



PREVALENCE AND FACTORS ASSOCIATED WITH STRESS AMONGST NURSES IN TERTIARY CARE HOSPITALS OF PESHAWAR

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ABSTRACT

Background: Nursing is a highly demanding profession, particularly in tertiary care settings where workloads are intense and patient cases are complex. Stress among nurses not only compromises their well-being but also impacts the quality of patient care. In regions like Peshawar, where healthcare systems face resource constraints and high patient loads, understanding the stress experienced by nurses is crucial for developing supportive interventions.

Methods: A cross-sectional study was conducted across three major tertiary care hospitals in Peshawar: Hayatabad Medical Complex, Naseer Teaching Hospital, and Maqsood Medical Complex. A total of 402 nurses were approached, with 366 participating (response rate: 90.59%). Data were collected using a pretested structured questionnaire assessing stress levels, associated factors, and coping mechanisms. Descriptive statistics were used to analyze the data.

Results: The prevalence of stress among nurses was found to be 83%. The majority of nurses were young, with 79.2% under 34 years of age, and 55.5% were married. Educationally, 63.4% held a diploma, while 35% had a Bachelor of Science in Nursing. Key workplace stressors included: perceived insincerity of doctors during patient interactions (36.3% frequently stressed, 13.7% always stressed), disrespect for patient autonomy (31.4% frequently stressed), patient severe pain (32.8% frequently stressed), uncooperative patient attitudes (28.1% frequently stressed), and encountering patient death (28.7% frequently stressed). Coping strategies varied, with many nurses employing self-reflection, positive reframing, humor, and lifestyle adjustments, though a notable portion relied on passive approaches such as waiting for stress to subside.

Conclusion: This study shows that Nurses in the tertiary hospitals of Peshawar experience a high stress load due to excessive clinical work, difficult patients' attitudes and hard doctor-nurse relationship. Although positive coping is employed by many, passive strategies continue to be common. Enhanced organizational support and specific-stress management interventions are required to safeguard nurse well-being and enhance patient care.

Keywords: Tertiary care hospitals, Coping Mechanisms, Mental Health, Workplace Stress

INTRODUCTION:

Stress is characterized as a negative physical and psychological response that occurs when perceived demands exceed an individual's ability to meet them (1). It is a profound influence on physical and mental health and has also emerged as one of the most important contributors to effectiveness and satisfaction in contemporary organizations (2). Among healthcare workers, job-related stress is considered to be the result of excessive demands from workload, shift changes, and workplace dynamics, which can have emotional, physical, and behavioural effects like burnout, absenteeism, and low care quality (3).

Nurses commonly perceive high stress levels in their profession due to ongoing job requirements, emotional work, and difficult working environments (4). Nurses are often exposed to stressors such as high patient acuity, long working hours, conflicts in interpersonal conflicts, and inadequate resources (5). Globally, work-related stress among nurses is an urgent public health concern, leading to high attrition rates, burnout, and patient safety jeopardization (6). In Pakistan, the nursing workforce faces additional challenges such as staff shortages, resource limitations, and socio-cultural constraints, which may exacerbate stress levels (7,8).

In tertiary care hospitals, where patient cases are more complex and workloads are intensified, nurses are exposed to heightened levels of stress (9, 10). Peshawar, a major urban center in Pakistan, hosts several tertiary care facilities that serve large and often critically ill populations, including referrals from rural and conflict-affected areas (11, 12). Despite the critical role of nurses in these settings, there is limited localized evidence on the prevalence and determinants of stress among nurses in this region. Furthermore, the coping mechanisms employed by nurses to manage stress remain underexplored.

This study therefore aimed to investigate the prevalence of stress and its associated factors among nurses working in tertiary care hospitals in Peshawar. It also sought to identify the coping strategies utilized by nurses to mitigate occupational stress. The findings are intended to inform hospital administrators, policymakers, and researchers in developing targeted interventions to improve nurse well-being, retention, and quality of patient care.

METHODOLOGY

A descriptive cross-sectional study was carried out on nurses working in Hayatabad Medical Complex (HMC), Naseer Teaching Hospital (NTH), and Maqsood Medical Complex (MMC), which are three tertiary care hospitals in Peshawar, Pakistan. These hospitals were chosen due to their large number of referred patients and the number of nursing staff.

The study population comprised registered nurses with at least six months of clinical experience in the selected hospitals. Using the formula for cross-sectional studies with a 95% confidence level, an anticipated population proportion of 61.5% (11), and a 5% margin of error, a sample size of 366 was calculated. After adding a 10% contingency for non-response, the final sample size was 402. Participants were selected through simple random sampling from administrative rosters of the three hospitals.

Ethical approval was obtained from the Ethical Review Board of Gandhara University and the Board of Advanced Studies and Research (BASR) (Reference No. GU/2023/BASR/26). Permission for data collection was also secured from the administrative authorities of each hospital. Written informed consent was obtained from all participants, with assurance of confidentiality, voluntary participation, and the right to withdraw at any time. Data were anonymized and stored securely.

Data collection took place from August to September 2023 using a pre-tested structured questionnaire. The instrument included two main sections: a stress assessment scale and a coping strategies scale. The stress scale was a 4-point Likert-type instrument with six items and nineteen subscales measuring frequency of stress across various clinical and interpersonal scenarios (11). The coping scale, adapted from established tools including Holahan and Moos's Coping Strategies Scale and Spitzberg and Copach's items, assessed cognitive, emotional, and behavioral coping mechanisms (12).

Data analysis was performed using SPSS version 25. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize demographic characteristics, stress prevalence, and coping strategies. Stress prevalence was determined based on scores from the stress scale, and coping mechanisms were analyzed to identify the most and least commonly used strategies. Results are presented in tables and figures for clarity.

RESULTS

A total of 402 nurses from three tertiary care hospitals in Peshawar were approached for this study. Of these, 366 nurses provided written consent and completed the survey, yielding a response rate of 90.59%. The final sample comprised 366 participants for analysis.

Sociodemographic and professional characteristics of participants

The majority of the nurses were young, with 79.2% (n=290) aged 34 years or younger. The largest age group was 22–27 years, constituting 43.4% (n=159) of the sample. Regarding education, 63.4% (n=232) held a nursing diploma, 35.0% (n=128) held a Bachelor of Science in Nursing (BSN), and only 1.6% (n=6) held a Master of Science in Nursing (MSN). Most nurses were married (55.5%, n=203), followed by single nurses (43.2%, n=158). A small proportion were widowed (0.8%, n=3) or divorced (0.5%, n=2).

In terms of professional characteristics, 54.6% (n=200) had 1–5 years of experience, while 28.7% (n=105) had 6–10 years of experience. The vast majority (81.1%, n=297) were staff nurses. The most common department of work was allied departments (e.g., operating rooms, ICUs, emergency rooms), accounting for 41.8% (n=153) of respondents. More than half of the nurses (54.9%, n=201) reported working night or rotating shifts (**Table 1**).

Table 1. Sociodemographic and professional characteristics of nurses in tertiary care hospitals, Peshawar (N=366).

Characteristic	Category	N (%)
Age (years)	22–27	159 (43.4%)
	28–33	131 (35.8%)
	34–40	65 (17.8%)
	>40	11 (3.0%)
Education	Diploma	232 (63.4%)
	BSN	128 (35.0%)
	MSN	6 (1.6%)
Marital Status	Single	158 (43.2%)
	Married	203 (55.5%)
	Divorced	2 (0.5%)
	Widowed	3 (0.8%)
Job Experience (years)	1–5	200 (54.6%)
	6–10	105 (28.7%)
	11–15	44 (12.0%)
	≥16	17 (4.6%)
Designation	Staff Nurse	297 (81.1%)
	Nursing Supervisor	25 (6.8%)
	Deputy Head Nurse	16 (4.4%)
	Head Nurse	28 (7.7%)
Department	Allied	153 (41.8%)
	Medical Ward	81 (22.1%)
	Maternity & Child	46 (12.6%)
	Surgical Ward	44 (12.0%)
	Paediatrics Ward	42 (11.5%)

Works	Night/Rotating	Yes	201 (54.9%)
Shifts		No	165 (45.1%)

The study sample comprised a predominantly young, diploma-holding nursing workforce, with most nurses employed as staff nurses and working in high-acuity clinical areas. More than half reported working non-standard shifts.

Prevalence and levels of stress

The overall prevalence of stress among nurses was 83%. Stress levels in response to specific workplace scenarios are detailed in **Table 2**. When doctors did not engage with patients sincerely, 50.0% (n=183) of nurses reported frequently or always feeling stressed. Similarly, 51.6% (n=189) frequently or always felt stressed when doctors did not respect patient self-determination. Patient-related scenarios were also significant stressors: 50.6% (n=185) of nurses frequently or always felt stressed when patients were in severe pain, and 47.2% (n=173) reported the same when patients exhibited uncooperative attitudes. Encountering patient death induced frequent or constant stress in 47.8% (n=175) of nurses. Stress was also prevalent during coordination shortcomings between nurses (44.5%, n=163) and when the patient's condition became critical (52.1%, n=191).

Table 2. Stress levels among nurses in response to specific workplace scenarios (N=366).

Stressor Scenario	I do not feel stress n (%)	I rarely feel stress n (%)	I frequently feel stress n (%)	I always feel stress n (%)
Doctors not engaging sincerely with patients	59 (16.1%)	124 (33.9%)	133 (36.3%)	50 (13.7%)
Doctors not respecting patient self-determination	65 (17.8%)	112 (30.6%)	115 (31.4%)	74 (20.2%)
Patients in severe pain	51 (13.9%)	130 (35.5%)	120 (32.8%)	65 (17.8%)
Patients exhibiting uncooperative attitudes	62 (16.9%)	131 (35.8%)	103 (28.1%)	70 (19.1%)
Encountering the death of a patient	61 (16.7%)	130 (35.5%)	105 (28.7%)	70 (19.1%)
Shortcomings in coordination between nurses	69 (18.9%)	134 (36.6%)	107 (29.2%)	56 (15.3%)
Patient's condition becomes critical	60 (16.4%)	115 (31.4%)	118 (32.2%)	73 (19.9%)
Gaps in care policies between doctors and nurses	99 (27.1%)	117 (32.1%)	86 (23.6%)	63 (17.3%)

Family appears distressed	61 (16.7%)	126 (34.4%)	106 (29.0%)	73 (19.9%)
Providing palliative care while busy	76 (20.8%)	135 (36.9%)	100 (27.3%)	55 (15.0%)

Stress was highly prevalent, with over 80% of nurses reporting some degree of stress across most scenarios. Between 44.5% and 52.1% experienced frequent or constant stress, with interactions with doctors (e.g., perceived insincerity, disregard for patient autonomy) and critical patient conditions being the most prominent triggers.

Distribution of coping strategies

Nurses employed a variety of cognitive, emotional, and behavioral coping strategies, with varying levels of adoption (**Table 3**). The most common strategy, reported as "somewhat" or "mostly true" by 58.5% (n=214) of nurses, was trying to see the positive side of a stressful situation. Other frequently endorsed strategies included using exercise, hobbies, or meditation (52.7%, n=193), making compromises (53.8%, n=197), and taking steps for better self/family care (50.2%, n=184). Conversely, strategies like spending time to understand the stressor (42.0%, n=154), considering multiple alternatives (49.2%, n=180), and using humor (44.4%, n=163) were less commonly reported as being "somewhat" or "mostly true."

Table 3. Frequency of coping strategies used by nurses when dealing with stress (N=366).

Coping Strategy	Not true about me n (%)	A little true about me n (%)	Somewhat true about me n (%)	Mostly true about me n (%)
Try to see the positive side	77 (21.0%)	116 (31.7%)	116 (31.7%)	57 (15.6%)
Use exercise/hobbies/meditation	57 (15.6%)	116 (31.7%)	105 (28.7%)	88 (24.0%)
Make compromises	57 (15.6%)	112 (30.6%)	101 (27.6%)	96 (26.2%)
Take steps for better self/family care	67 (18.3%)	115 (31.4%)	99 (27.0%)	85 (23.2%)
Work on lifestyle changes (diet, exercise, etc.)	68 (18.6%)	113 (30.9%)	103 (28.1%)	82 (22.4%)
Try to remember problem is not serious	78 (21.3%)	104 (28.4%)	95 (26.0%)	89 (24.3%)
Often wait for stress to subside	75 (20.5%)	116 (31.7%)	109 (29.8%)	66 (18.0%)

Try to step back for a different view	77 (21.0%)	131 (35.8%)	108 (29.5%)	50 (13.7%)
Make jokes or try to make light of it	85 (23.2%)	109 (29.8%)	106 (29.0%)	66 (18.0%)
Consider what it says about lifestyle changes	73 (19.9%)	111 (30.3%)	125 (34.2%)	57 (15.6%)
Consider several alternatives	83 (22.7%)	103 (28.1%)	106 (29.0%)	74 (20.2%)
Try to see the humor in it	79 (21.6%)	123 (33.6%)	82 (22.4%)	82 (22.4%)
Spend time to understand what happened	73 (19.9%)	139 (38.0%)	88 (24.0%)	66 (18.0%)

Nurses utilized a range of coping mechanisms. The most common active strategy was positive reframing (e.g., "trying to see the positive side," reported by 58.5%), followed by self-care activities like exercise and lifestyle changes. However, a passive strategy waiting for stress to subside on its own was also endorsed by 47.8% (n=175) of participants.

DISCUSSION

The overall stress prevalence of 83% in this study is considerably higher than that reported in many international contexts. In a systematic review of literature from several countries, prevalence rates of stress among nurses varied from 28% to 68%, depending on region and the healthcare setting (13). Studies from China have similarly stated the prevalence of stress among nurses at a level of 67.8% (14), while a study in Saudi Arabia documented 71.4% of nurses experiencing moderate to high stress levels (15). The significantly high stress levels among our participants could be a reflection of specific work demands of nurses working in tertiary care setups in Pakistan, such as increased patient-to-nurse workload, limited resources, and strenuous clinical environments seen in low to middle-income countries.

Our result is further supported by the fact that 50-52% of the questioned nurses often or always felt stressed because of critical patient situations and relations with physicians, which has been recognized as a primary stressor in international literature. In a study among Iranian nurses, 45.3% reported high stress of dealing with death and dying patients (16), which is similar to our finding that 47.8% experienced frequent stress when encountering patient death. Similarly, didactic squirms among the professions, and with doctors in particular, have consistently figured as major stressors: 5-multicenter study revealed that 58.2% of nurses were stressed by poor doctor–nurse relationships (17). Patient care-related stress emerged as a major stressor in our study, as 50.6% of nurses frequently had work stress when patients suffered from severe pain. This result is Similar to a study from Jordan, who reported 56.7% of nurses perceive patient suffering as the most distress-provoking stimulus (18). The emotional burden of patient pain is also related to what is described as 'the territorial work' and to the psychological consequences of care provision in environments with limited resources, where there are difficulties in controlling the physical pain. Moreover, 47.2% of our study participants experienced stress associated with uncooperative patient attitudes, similar to a European survey where 42% of the nurses felt difficult patient behavior caused them a lot of workplace stress (19).

The frequent use of positive reframing (58.5%), as an adaptive cognitive strategy, is similar to what has been previously reported among Australian nurses, in which 61.3% used positive reappraisal (20). Conversely, the high number who employed passive coping techniques (47.8%) is concerning and significantly higher than that of Indian nurses (13), which was 32.4%. Passive coping is a strong predictor of worse mental health (Holahan and Moos). Literally rolling with the punches, passivity may represent reduced formal support of structured resources to keep stress ratchets engaged. Active behavioural strategies were similarly prevalent in the sample and included physical activities, leisure time, or meditation (52.7%), self care (50.2%). These percentages are slightly higher than the 44.6% of Chinese nurses who exercised as a relaxation practice (14). However, the relatively lower use of

problem-focused strategies, that is, to take an hour each day to understand stressors (42.0%) or consider alternatives (49.2%), also indicates that many nurses do not have training in the use of systematic approaches to problem solving.

CONCLUSION

There is a high level of stress among nurses working at tertiary hospitals in Peshawar due to heavy clinical workloads, unfavorable patient attitudes, and poor relations between doctors and nurses. While a fair share employ adaptive coping skills, many others still use passive methods with limited attempts to utilize problem-focused strategies. These results emphasize the importance of improved organizational support, communication, and stress management training focusing on protecting nurses' well-being and patient care.

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Authors' Contributions

Junaid Ali: Developed the discussion section and contributed to interpretation of findings.

Shahid Ali: Prepared the introduction and supported literature contextualization.

Yusra Tabassum: Conducted data analysis and led the development of the methodology.

Babar Ahad: Provided overall supervision, guidance, and final review of the manuscript.

Azhar Ali shah: performed data analysis and wrote results section

Hamid Hussain: Performed data analysis and reviewed results section

Ghazala Yasmin: Performed data collection.

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