career like nursing can seriously affect one's health and lead to psychological and physical problems. The current study looked at the relationship between burnout and occupational stress among hospital nurses.A common condition known as nursing burnout is characterized by a decline in nurses energy that shows itself as emotional tiredness, a lack of enthusiasm, and irritation. It can also result in a decrease in work effectiveness. In the public sector, nurses carry out tasks. As a result, they should do this as they perform their jobs. Nursing involves taking care of patients.Occupational burnout reduces the work efficacy drastically that an effect patient's health and causes job dissatisfaction.

In the literature, burnout among nurses and workplace frustration are related. Numerous studies have confirmed the elements that can lead to burnout. This chapter covers the several studies pertaining to the research's factors, including work frustration, burnout, and organizational support. Burnout is characterized as a stress related to work-related unhappiness and frustration that can lower your work effectiveness and enthusiasm.There is proof that organizational support both causes and prevents burnout. This study demonstrates that employees who perceive organizational support exhibit higher levels of creativity and work engagement as well as greater happiness and excitement for their jobs. Lack of organizational support may cause turnover intentions and a decline in job interest. Employee interest in their jobs increases when they perceive organizational support, which improves organizational outcomes. Work frustration and burnout are directly related to each

other. Additionally, it may diminish an employee's sense of accomplishment and self- actualization, which lowers their productivity and effectiveness at work. Support from the organization helps ease stress. The person who feels supported by the organization behaves more positively toward their passion. Studies have shown that an employee can develop a sense of responsibility and dedication to accomplishing goals.

The study used quantitative deductive approach. The online questionnaire technique was utilized to gather information from nursing staff with experience working in critical units, including ICU, CCU, PICU, SICU, and MICU, for longer than a year. Staff members with less than a year of professional experience don't interact much with their jobs. We arrived at the sample of 400 nursing staff members who volunteered to participate based on nursing

personnel. This session will cover the questionnaire that was created to measure professional quality of life. All of the participants have more than a year of experience working in these crucial units and have a wealth of experience.

Conclusion

The study reveals that the prevalence of stress and burnout among nurses in private tertiary care hospitals is high. The major factors for stress and burnout, which came afore was workload. It is evident that the level of stress and burnout among nurses is on increase in tertiary care now and therefore, policies should be formulated to facilitate induction of preventive measures and coping mechanisms should be promoted by the concerned administration for health care providers, especially for the nurses. Further, we would recommend an in-depth study on the association of aspiration and personal accomplishment and how to leverage on the relationship to manage burnout.

Recommendations

1. **Implement Workload Management Strategies:** Hospital administrations should ensure optimal nurse-to-patient ratios, redistribute tasks, and adopt flexible scheduling to prevent excessive workload.
2. **Enhance Organizational Support Systems:** Provide regular feedback, recognition programs, and accessible resources to create a supportive environment that fosters nurse retention and job satisfaction.

3. **Introduce Stress Reduction and Wellness Programs:** Offer mindfulness training, counseling services, and resilience workshops to help nurses cope with occupational stress and prevent burnout.

4. **Strengthen Leadership and Communication:** Nurse managers should maintain open communication channels, address staff concerns promptly, and encourage participatory decision-making.

5. **Continuous Professional Development:** Arrange regular training sessions and skill enhancement programs to increase nurses' confidence, efficiency, and adaptability in high-pressure settings.

6. **Monitor Burnout Indicators:** Conduct periodic assessments of burnout levels using validated tools to identify early signs and implement timely interventions.

7. **Policy Reforms for Nurse Well-being:** Advocate for policies that prioritize nurse mental health, safety, and fair workload distribution in critical care environments.

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