



Original Article

Stress among Critical Care Nurses: A Cross-sectional Study

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Abstract

Background: In intensive care units, the frequency with which nurses interact with patients who are afflicted with diseases that pose a threat to their lives, the work environment in which nurses are employed is among the most stressful of all professional settings. It is a known truth that nurses may be subjected to a range of pressures at work, some of which may be related to the admittance of patients or the obligations of the organization. The consequences of occupational stress on nurses are a global problem that has greater importance in practice than they do in any one geographic area. **Objective:** To investigate the frequency of factors that contribute to the high levels of work-related stress experienced by critical care nurses working in tertiary care hospitals. **Methods:** This cross-sectional study recruited 139 nurses providing critical care at tertiary care hospitals using a random sample method. Participants were registered nurses who worked in the nursing profession for at least three months and were certified by the Pakistan Nursing Council. A questionnaire that the participants answered on their own time was used to collect the data for this study. The information was interpreted with the use of descriptive statistics, and the results were presented with the assistance of tables, charts, and percentages. **Results:** It was demonstrated that just 2.9% of participants reported severe level of stress, even though the majority of participants (55.4%) reported experiencing moderate level of stress while 41.7% of nurses reported mild stress. The eight determinants of stress experienced by intensive care unit nurses are calculated and workload-related stress was found to be the most frequent source of stress affecting 50.4% of nurses. **Conclusion:** It is concluded that all nurses who worked in vital areas experienced some amount of stress, majority of them deal with moderate level of work-related stress.

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Introduction

Critical care units (ICU) can be challenging to work for a variety of experts because of the frequent contact they have with patients who are experiencing distress and who are in situations that could result in their death. The demand for ongoing and extensive treatment to alleviate human suffering only serves to exacerbate the existing issue. ICU nurses experience stress in a variety of forms as a result of conflicts that arise between the requirements of their jobs, skills and capabilities in the workplace.¹ In addition, physicians routinely regard nurses with disdain and undervalue their knowledge, which leads to the increasing complexity of nursing interventions and stressful situations in the everyday operations of the ICU.

The field of nursing, in general, requires significant commitment. While continuing to carry out the essential obligations that come with their jobs, nurses are in higher demand from both the organizations they work for and the patients they serve.² More pressure is put on nurses because they are responsible to give the best possible care to patients, their families and the communities in which they work. In a similar vein, nurses need to earn the confidence of both patients and their families to establish a wide range of therapeutic connections with patients and their families.³ This can lead to a variety of stressful circumstances in various forms.⁴

The detrimental consequences of professional stress on nurses are a worldwide issue that has a greater weight in clinical settings than they do in any other particular domain.⁵ The physical response that occurs when there is a mismatch between an individual's expectations and their ability to fulfill those responsibilities is what is known as stress.⁶ According to the results of a survey conducted in India, 68.29% of nurses had reported feeling stressed.⁷ The

place of employment is commonly cited as one of the major sources of stress.⁸ Changes in one's body, emotions, thoughts, and behaviors are all indicators that stress is present in one's life.⁹ Stress at work can lead to ill health, dissatisfaction, and symptoms associated with stress for nurses who work in ICUs.¹⁰ There has been a discernible increase in the number of mistakes made unintentionally at work due to the myriad of impacts that stress has. Stress is more likely to affect registered nurses who work in ICUs. An inefficient approach to managing stress can lead to high levels of employee discontent, absenteeism, excessive staff turnover and low levels of overall productivity. Because of these factors, it may be challenging to provide the necessary medical care to the patients.¹¹

Stress at work can be caused by several circumstances including those that have an impact on the nurses' physical, mental, and social well-being.¹² It is essential to have a solid understanding of the factors that have a significant impact on the emotional and professional lives of nurses. It is vital to analyze the levels of work-related stress and the sources of that stress among critical care nurses since these factors have an impact on the nurses' capacity to perform efficiently and offer high-quality nursing care. The purpose of the study was to estimate the frequency of factors that contribute to the high levels of work-related stress experienced by critical care nurses working in tertiary care hospitals.

Methods

A descriptive study with a cross-sectional design was carried out to find out the levels of stress that are caused by work and the factors that contribute to it among critical care nurses. The research was conducted at the ICU of tertiary care institutions located in Islamabad, Pakistan. Participants in the study were critical care nurses who had worked in the field for at

least three months before the study. The approval of study was taken from the the hospital's Institutional Review Board (IRB) and Ethical Committee. The enrollment of study participants was accomplished through the use of a standard random sampling approach. Using the Open epi software, a total of 139 nurses were included in the sample size calculation that was performed online.

A questionnaire that the participants answered on their own time was used to collect the data for this study. In the first portion of the questionnaire, there was a section with questions regarding the sociodemographic characteristics of the participants. The purpose of this section's 26 assertions was to investigate the causes of and the extent of the stress connected to work experienced by critical care nurses. These assertions are broken down into seven different subdomains, which are as follows: workload, conflict, lack of support, coping with death and dying, organizational decisions, inadequate planning, and sexual harassment.

Each statement was given a score based on a Likert scale, with 1 indicating that the situation was never stressful, 2 occasionally stressful, 3 frequently stressful, and 4 indicating always stressful. The lowest possible score was 26, while the greatest possible score was 104. The level of stress experienced by the participants would increase as their scores did. Scores in the range of 28 to 52 represent modest levels of stress, scores in

the range of 53 to 63 indicate moderate levels of stress, and that in the range of 64 and higher indicate very high levels of stress.⁵ The face validity and the content validity of the questionnaire were both verified by five professionals in critical care. It is reasonable while taking into consideration that the calculated CVI was 0.88. Both the data entry

and the analysis were performed on IBM SPSS Statistics version 20.0. The information was interpreted with the use of descriptive statistics, and the results were presented with the assistance of tables, charts, and percentages.

Results

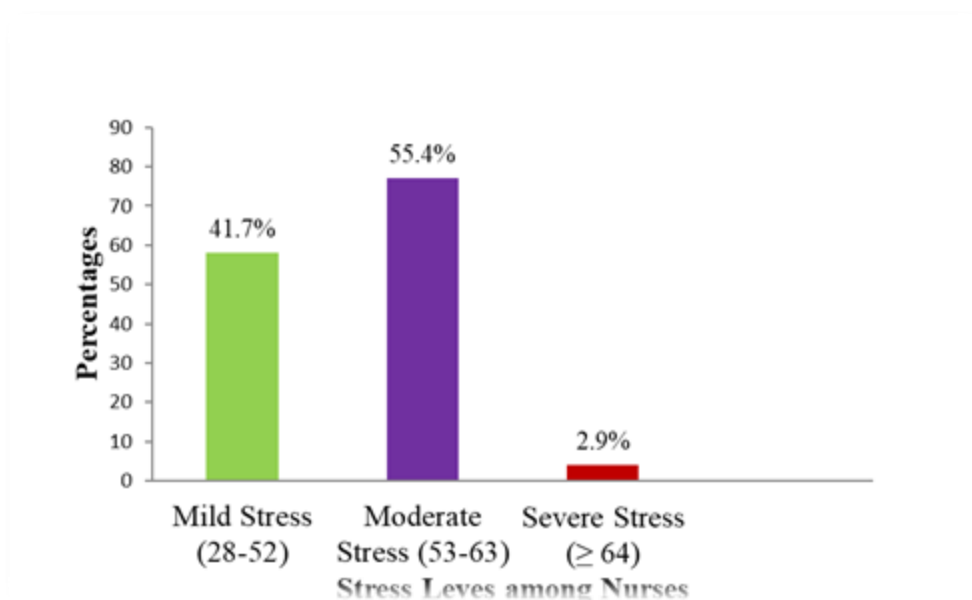
In total, 139 critical care nurses participated in the study and the demographics related to ICU nurses who took part were included in Table I. It was demonstrated that just 2.9% of participants reported severe level of stress, even though the majority of participants (55.4%) reported experiencing moderate level of stress while 41.7% of nurses reported mild stress. (Figure I) The findings indicated that the frequency of three of the eight determinants, namely dealing with death and dying patients, organizational decisions and sexual harassment among ICU nurses were 38.8%, 33.1%, and 67.6% respectively. The eight determinants of stress experienced by intensive care unit nurses are calculated and workload-related stress was found to be the most frequent source of stress affecting 50.4% of nurses. (Table II)

Discussion

The purpose of this study was to investigate the levels of stress experienced by nurses working in critical care settings. According to the findings, 2.9% of registered nurses reported experiencing severe stress, 55.4% of registered nurses reported experiencing light stress, and 41.7% of them experience moderate stress. A different set of findings came from a study that was carried out in Karachi, Pakistan where it was discovered that 25.2% of nurses working in various units (including the ICU and general wards) reported experiencing light stress, 39.6% of nurses moderate stress, and 35% severe stress.¹³ The findings of the Ethiopian study¹⁴

Table I: Demographic Information (n=139)

Variables	Categories	Frequency (%)
Unit	MICU	30 (21.6)
	MSD	22 (15.8)
	SICU	23 (16.5)
	SSD	18 (12.9)
	CCU	23 (16.5)
	NICU	6 (4.3)
	PICU	11 (7.9)
	Neuro ICU	6 (4.3)
Gender	Male	68 (48.9)
	Female	71 (51.1)
Marital Status	Married	22 (15.8)
	Single	116 (83.5)
	Widow	0 (0)
	Divorced	1 (0.7)
Educational Status	Diploma Nursing	90 (64.7)
	BSN	48 (34.5)
	MSN	1 (0.7)
Monthly Salary	30000-40000	63 (45.3)
	41000-50000	74 (53.2)
	51000-60000	2 (1.4)
	>60000	0 (0)
Working Experience	<2 years	79 (56.8)
	2- 4 years	43 (30.9)
	5- 7 years	10 (7.2)
	>7 years	7 (5)

Figure I: Stress Level among Nurses**Table II: Determinants of Stress and Different Levels of Stress**

Determinants	Mild Stress	Moderate Stress	Severe Stress
Workload	39.6%	50.4%	10%
Conflict	56.1%	41.4%	2.3%
Lack of support	45.3%	43.2%	11.5%
Uncertainty regarding patient treatment	48.9%	42.4%	8.6%
Dealing with death and dying	22.3%	38.8%	38.8%
Organizational decisions	25.2%	41.7%	33.1%
Inadequate preparation	51.9%	46.6%	1.5%
Sexual harassment	18.7%	13.7%	67.6%

which discovered that nurses reported light, moderate, and severe levels of stress at about comparable percentages (33.4%, 34%, and 32.7%, respectively), were also contradictory. In addition, a study conducted on ICU nurses working in an Indian hospital found that just

19.5% of those nurses had moderate levels of stress, which is significantly lower than the findings of current study. Although only 40 nurses were participating in the study, it is quite likely that the circumstances of the two settings were comparable, which would

explain why there was such a disparity.

However, a study that was carried out in the United Arab Emirates revealed results that were comparable to those of the current study, and those results are as follows: 4.4% of nurses reported low levels of stress, 55.1% of nurses reported moderate stress, and only 0.5% reported severe stress.¹⁵ The ICU nurses were reported extremely stressful (57.1%) in a survey that was carried out in Sao Paulo by Preto and Pedrao. This could cause mental fatigue, put nurses' opportunities for professional development were at risk, and had an impact on the quality of their work as well as the care they provide to patients. In a circumstance like this, it could be beneficial to participate in a stress management program.

An investigation that was carried out in an Iranian medical facility concluded that stress management is an effective method for boosting the level of care provided by nurses as well as their level of productivity.¹⁵ A study was found able to identify the elements that contribute to the stress experienced by critical care nurses. For instance, many of the nurses suffered from significant stress as a result of witnessing the pain and imminence of death that their patients were through. These findings are in line with those of a handful of other studies¹⁶ that discovered high mean scores for the stress connected to death and dying (2.85 1.04; 2.35 0.6). This high level of stress may be caused by the fact that ICU nurses spend every day caring for severely sick patients and witnessing their suffering and deaths. In the current survey, around 50.4% of the nurses said that they frequently experience stress due to the burdens of their jobs. A similar pattern of findings was observed in a study of acute care nurses who reported feeling somewhat (43.8% of participants) and highly stressed (50%) about their workloads.⁶

As a result of the demanding nature of their work, registered nurses reportedly had a high mean stress score (2.11, 0.5 out of 4).¹⁷ The two studies that were described above, which were identical to the current study cited doing non-nursing related jobs as the primary reason of excessive workload. The other aspect that was cited as a cause of excessive workload was insufficient staffing. Another element that was identified as a source of stress for nurses in the current survey was the decision-making process being handled by organizations rather than the nurses themselves (33.1% of respondents). The choice made by supervisors to switch nurses' shifts and relocate their responsibilities from one unit to another continued to contribute to the high levels of stress experienced by nurses.

These findings can be confirmed by the study that was carried out in Ethiopia, which found that similar responses from ICU nurses were observed as a result of organizational decision-making.⁵ If nursing administrators want better results and more consistency in patient care, they should reduce the amount of time that registered nurses spend working in separate units and include them more in the decision-making process instead. The recent poll asked nurses about their experiences, and many of them reported that it was very stressful for them to be sexually harassed (68.3%) and to have sexual favor requests made to them (69.8%).

According to the findings of recent study, workplace sexual harassment of female nurses harms both societal attitudes toward female nurses and the nursing profession as a whole.¹ The findings of the study may assist nursing administration and leaders of critical care units in developing useful coping mechanisms and taking the necessary actions to reduce stress among critical care nurses. The findings of the study suggest that nursing directors should

reduce the number of duties that are not directly related to nursing.

It is possible to conduct research at multiple centers to compare the prevalence of stress and to identify the factors that contribute to it among Pakistani nurses who are employed in both public and private hospitals. In addition, many other coping methods (situational control of circumstances, asking for assistance, exercising self-control, spiritual coping, and other similar strategies) can be used as therapies to reduce stress levels in nurses who are employed in critical care environments. At the academic level, there is an opportunity to establish stress management programs that would be of assistance to professional nurses in increasing their work output. It is equally important for nursing students to develop their coping skills before beginning clinical nursing experiences.

Conclusion

It was discovered that all nurses who worked in vital areas experienced some amount of stress, majority of them deal with moderate level of stress. Many of the nurses working in the intensive care units cited the overwhelming workload, the responsibility of providing care for patients who were sick or dying, organizational decisions, and the possibility of sexual harassment as factors that contributed to their stress while they were on the job. Workload-related stress was found to be the most frequent source of stress affecting 50.4% of nurses.

Declarations

Consent to participate: Written consent had been taken from patients. All methods were performed following the relevant guidelines and regulations.

Availability of data and materials: Data will be available on request. The corresponding author will submit all dataset files.

Competing interests: None

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Authors' contributions: All authors read and approved the final manuscript.

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