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Determinants of Burnout and Resilience Behavior among Nurses in Tertiary Care Hospitals

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ABSTRACT

Aim of the Study: Health care workers frequently experience burnout. Resilience may be crucial in preventing or alleviating this illness. The prevalence of personal accomplishment, depersonalization, and fatigue is a significant concern among nurses employed in tertiary care hospitals.

Methodology: For this purpose, this cross-sectional study investigates the relationship between burnout and resilience behavior among nurses in Tertiary care hospitals. A sample size of 215 experienced inpatient nurses was selected using a convenient sampling method. With their consent, data were collected using the Maslach Burnout Inventory and Resilience Scale.

Findings: Findings reveal that nurses exhibited both a high level of resilience and severe burnout symptoms. To help nurses deal with and lessen burnout, national and local policies that support nurses must be developed.

Conclusion: The study found a weak to moderate positive relationship between emotional exhaustion, depersonalization, and personal accomplishment in response to resilience behavior among nurses in tertiary care hospitals, and no differences were found in perceptions based on gender, marital status, and public and private hospitals. This suggests that the resilience behavior plays a vital role for nurses. Burnout significantly impacts nurses' quality of patient care and healthcare delivery. Among nurses, burnout in tertiary care hospitals is increasing due to demanding work conditions because of a high patient-to-nurse ratio, long shifts, and inadequate rest. Resilience behaviors play a crucial role in mitigating burnout, as supported by a positive institutional culture.

Keywords: Burnout, Resilience, Front-line nurses, Emotional Exhaustion, Depersonalization, Tertiary Care Hospitals.

1. INTRODUCTION

Burnout is a serious problem among medical personnel, especially nurses, because they are in high-stress settings like tertiary care institutions. In addition to long hours and a tremendous workload, nurses at these institutions must attend to complex a patient demand, which leads to emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment. Together, these signs and

symptoms characterize burnout, which impacts nurses' mental health and well-being, patient care quality, and healthcare delivery efficiency (Maslach et al., 2022).

Resilience, the capacity to manage stress and overcome hardship, is a crucial component in reducing burnout. Resilient nurses are better able to handle work-related stress as they exhibit improved coping skills, emotional control, and self-care techniques (Ahmad & Shah, 2024).

Nurses in tertiary care hospitals are essential to the healthcare system, overseeing patients with complex and serious conditions. However, the intense demands of their roles often subject them to both emotional and physical stress, which can result in burnout. Burnout among nurses is a widespread concern worldwide, particularly in high-stress settings like tertiary care hospitals. These facilities are often marked by heavy patient loads, intricate medical cases, extended shifts, and insufficient staffing, all of which contribute to nurses' stress and burnout (Amjad et al., 2024a; Shah et al., 2023).

Burnout in nursing is a state of emotional weariness, depersonalization, and a diminished sense of personal success is a common definition of burnout among nurses. (Maslach et al., 2022). Major factors contributing to burnout are staff shortages, a lack of resources, and long shifts, which contribute to burnout by gradually exhausting their physical and emotional resources (Ahsan et al., 2023). Due to a growing healthcare burden and a lack of resources, burnout among nursing personnel has become increasingly prevalent in Pakistan, especially in Karachi. This highlights the need to identify the factors behind burnout among nurses in the hospital setting (Khan et al., 2023).

In recent years, nursing shortages have been present all over the world. Likewise, in Karachi, where healthcare organizations are facing shortages of staffing, a lack of resources, and poor infrastructure, this can lead to high turnover rates. Burnout among nurses has become a persistent concern (Irfan et al., 2022). The nursing staff at Karachi's tertiary care institutions frequently works long shifts with few breaks, which adds to their pressure and exhaustion, causing mental health and wellbeing issues among nurses (Amjad et al., 2024b; Khan et al., 2023; Rehman et al., 2024). Resistance, on the other hand, is a defensive component. Resilience behavior helps to cope with the challenges of their line of work and lessen the effects of burnout. Resilience is the capacity to adjust to adversity, recover from stress, and maintain a positive outlook despite challenges (Ali et al., 2022). Better emotional control and coping mechanisms are typically displayed by nurses with high resilience, allowing them to better handle stress and prevent burnout (Zhou et al., 2022).

The number of factors that may contribute to decreasing burnout levels among nurses includes good leadership, sufficient training, and opportunities for career advancement, which can foster resilience by preparing nurses with the skills and training so that they can manage their stress (Li et al., 2022). Peer support programs and wellness activities are examples of organizational resilience measures that have been demonstrated to improve nurses' or other healthcare professionals' capacity to manage work-related stress and lower burnout (Amjad et al., 2024a).

1.1 Significance of the Study

Resilience and burnout are critical factors influencing nurses' performance and overall well-being. In tertiary care hospitals, nurses often face immense challenges due to the high patient volume, complex and critical cases, long working hours, and lack of motivation. These stressors can contribute to both physical and mental exhaustion, ultimately leading to burnout. Additionally, interactions with patients can further exacerbate the situation. For instance, dealing with non-cooperative patients or sudden patient deaths, especially in cases involving comorbidities or unexpected life-threatening diagnoses, can create emotional and psychological strain. This combination of stressors can severely impact a nurse's ability to cope effectively, diminishing their overall job satisfaction and well-being.

1.2 Study Objectives

1. To examine the relationship between emotional exhaustion, depersonalization, and personal accomplishment in response to resilience behavior among nurses in Tertiary care hospitals.

2. To explore differences in perceptions based on gender, marital status, and public and private hospitals.

2. RESEARCH METHODOLOGY

This cross-sectional study assesses the resilience and burnout behaviors of nurses working at Pakistani tertiary care hospitals in Karachi. Front-line nurses with more than two years of experience comprised the study population. A sample size of 215 experienced inpatient nurses was selected through a convenience sampling method. Priority was given to registered nurses, particularly in the inpatient care unit.

The study used the Maslach Burnout Inventory (MBI) scale to evaluate nurses' self-perceptions of the risk of burnout. This tool explores the three main components that are exhaustion, depersonalization, and personal achievement. The 22 items include 3 parameters, such as burnout/exhaustion (7 items), depersonalization (7 items), and personal achievement (8 items), with strong reliability in the range of 0.70 to 0.90. (Maslach, 2023). It is a valid, freely available tool frequently used in nursing education research. The other tool was the Resilience Tool (CD-RISE), based on 25 items, with a Cronbach's Alpha of 0.908, which shows excellent internal consistency across 25 items (see Table 1). This also suggests that the tool is highly reliable for determining resilience among front-line nurses.

Table 1: *Reliability statistics of Tools*

Cronbach's Alpha	Cronbach's Alpha	N of Items
Maslach Burnout Inventory (MBI)	**0.862**	**22**
Section 1: Burnout/Emotional Exhaustion	0.830	7
Section 2: Depersonalization	0.778	7
Section 3: Personal Achievements	0.880	8
Resilience Tool	**0.908**	**25**

The strict ethical guidelines for data collection were followed by the researchers. This research has given rights to the participant to withdraw from the study at any stage. Data was collected on-site, and the participants' identity was kept confidential.

3. FINDINGS

Table 2 provides a comprehensive demographic analysis of front-line nurses in the inpatient unit, revealing a wide range of ages, academic levels, gender, and marital status. The data from 215 nurses reveals a significant age distribution, enhancing understanding of the workforce in healthcare. This research study sample comprises individuals from the age group, gender categorization, marital status, and lastly, the hospital sector. Participants ranged in age group from 21 to 60 years. The largest number of participants (55.3%) was in the 21-30 years of age, on the other hand, a small proportion (0.9%) was between the age group of 51-60 years. This distribution shows that the bulk of study participants were mostly young. Out of the total respondents, 114 (53.0%) were male, while 101 (47.0%) were female, showing a relatively balanced gender representation within the study population. In terms of marital status, 57.7% of the participants were married and 42.3% were unmarried, showing that more than half of the participants were in a marital relationship. Meanwhile, participants were categorized based on their hospital sector in which they worked. 48.4% of the participants were working in the public sector, while 51.6% were working in the private sector, showing a nearly equitable distribution across the two sectors.

Table 2: *Descriptive Statistics of Front-Line Nurses*

Demographics	N (%)
Age	
21-30	119 (55.3%)
31-40	66 (30.7%)
41-50	28 (13.0%)
51-60	2 (0.9%)
Gender	
Male	114(53.0%)
Female	101(47.0%)
Marital Status	
Married	124(57.7%)
Unmarried	91(42.3%)
Hospital sectors	
Public	104 (48.4%)
Private	111(51.6%)

The MBI scoring system classifies burnout into three levels: personal achievement, depersonalization, and emotional exhaustion, with scores ranging from 0 to 40. The data from Table 3 identifies the burnout level (low to high) and improving job satisfaction and psychological well-being in healthcare facilities.

Table 3: *MBI scoring system*

	Low burnout	Medium burnout	High burnout
Emotional exhaustion/Burnout	0-17	18-29	>30
Depersonalization	0-5	6-11	>12
Personal Achievement	>40	34-39	<33

Table 4 shows the frequency of burnout among front-line nurses in the inpatient area, based on three major components: emotional exhaustion, depersonalization, and personal achievement. Emotional exhaustion, Mean ± SD: 1.67 ± 0.746, indicates that most nurses fall into the low emotional exhaustion category. Approximately 40% of nurses report low emotional exhaustion, but a significant 16.7% report high levels, representing early signs of burnout in a notable minority. Depersonalization, Mean ± SD: 2.54 ± 0.609, indicating a higher score than the first dimension, suggesting more prevalent depersonalization. This is the most concerning dimension, more than 60% of nurses show high depersonalization. Personal Achievement Mean ± SD: 2.06 ± 0.846 shows a middle-range score. This score shows that a lower score means worse. This score shows that lower scores mean worse outcomes (unlike the first two). Meaning, 33% of nurses feel a low sense of accomplishment, which can intensify burnout effects, while a larger portion (38.6%) feel relatively accomplished.

Table 4: *Frequency of Burnout among front-line nurses in the inpatient area*

Burnout Dimension	Mean ±SD, f (%)
Burnout/Emotional exhaustion	**1.67±0.746**
Low (< 17)	106 (49.3%)
Moderate (18-29)	73 (34%)
High (> 30)	36 (16.7%)
Depersonalization	**2.54±0.609**
Low (< 5)	13 (6%)
Moderate (6-11)	72 (33.5%)
High (>12)	130 (60.5%)
Personal Achievement	**2.06±0.846**
Low (> 40)	83 (38.6%)

Moderate (34-39)	61(28.4%)
High (< 33)	71(33%)

Table 5 shows the relationship between MBI dimensions and resilience behavior among nurses. The results reveal that the correlation between emotional exhaustion with resilience (.409), depersonalization (.262), and personal accomplishment (.463) is significant, with $p = .05$ (2-tailed). However, emotional exhaustion and personal accomplishment have a positive moderate relationship with resilience; as the resilience increases, emotional exhaustion and personal accomplishment tend to increase. Meanwhile, depersonalization has a weak positive relationship with resilience, suggesting that resilience alone might not prevent emotional detachment.

Table 5: *Correlation between Burnout and Resilience among Front-Line Nurses*

	Emotional exhaustion	Depersonalization	Reduce personal accomplishment
Resilience score	0.409[**]	0.262[**]	0.463[**]
Sig. (2-tailed)	.000	.000	.000

*. Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Table 6 presents an analysis of emotional exhaustion among frontline nurses with various demographic factors. The results show no significant association between emotional exhaustion and gender ($\chi^2 = 0.283$, $p = 0.868$) or marital status ($\chi^2 = 2.046$, $p = 0.360$), indicating these factors do not substantially influence burnout levels. However, while the difference between public and private hospital sectors was not statistically significant too ($\chi^2 = 4.155$, $p = 0.125$), suggesting a potential trend that merits further investigation. Overall, the findings highlight that emotional exhaustion is not strongly linked to gender or marital status, but institutional differences may play a role and should be explored in future research. Furthermore, the gender also displayed no meaningful association with depersonalization ($\chi^2 = 5.009$, $p = 0.082$), and marital status ($\chi^2 = 2.165$, $p = 0.339$), and the sector of hospital (public vs. private) ($\chi^2 = 2.132$, $p = 0.344$), meaning no significant impact of demographic characteristics on the level of depersonalization among frontline nurses. For the personal achievement, findings also reveal that there is no significant relationship of personal achievement with gender ($\chi^2 = 1.857$, $p = 0.395$), marital status ($\chi^2 = 2.455$, $p = 0.293$), and hospital sector ($\chi^2 = 0.574$, $p = 0.751$), as all indicate high p- values ($p > .05$).

Table 6: *Chi-Square Test for Demographic Variables and MBI Dimensions*

	Chi–Square	df	Sig
Emotional exhaustion			
Gender	0.283	2	0.868
Marital status	2.046	2	0.360
Public & Private hospitals	4.155	2	0.125
Depersonalization			
Gender	5.009	2	0.082
Marital status	2.165	2	0.339
Public & Private hospitals	2.132	2	0.344
Personal achievements			
Gender	1.857	2	0.395
Marital status	2.455	2	0.293
Public & Private hospitals	0.574	2	0.751

4. DISCUSSION

Burnout among nurses is a persistent and rising problem in tertiary care hospitals due to the challenging nature of their work. The condition is described by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment. In conclusion, resilience should certainly be adopted in the face of adversity. Considering the determinants of both burnout and resilience behavior is vital for supporting the mental well-being and effectiveness in the nursing profession. High patient-to-nurse ratio, long shifts, and inadequate rest hours are strongly correlated to increased burnout levels. According to Ashraf et al. (2024), supportive supervisors and wider healthcare organizations play a vital role in alleviating burnout. Tetteh and Agyemang (2022) identified that nurses with less access to supportive supervision and inadequate organizational support were more likely to report emotional exhaustion and job dissatisfaction.

The current study found that a polite, communicative, and safety-oriented institutional culture provides nurses with psychological resilience. Similar findings were observed by Zhang and Wang (2024), who emphasized that when nurses feel respected and attended to, and secure in their environment, their ability to manage occupational tension improves significantly. Similarly, Zhang and Li (2023) emphasized that early interventions and counseling facilities in an organization, teaching mindfulness sessions, and consistent psychological assessment, help to enhance coping skills among healthcare professionals. Thus, it underlines the optimistic impact of focused resilience training and psychological health support in decreasing burnout signs and symptoms among nurses.

Furthermore, the study highlights the importance of understanding the relationship between burnout and resilience for healthcare workers' well-being. The MBI and Connor-Davidson Resilience Scale are both reliable tools, providing valuable insights into the relationship between burnout and resilience, which is often considered a protective factor against burnout. Resilient healthcare workers demonstrate better psychological flexibility, which helps them manage emotional strain, occupational stress, and helps individuals cope with stress and emotional exhaustion. Previous studies showed that supportive work environments can bolster resilience, which in turn reduces the risk of burnout, and high resilience levels are linked with lower levels of burnout rates (Zhang & Wang, 2024), suggesting that resilience-enhancing interventions can prevent or mitigate burnout (Alsharif et al., 2024; Han & Yeun, 2023). Similarly, Mantas-Jiménez et al. (2022) highlighted that strong resilience is positively correlated with higher job satisfaction and lower levels of emotional exhaustion. However, programs designed to build resilience can reduce emotional exhaustion and depersonalization in healthcare workers, such as mindfulness and stress management.

5. CONCLUSION

The study found a weak to moderate positive relationship between emotional exhaustion, depersonalization, and personal accomplishment in response to resilience behavior among nurses in tertiary care hospitals, and no differences were found in perceptions based on gender, marital status, and public and private hospitals. This suggests that the resilience behavior plays a vital role for nurses. Burnout significantly impacts nurses' quality of patient care and healthcare delivery. Among nurses, burnout in tertiary care hospitals is increasing due to demanding work conditions because of a high patient-to-nurse ratio, long shifts, and inadequate rest. Resilience behaviors play a crucial role in mitigating burnout, as supported by a positive institutional culture. Similarly, depersonalization, emotional exhaustion, and reduced personal achievements are prevalent, but resilience can lessen these effects. Understanding the factors leading to burnout and implementing resilience-boosting techniques can improve healthcare systems. Addressing workload, organizational support, and resilience-building challenges can enhance patient outcomes. The study recommends fostering resilience in nurses through training and psychological support, promoting organizational support, and reducing workload to prevent burnout. However, there is limited research on determinants of burnout and resilience behavior among

nurses in tertiary care hospitals in Karachi. So, future research should be on the determinants of burnout and resilience in diverse hospital settings.

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