

ASSESSMENT OF BURNOUT OF NURSES AND ITS IMPACT ON RESILIENCE IN MAJOR HOSPITAL DEPARTMENTS

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Abstract: Burnout among nurses is a critical issue that can significantly affect their professional performance and overall well-being. Personal resilience has been suggested as a potential mitigating factor for burnout symptoms. Understanding the relationship between burnout and resilience can inform interventions to support nurses in high-stress environments. **Objective:** To assess the burnout levels of nurses working in central hospital departments and their association with personal resilience. **Methods:** A cross-sectional study was conducted in the Nursing Department of a tertiary care hospital from April 2023 to April 2024. A total of 200 registered and licensed nurses from major departments who were directly involved in patient care were selected through convenience sampling. Data were collected using an anonymous questionnaire written in both English and Urdu. The survey comprised three sections: demographic details, the Maslach Burnout Inventory General Survey, and the Connor-Davidson Resilience Scale. Statistical analysis was performed using SPSS version 25. Descriptive statistics were used to summarize the data, and Pearson correlation analysis was conducted to assess the association between burnout and resilience variables. **Results:** The mean scores of burnout variables were 2.50 ± 1.30 for emotional exhaustion, 2.18 ± 1.18 for cynicism, and 2.21 ± 1.08 for reduced professional performance. The mean scores for resilience variables were 33.08 ± 7.15 for tenacity, 22.68 ± 5.63 for strength, and 10.82 ± 2.36 for optimism. A significant negative association was found between resilience levels and burnout symptoms; higher resilience scores were associated with lower burnout symptoms, though these associations were not statistically significant. **Conclusion:** The study identified high burnout and moderate resilience levels among nurses. Burnout and resilience were negatively associated, suggesting that enhancing resilience may play a role in mitigating burnout among nurses. Interventions aimed at building resilience could be beneficial in reducing burnout and improving professional performance.

Keywords: Burnout, Nurses, Nursing, Resilience, Stress

Introduction

Burnout is a state of mental exhaustion, reduced work output, and cynicism caused by stressful job experiences. Nursing is one of the most stressful jobs in the world as it involves constant emergencies, which makes nurses most susceptible to experiencing burnout. (1, 2). Literature has reported a high incidence of burnout symptoms in nurses worldwide. A study conducted in the U.S., including more than 90,000 nurses, concluded a high extent of burnout syndrome and job dissatisfaction among nurses working with elderly and intensive care patients. (3) Similarly, 48.2% of Canadian nurses, 36% in Japan, and 49% in Pakistan reported burnout. (4-6).

For the past three decades, several studies have highlighted the high burnout levels in nurses. The recent pandemic, due to the shortage of nursing staff, has further contributed to this. The common causes of burnout in nurses are high workload, unhealthy work environment, inability to balance personal life with work, and conflicting personality. (6, 7). Burnout leads to low professional performance and job dissatisfaction and endangers patients' quality of care.

Resilience in burnout events can help nurses function properly after consistent stress exposure at work by adopting coping mechanisms and problem-solving skills to reduce distress. Research has shown that resilient nurses overcome stress and workplace challenges by improving their strengths. (8) Understanding the association between

resilience and burnout is crucial for establishing a healthy work environment for nurses and improving patient care.

This study assessed the burnout of nurses working in central hospital departments and its association with personal resilience.

Methodology

A cross-sectional study was conducted in the Nursing Department of a tertiary care hospital from April 2023 to April 2024. A total of 200 registered and licensed nurses from significant departments of the hospital who were directly involved with patient care were selected by convenience sampling. Nurses unwilling to participate and on sick or maternity leave were excluded. All participants provided their informed consent to participate in the study, which was approved by the hospital's ethical board.

Data was collected through an anonymous questionnaire written in both English and Urdu. The survey consisted of three sections. The first section inquired about demographic details, including age, sex, qualification, marital status, workload, experience, smoking status, workout hours, and department. The second section contained 16 questions of the Maslach Burnout Inventory General Survey inquiring about emotional exhaustion, professional performance, and cynicism, which could be answered on a Likert scale from 0 to 6, with 0 indicating a never occurred event and 6

indicating an everyday event. The scale did not calculate a total score for burnout, but a high score indicated a high burnout level. The validity and reliability of the scale were pretested with Cronbach’s alpha of 0.90, 0.80, and 0.85 for three metrics, respectively. The last section contained 25 questions on the Connor-Davidson Resilience Scale inquiring about optimism, tenacity, and strength to assess nurses’ resilience in dealing with stress. The questions could be answered on a Likert scale from 0 to 4, with 0 being agreed and four being agreed, keeping last month’s activity as a reference. The minimum score was 0, and the highest score was 100, indicating levels of resilience. The validity and reliability of the scale were pretested with Cronbach’s alpha of 0.601, 0.870, and 0.835 for three metrics, respectively. The alpha coefficient of resilience was 0.919. All the data was analysed using SPSS version 23. Data for burnout symptoms, resilience, and its factors were usually distributed. Descriptive analysis was performed for demographic data, burnout, and resilience, and data was presented as percentage and mean ± SD. Pearson correlation was used to evaluate the association between resilience and burnout. Multiple Linear regression was performed to assess the impact of resilience and other variables on burnout. Stepwise regression was performed to minimise standard errors. A two-sided p-value of 0.05 was taken as significant.

A total of 200 nurses were included in the analysis. Nearly all participants (90%) were women, and the average age was 30.42 ± 5.54 years. The patient-to-nurse ratio was 10:4. Most nurses belonged to the surgical department (30%), followed by general medicine (25%). The socio-demographic characteristics of participants are shown in Table I.

The mean scores of burnout variables were 2.50 ± 1.30, 2.18 ± 1.18, and 2.21 ± 1.08 for emotional exhaustion, cynicism, and reduced professional performance, respectively. The mean scores for resilience variables were 33.08 ± 7.15, 22.68 ± 5.63, and 10.82 ± 2.36 for tenacity, strength, and optimism, respectively (Table II).

Table III shows a significant association between burnout and resilience variables. Higher resilience levels and variable scores were negatively associated with burnout symptoms; however, these associations were significant. Table IV shows correlations between burnout and resilience and demographics. The significant predictors of emotional exhaustion were less strength, little to no workout, shift job, high patient-to-nurse ratio, and marital problems, which led to high exhaustion (F= 20.103, p<0.001, R2=0.120). A high level of cynicism was predicted by low resilience, working in shifts, and little workout (F= 45.005, R2= 0.020, P<0.001), and reduced professional performance was predicted by low strength (F= 74.021, R2= 0.119, P<0.001).

Results

Table I: Patient demographic characteristics

Characteristics	N (%)
Average age	30.42 ± 5.54
Mean work experience	7.08 ± 5.81
Gender	
Men	20 (10%)
Women	180 (90%)
Qualification	
Associate degree or diploma	40 (20%)
Bachelor’s degree and higher	160 (80%)
Marital status	
Single	70 (35%)
Married	120 (60%)
Divorced/ Widowed	10 (5%)
Children	
Yes	100 (50%)
No	100 (50%)
Works in shifts	160 (80%)
Smokers	10 (5%)
Daily exercise	80 (40%)
Department	
General medicine	50 (25%)
Emergency	16 (8%)
Pediatric	10 (5%)
Surgical	60 (30%)
Gynaecology	18 (9%)
Out-patient	8 (4%)
Intensive care	16 (8%)
Operating room	16 (8%)

Table II: Burnout And Resilience Factors of Nurses

Factors	Mean ± SD	Min-Max
Burnout		

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Emotional exhaustion	2.50 ± 1.30	0-6
Cynicism	2.18 ± 1.18	0-6
Reduced professional performance	2.21 ± 1.08	
Resilience		
Tenacity	33.08 ± 7.15	0-51
Strength	22.68 ± 5.63	4-31
Optimism	10.82 ± 2.36	2-15

Table III: Association between burnout and Resilience Variables

	Emotional exhaustion	Cynicism	Reduced professional performance	Tenacity	Strength	Optimism
Emotional exhaustion	1.0					
Cynicism	0.648 (P<0.001)	1.0				
Reduced professional performance	0.076 (P=0.010)	0.133 (P<0.001)	1.0			
Tenacity	-0.234 (P<0.001)	-0.290 (P<0.001)	-0.267 (P<0.001)	1.0		
Strength	-0.283 (P<0.001)	-0.302 (P<0.001)	-0.337 (P<0.001)	0.765 (P<0.001)	1.0	
Optimism	-0.242 (P<0.001)	-0.241 (P<0.001)	-0.240 (P<0.001)	0.620 (P<0.001)	0.650 (P<0.001)	1.0

Table IV: Multiple Linear Regression Analysis

		Unstandardised coefficients (B)	Beta	t	P value
Emotional exhaustion	Strength	-0.070	-0.247	-8.252	<0.001
	Exercise	-0.291	-0.109	-3.759	<0.001
	Bed-to-nurse ratio	0.182	0.072	-2.275	0.019
	Shift work	0.293	0.087	2.907	0.005
	Marital status	0.234	0.089	2.784	0.003
Cynicism	Resilience score	-0.032	-0.287	-9.981	<0.001
	Exercise	0.218	-0.089	-3.257	0.001
	Shift work	0.253	0.076	2.976	0.002
Reduced professional performance	Strength	-0.078	-0.344	-11.645	<0.001

Discussion

This study assessed the burnout and resilience of nurses working in central hospital departments. The results showed a strong association between resilience, notably strength and burnout.

The mean scores of burnout variables (EE: 2.50, CY: 2.18, and RPP: 2.21) were higher than those reported in previous studies. The scores were 2.20, 1.51, and 1.92, respectively, in Vincent et al. (P<0.001) (9). However, our study results were significantly higher than those reported in European studies (10, 11). This difference may be due to the increasing shortage of nurses in Pakistan, leading to burnout of existing staff due to excessive workload. With a ratio of 1.5:1000 nurse to population ratio, the nurse shortage is acute in Pakistan compared to 8.3:1000 in Australia and 4.9:1000 in Japan. (12-14) Thus, with an increase in patients and a shortage of nurses, nurses find it difficult to cope with work stress and workload, which affects their motivation to work and their personal lives and causes burnout.

The average total resilience score was 66.58, which indicates that nurses are moderately resilient. Similar findings of resilience were reported by Australia (69.98), and in the U.S., 70% of nurses were moderately resilient. (15, 16). It has been predicted that high-resilience nurses are more satisfied at work, improving the nursing turnover rate. Thus, there is a need to establish a healthy work environment and educate nurses about resilience to help nurses manage stressors. Strength in our study was significantly associated with emotional exhaustion, cynicism, and reduced efficacy, which improves patients' quality of life and the ability of nurses to adapt to changes and develop coping mechanisms.

In the present study, marital status and workouts are also significantly associated with emotional exhaustion and cynicism. Literature highlights that cardiovascular workouts and metabolic exercises increase confidence, self-esteem, and social skills and improve cognition and problem-solving, relieving stress (17). A study reported that

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the involvement of nurses in physically rigorous activities can reduce physiological and physical stress, keep them active, and avoid burnout(18). Smoking can impact the nurse's lifestyle and is strongly associated with depression and burnout, affecting their work efficacy and quality of care. In addition, marital life and personal relationships can impact nurses' work, and a supportive family can help them deal with stress at work. Professional characteristics such as working in shifts and patient-to-nurse ratio are also significantly associated with burnout. A high number of patients and taking more shifts at work increase nurses' stress, causing burnout.

Our study has some limitations. First, the study design limits the possibility of assessing casual associations. Second, we used convenience sampling to select participants, so our findings may not be applicable to the general population

Conclusion

Nurses reported high burnout and moderate resilience, with burnout and resilience negatively associated, highlighting the role of resilience in nurses' professional performance.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate.

Approved by the department concerned. (IRB-NHMC-3892 dated 12-10-22))

Consent for publication

Approved

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Conflict of interest

The authors declared an absence of conflict of interest.

Authors Contribution

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Data Analysis & Concept & Design of Study

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