

Adaptive Coping Mechanisms and Stress Management Practices Among Nurses Working in Tertiary Care Hospitals of Sindh, Pakistan

Article History:

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Received: 28-03-2026

Revised: 11-04-2026

Accepted: 26-04-2026

Published: 20-05-2026

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Abstract: **Background:** Nurses working in tertiary care hospitals frequently encounter high levels of occupational stress due to heavy workloads, prolonged duty hours, emotional strain, staff shortages, and demanding clinical responsibilities. Persistent workplace stress can adversely affect nurses' mental well-being, professional performance, and quality of patient care. Adaptive coping mechanisms and effective stress management practices are therefore essential for promoting resilience and maintaining healthcare efficiency. Limited regional evidence is available regarding coping behaviors among nurses in tertiary care settings of Sindh. **Objective:** To assess adaptive coping mechanisms and stress management practices among nurses working in tertiary care hospitals of Sindh and to identify factors associated with effective coping behaviors. **Methods:** A cross-sectional analytical study was conducted among registered nurses employed in public and private tertiary care hospitals of Sindh over a period of six months, from June 2025 to November 2025. Data were collected using a structured self-administered questionnaire comprising demographic characteristics, occupational factors, perceived stress indicators, and adaptive coping practices. Coping strategies were assessed through domains including problem-focused coping, emotional regulation, social support, relaxation techniques, and time management practices. Statistical analysis was performed using descriptive and inferential methods to determine associations between workplace variables and coping mechanisms. A p-value of <0.05 was considered statistically significant. **Results:** The findings revealed that a substantial proportion of nurses experienced moderate to high occupational stress, primarily related to workload burden, rotating shifts, inadequate staffing, and emotional exhaustion associated with patient care responsibilities. Problem-solving approaches, peer and family support, religious coping, and effective time management were identified as the most commonly utilized adaptive coping mechanisms. Nurses with longer professional experience, supportive work environments, and balanced duty schedules demonstrated significantly better stress management practices compared to their counterparts. Effective adaptive coping behaviors were positively associated with improved emotional resilience and professional satisfaction. **Conclusion:** Occupational stress remains a significant concern among nurses working in tertiary care hospitals of Sindh. Adaptive coping mechanisms play a vital role in reducing stress and enhancing psychological well-being among nursing professionals. Healthcare institutions should implement structured stress management programs, counseling services, and supportive workplace policies to strengthen nurses' coping capacities and improve overall healthcare delivery.

Keywords: Adaptive coping, stress management, nurses, occupational stress, tertiary care hospitals, Sindh, resilience, mental well-being.

INTRODUCTION

Nursing is widely recognized as one of the most demanding professions within the healthcare system because nurses are continuously exposed to physical workload, emotional pressure, critical clinical situations, and prolonged working hours. In tertiary care hospitals, nurses frequently manage critically ill patients, emergency situations, staff shortages, and high patient turnover, all of which contribute significantly to occupational stress. Persistent workplace stress may adversely affect nurses' psychological well-being, job satisfaction, professional performance, and quality of patient care. Recent evidence indicates that occupational stress among nurses has become a growing global healthcare concern, particularly in low- and middle-income countries where healthcare resources are often limited.¹

Occupational stress among nurses has been associated with burnout, emotional exhaustion, anxiety, depression, reduced productivity, and increased risk of clinical errors. Studies conducted in tertiary healthcare settings have shown that excessive workload, long duty hours, inadequate staffing, poor managerial support, and emotionally challenging patient care environments are major contributors to stress among nursing professionals. Recent literature from Pakistan has highlighted a substantial burden of occupational stress among nurses, emphasizing the urgent need for supportive interventions and effective coping strategies within healthcare institutions.²

Adaptive coping mechanisms are behavioral and psychological strategies that help individuals effectively manage stressful situations and maintain emotional stability. Common adaptive coping practices among nurses include problem-solving approaches, social support, emotional regulation, spiritual coping, relaxation techniques, and time management skills. Effective coping strategies have been shown to reduce emotional distress, improve resilience, enhance professional satisfaction, and promote better mental health outcomes among healthcare workers. Conversely, inadequate coping mechanisms may increase vulnerability to burnout and psychological fatigue.³

In developing healthcare systems such as Pakistan, nurses working in tertiary care hospitals often face additional workplace challenges including limited healthcare resources, overcrowding, insufficient staffing, and increasing patient demands. These factors may further intensify occupational stress and negatively influence coping capacity. Although several international studies have explored stress and coping strategies among nurses, limited data are available regarding adaptive coping mechanisms and stress management practices among nurses working in tertiary care hospitals of Sindh. Understanding these

coping behaviors is essential for developing evidence-based interventions aimed at improving nurses' mental well-being and healthcare delivery.

Therefore, the present study aims to assess adaptive coping mechanisms and stress management practices among nurses working in tertiary care hospitals of Sindh. The findings of this study may assist healthcare administrators and policymakers in designing effective stress reduction programs, supportive workplace policies, and mental health interventions to strengthen nurses' resilience, professional performance, and quality of patient care..

MATERIALS AND METHODS

Study Design and Setting

A cross-sectional analytical study was conducted among registered nurses working in public and private tertiary care hospitals of Sindh. The study was carried out over a period of six months from June 2025 to November 2025. The selected tertiary care hospitals provided specialized healthcare services and employed nursing staff across multiple clinical departments including medical, surgical, emergency, intensive care, and outpatient units.

Study Population

The study population comprised registered nurses currently employed in tertiary care hospitals of Sindh. Nurses with at least six months of clinical working experience were included in the study to ensure adequate workplace exposure and familiarity with hospital-related stressors. Nurses on long leave, administrative staff without clinical duties, trainee nurses, and those unwilling to participate were excluded from the study.

Sample Size and Sampling Technique

The sample size was calculated using the OpenEpi sample size calculator by considering a 95% confidence interval, 5% margin of error, and an anticipated prevalence of occupational stress among nurses based on previous regional studies. A non-probability convenient sampling technique was employed to recruit eligible participants from different hospital departments.

Data Collection Tool

Data were collected using a structured self-administered questionnaire adapted from previously validated occupational stress and coping assessment tools used among healthcare professionals.^{1,2} The questionnaire consisted of four sections including socio-demographic characteristics, occupational information, perceived workplace stressors, and adaptive coping mechanisms. Coping strategies were assessed through domains such as problem-focused

coping, emotional regulation, social support, relaxation techniques, spiritual coping, and time management practices.

The questionnaire was prepared in English and explained to participants where necessary to ensure clarity and comprehension. A pilot study was conducted on a small group of nurses prior to formal data collection to assess the reliability and feasibility of the instrument. Necessary modifications were made based on pilot feedback.

Data Collection Procedure

After obtaining administrative permission from participating hospitals, eligible nurses were approached during duty hours. The purpose and objectives of the study were clearly explained to all participants. Written informed consent was obtained before questionnaire distribution. Confidentiality and anonymity of the participants were strictly maintained throughout the study. Participants were allowed adequate time to complete the questionnaire independently.

Study Variables

The dependent variable of the study was adaptive coping and stress management practices among

nurses. Independent variables included age, gender, marital status, educational level, years of clinical experience, department of work, shift duties, workload, and workplace support systems.

Statistical Analysis

Data were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated for demographic and occupational variables. Inferential statistical tests such as chi-square test and independent t-test were applied to determine associations between occupational characteristics and coping practices. A p-value of less than 0.05 was considered statistically significant.

Ethical Considerations

Ethical approval for the study was obtained from the Institutional Review Board/Ethical Review Committee of the concerned institution before commencement of the research. Participation was voluntary, and participants had the right to withdraw from the study at any stage without any consequences. Confidentiality of all collected information was ensured, and data were used strictly for research purposes only.

RESULTS

A total of 320 registered nurses from tertiary care hospitals of Sindh participated in the study during the six-month study period. The response rate was 91.4%. The mean age of the participants was 29.8 ± 5.7 years, with the majority being female nurses (72.5%). Most participants were employed in medical and surgical wards (38.1%), followed by intensive care units (24.4%), emergency departments (19.7%), and other specialty units (17.8%). Approximately 58.4% of nurses had more than five years of professional experience, while 64.1% reported rotating shift duties.

Occupational Stress Among Nurses

Moderate to high levels of occupational stress were identified in 68.7% of participants. The most frequently reported workplace stressors included excessive workload (74.1%), inadequate staffing (69.4%), prolonged duty hours (63.8%), emotional exhaustion from patient care (61.9%), and lack of organizational support (48.7%). Nurses working in critical care and emergency departments demonstrated significantly higher stress scores compared to those working in general wards ($p < 0.01$).

Adaptive Coping Mechanisms

Problem-focused coping strategies were the most commonly utilized adaptive coping mechanisms, reported by 71.6% of participants. Support from colleagues and family members was reported by 66.9% of nurses, while spiritual and religious coping practices were identified in 62.8% of participants. Time management techniques and relaxation activities such as exercise and recreational engagement were reported by 54.7% and 49.1% of nurses, respectively.

Nurses with greater professional experience demonstrated significantly higher utilization of adaptive coping strategies compared to less experienced nurses ($p = 0.02$). Similarly, nurses reporting supportive workplace environments showed lower occupational stress scores and better stress management practices ($p < 0.001$).

Association Between Occupational Factors and Coping Practices

A statistically significant association was observed between rotating shift duties and elevated occupational stress levels ($p = 0.01$). Nurses working more than 48 hours per week demonstrated higher stress scores and lower adaptive coping performance compared to those with shorter working hours ($p = 0.03$). Availability of peer support systems and positive supervisory relationships were independently associated with improved emotional resilience and coping

capacity.

Multivariable logistic regression analysis revealed that supportive work environments (Adjusted Odds Ratio [AOR]=2.41; 95% CI: 1.52–3.84), professional experience greater than five years (AOR=1.88; 95% CI: 1.14–3.10), and participation in stress management activities (AOR=2.76; 95% CI: 1.69–4.51) were significant predictors of effective adaptive coping mechanisms among nurses

DISCUSSION

The present study explored adaptive coping mechanisms and stress management practices among nurses working in tertiary care hospitals of Sindh. The findings indicate a high burden of occupational stress among nurses, with more than two-thirds of participants reporting moderate to high stress levels. This is consistent with recent international evidence highlighting nursing as a highly stressful profession due to workload pressure, staff shortages, emotional demands, and long working hours.¹

In the current study, excessive workload, inadequate staffing, prolonged duty hours, and emotional exhaustion were identified as the most prominent stressors. These findings align with previous studies conducted in South Asian and other low-resource healthcare settings, where systemic limitations and high patient-to-nurse ratios significantly contribute to occupational stress.^{2, 3} Nurses working in intensive care and emergency departments experienced higher stress levels compared to those in general wards, likely due to the critical nature of patient conditions and rapid decision-making demands.

Regarding coping mechanisms, problem-focused coping, social support, and spiritual/religious coping were the most commonly reported strategies among participants. Similar patterns have been reported in recent literature, where nurses frequently rely on both personal and social resources to manage workplace stress effectively.⁴ The strong reliance on spiritual coping observed in this study reflects cultural and contextual influences in Pakistan, where religious beliefs often play a key role in emotional resilience and stress management.

The study also found that nurses with greater professional experience demonstrated significantly better coping abilities. This may be attributed to increased clinical competence, improved confidence, and better emotional regulation developed over time. Additionally, supportive workplace environments were strongly associated with effective coping and lower stress levels. This finding highlights the importance of organizational support systems, including effective leadership, teamwork, and access to mental health resources in healthcare institutions.

Multivariable analysis further revealed that supportive work environments, longer professional experience,

and participation in stress management activities were significant predictors of adaptive coping. These findings are in agreement with previous studies suggesting that institutional interventions such as counseling services, stress management training, and workload optimization can significantly improve nurses' psychological well-being and resilience.^{1, 5}

Overall, the results emphasize that occupational stress among nurses remains a critical concern in tertiary care hospitals, and effective coping strategies are essential for maintaining both mental health and quality of patient care.

CONCLUSION

The study concludes that nurses working in tertiary care hospitals of Sindh experience substantial occupational stress, primarily due to workload burden, staffing shortages, and demanding clinical responsibilities. Despite these challenges, most nurses utilize adaptive coping mechanisms such as problem-solving approaches, social and family support, and spiritual practices to manage stress effectively.

However, coping effectiveness is significantly influenced by professional experience and workplace environment. Supportive organizational structures, stress management training programs, and improved staffing policies are essential to enhance nurses' resilience and reduce occupational stress.

Strengthening institutional support systems and promoting structured mental health interventions may contribute to improved well-being, reduced burnout, and better quality of healthcare delivery.

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