

INVESTIGATION OF DIFFERENT STRESSORS AND THEIR IMPACT ON THE PERFORMANCE OF STUDENTS DURING CLINICAL TRAINING IN TERTIARY CARE HOSPITALS PESHAWAR

Original Research

Amna Asif¹, Zarafshan Sajjad², Mansha Sajjad², Anas Bacha Shaheen³, Allah Dad Khan⁴, Azhar Ayub⁵, Zahid Rehman⁶, Kamran Akbar^{7*}

¹Surgical Technologist, Kulsoom International Hospital, Islamabad, Pakistan

²Surgical Technologist, Sarhad University of Science and Technology, Peshawar, Pakistan

³Lecturer in Surgical Technology, Khyber Medical University, Hazara Campus, Mansehra, Pakistan

⁴Lecturer, Khyber Medical University, Hazara Campus, Mansehra, Pakistan

⁵Cardiology Technologist, Saidu Group of Teaching Hospitals, Saidu Sharif, Pakistan

⁶Lecturer, Khyber Medical University, Peshawar, Pakistan

⁷Lecturer in Surgical Technology, Khyber Medical University, Hazara Campus, Mansehra, Pakistan

Corresponding Author: Kamran Akbar, Lecturer in Surgical Technology, Khyber Medical University, Hazara Campus, Mansehra, Pakistan, Kamran.ipms@kmu.edu.pk

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Abstract

Background: Clinical training is a critical component of education for health sciences students, often accompanied by various stressors that significantly affect their academic and clinical performance. Understanding these stressors is crucial for improving student outcomes and well-being.

Objective: This study aims to identify the diverse stressors encountered by students in clinical training and evaluate their impact on both academic and clinical performance.

Methods: We conducted a descriptive cross-sectional study using self-administered questionnaires to collect data from clinical training students. The data was analysed using SPSS software to identify prevalent stressors and assess their correlation with students' performance metrics.

Results: The analysis revealed that students are primarily impacted by role conflicts and discourteous staff behaviour, leading to decreased academic and clinical performance. A significant percentage of students reported high levels of both physical (62%) and emotional exhaustion (59%).

Conclusion: The findings underscore the need for targeted interventions in Allied Health Sciences programs to address stressors and enhance student performance. Implementing strategies to reduce these stress factors and increase resilience could substantially improve educational and clinical experiences for students.

Keywords: Academic performance, Allied health sciences, Clinical training, Resilience, Stress management, Stressors

INTRODUCTION

Stress, a ubiquitous yet varied experience, manifests as a response to perceived inability to meet life's demands, often resulting in negative thoughts and emotions such as anger, fear, or worry. Although stress is a natural response experienced by everyone to some degree, its impact can be either beneficial or detrimental. Positive stress can motivate and maintain focus towards achieving goals in challenging situations. Conversely, excessive stress can endanger both mental and physical health when it overwhelms an individual's capacity to cope, leading to conditions like role conflict or work pressure. Stress triggers, or stressors, are diverse; for nursing students, significant stressors include academic demands and the challenges of clinical training. These stressors not only influence their emotional well-being but also affect their academic and clinical performance (1).

In the context of allied health sciences, clinical training is an essential component, bridging academic knowledge with practical skills in a hospital setting. This hands-on approach is designed to enhance students' understanding and application of clinical skills. However, it also introduces specific stressors such as uncertainty, fear of errors, and the demanding nature of patient care, which can negatively impact students' performance. Factors such as staff behaviour, role conflicts, excessive workload, and discrepancies between institutional teachings and clinical practice further compound these challenges. Such stressors not only hinder students' clinical abilities but also their academic achievements by diminishing their motivation and interest in their studies (2, 3, 4).

The objective of this investigation is to delineate the most prevalent sources of stress among students during their clinical training, evaluate how these stressors influence their performance, and assess the frequency of stress across different departments. By understanding these dynamics, educational strategies can be tailored to mitigate the adverse effects of stress and enhance student outcomes, thereby improving the educational system's overall efficacy.

METHODS

The methodology employed in this study involved a cross-sectional descriptive design, tailored to elucidate the relationship between stressors and their impact on students' performance during clinical training. The participants comprised undergraduate students from the ninth batch of the Institute of Paramedical Sciences at Khyber Medical University in Peshawar, who were actively engaged in clinical training at the time of the study. This design was deemed appropriate for a non-experimental inquiry aiming to observe existing correlations among variables such as different stress sources and their consequent effects on student performance. Data collection was executed using self-administered questionnaires, which were distributed to a sample of students calculated using the formula $N = z^2_{1-\alpha}/2P(1-P) N / d^2(N-1) + z^2_{1-\alpha}/2P(1-P)$. From the total population of 385 students in batch 9, a sample size of 189 was determined to be sufficient. Participants were selected through convenience sampling, targeting those who were readily available and willing to contribute to the research at specified times.

The questionnaire, designed to capture a range of stressors and gauge their effects, was distributed to both male and female students, with 160 out of 189 students responding. The data collected was subsequently analysed using SPSS version 29.0. The analysis incorporated frequency tables and descriptive statistics to identify prevalent stress factors, while multinomial logistic regression was applied to assess the associations between identified stressors and their impact on the students' performance. Inclusion criteria for the study were strictly limited to those students enrolled in the specified batch undergoing clinical training, while students from other allied health sciences programs, including MBBS, BDS, DPT, and Nursing, were excluded due to geographical and temporal constraints. This exclusion was necessary to maintain a focused and manageable scope for the study's logistic and analytical phases.

RESULTS

The study assessed the impact of various stressors on the clinical and academic performance of 189 undergraduate students from the Institute of Paramedical Sciences at Khyber Medical University, Peshawar, with a response rate comprising 107 males (56.6%) and 82 females (43.4%). The observed stress levels among the students ranged from moderate (39.2%) to severe (41.8%), despite a general familiarity with the hospital environment (54.5%) prior to their clinical training.

Table 1: Stress and Work Environment Factors

Variable	Response	Frequency (%)
Gender	Male	107 (56.6%)
	Female	82 (43.4%)

Stress Rate	Mild	35 (18.5%)
	Moderate	74 (39.2%)
	Severe	79 (41.8%)
Awareness	Yes	103 (54.5%)
	No	86 (45.5%)
Kind of Stressors	Fear of making mistakes	54 (28.6%)
	Difficulty in observing patients	49 (25.9%)
	Fatigue	52 (27.5%)
	Other	34 (18.0%)
Role Conflict	Yes	154 (81.5%)
	No	33 (17.5%)
Workload	Yes	82 (43.4%)
	No	107 (56.6%)
Rude Behaviour	Yes	165 (87.3%)
	No	24 (12.7%)
Hospital Environment	Yes	102 (54.0%)
	No	87 (46.0%)
Infection or Radiation Injury	Yes	119 (63.0%)
	No	70 (37.0%)

The analysis revealed that the prevalent stressors significantly affecting student performance included rudeness and unkind behaviour from staff, conflicts between technicians and technologists, and concerns about infections and radiation injuries from the hospital environment. These factors were reported by a majority of the students and were notably linked to both decreased clinical and academic performance.

Table 2: Impact on Performance, Support, and Satisfaction Levels

Variable	Response	Frequency (%)
Effect on Clinical Performance	Yes	111 (58.7%)
	No	78 (41.3%)
Effect on Academic Performance	Yes	141 (74.6%)
	No	47 (24.9%)
Discouragement	Yes	86 (45.5%)
	No	103 (54.5%)
Level of Interest	Yes	149 (78.8%)
	No	40 (21.2%)
Institute Support During Clinical Training	Yes	94 (49.7%)
	No	95 (50.3%)
Need of Supervisor	Yes	150 (79.4%)
	No	39 (20.6%)

Awareness Session on Stress Management	Yes	154 (81.5%)
	No	35 (18.5%)
Satisfaction Level	Highly Satisfied	10 (5.3%)
	Satisfied	36 (19.0%)
	Neutral	95 (50.3%)
	Dissatisfied	48 (25.4%)

Further examination showed a moderate to severe negative impact on performance, with 58.7% of students reporting a decline in clinical abilities and 74.6% noting a deterioration in academic performance. Additionally, 45.5% of the students experienced discouragement, and 21.2% reported a loss of interest in their field of study, underscoring the substantial influence of stress on educational outcomes.

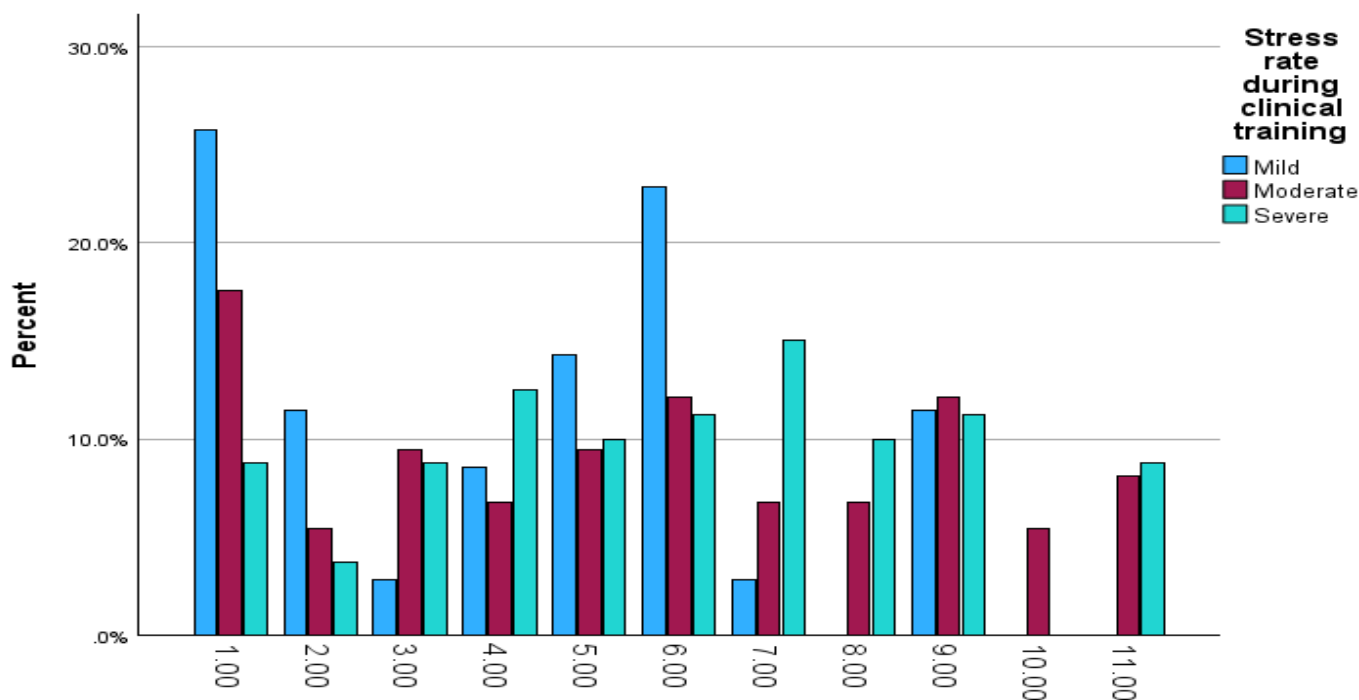


Figure 1: Representation of Stress level among various departments

Supportive measures from the institution were deemed necessary by approximately half of the students (49.7%), with a significant majority (79.4%) expressing the need for supervisory presence during clinical training. About 81.5% of participants believed that sessions on stress management could help alleviate their stress.

Table 3: Correlation between Stress Factors and Effect on Performance

		Workload during clinical training	Unkind words and rude behaviour	Stress of getting infection or radiation injury	Effect on academic performance	Effect on clinical training
Workload during clinical training	Pearson Correlation	1	.013	.163*	-.001	.192**
	Sig. (2-tailed)		.857	.025	.989	.008
Unkind words and rude behaviour	Pearson Correlation	.013	1	.069	.150*	.035

	Sig. (2-tailed)	.857		.342	.040	.629
Stress of getting infection or radiation injury	Pearson Correlation	.163*	.069	1	.049	.203**
	Sig. (2-tailed)	.025	.342		.505	.005
Effect on academic performance	Pearson Correlation	-.001	.150*	.049	1	.122
	Sig. (2-tailed)	.989	.040	.505		.094
Effect on clinical training	Pearson Correlation	.192**	.035	.203**	.122	1
	Sig. (2-tailed)	.008	.629	.005	.094	
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Pearson correlation analysis indicated that specific stressors such as workload and unkind behaviour from staff had significant correlations with clinical performance, while the fear of infection and radiation injury showed moderate correlation with the stress levels affecting clinical performance. These findings suggest that targeted interventions to address these stressors could potentially enhance student performance and well-being.

DISCUSSION

The findings from this study illuminate the significant impact of stress on students during clinical training, particularly in high-stress departments such as Surgical and Medical Lab Technology (MLT). The data suggest that specific stressors, including challenging interactions with hospital staff, unclear role definitions, and safety concerns prominently influence students' academic and clinical performance, aligning with previous research highlighting similar issues in healthcare training environments. These stressors not only diminish students' ability to effectively acquire skills but also their overall engagement and satisfaction with the clinical training process. Hostile behaviour from hospital staff emerged as a primary stressor, exacerbating feelings of role ambiguity and significantly impairing students' focus and confidence. Such negative interactions can lead to reduced motivation, increased anxiety, and even attrition from healthcare fields, as corroborated by studies documenting high dropout rates due to adverse workplace dynamics. Particularly in the Surgical and MLT departments, students also face physical demands and safety concerns that contribute to stress, potentially leading to fatigue and heightened fear of making errors, which further impair their performance and learning outcomes.

The strengths of this study include a focused examination of stressors within specific clinical departments, providing a detailed view of how various factors uniquely affect each specialty. However, the use of convenience sampling and the study's limitation to a single institution may affect the generalizability of the results. Future studies could expand the scope to include multiple settings to enhance the representativeness of the findings. Overall, the inverse relationship between stress and both clinical and academic performance is evident, supporting the need for targeted interventions. Such measures should include the provision of supportive staff behaviours and clear role delineation to improve the learning environment and promote career persistence among students in clinical settings. Recommendations for reducing stress and boosting student performance include enhancing support during clinical training with experienced supervisors, implementing preparatory awareness sessions, and improving communication and support from hospital staff through regular workshops focused on effective interaction with trainees. These strategies could mitigate the negative impacts of stress and improve educational outcomes in clinical training programs.

CONCLUSION

The study conducted at the Institute of Paramedical Sciences Khyber Medical University concludes that a significant proportion of students experience moderate to severe stress levels, which adversely affect their clinical and academic performance. The primary stressors identified include harsh staff behaviour, role conflicts, and the risks associated with potential infections or radiation exposure within the hospital environment. These factors significantly contribute to heightened feelings of anxiety, nervousness, and depression among the students. Particularly, students from the Surgical and Medical Lab Technology (MLT) departments encounter more severe stress compared to their peers in other departments. This increased stress level can be attributed to the high-risk nature of their specific environments, which involve frequent exposure to potentially contaminated instruments and sensitive laboratory conditions. The findings underscore the need for targeted interventions to address these stressors to enhance student well-being and educational outcomes in clinical settings.

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