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Stress and Burnout among Emergency Department Staff Members: A Cross-Sectional Study

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ABSTRACT

Background:
Attributable to their frequent exposure to traumatic or life-threatening situations while performing their duties, as well as a variety of vulnerability factors, research has consistently shown the steadily rising rates of stress and instances of burnout among emergency department personnel. Persevering in such occupational conditions over a prolonged duration of time is proven to culminate in psychiatric as well as medical illness/es, often than not affecting the efficiency of their work.

Materials and Method:
A cross-sectional observational study was conducted among ED staff at a district general hospital over one month. Purposive sampling yielded 150 participants, including physicians, nurses, and support staff. Participants completed surveys assessing perceived stress (Perceived Stress Scale) and burnout (Maslach Burnout Inventory), and provided demographic and occupational data. Data analysis included descriptive statistics, chi-square tests, and correlation analyses.

Results:
Participants had a mean age of 34.2 years and average tenure of 8.5 years in the ED. High levels of stress were reported (mean Perceived Stress Scale score = 23.5, SD=6.4). Burnout was prevalent, with high rates of emotional exhaustion (68%), depersonalization (54%), and low personal accomplishment (42%). Key stressors included high workload, time pressure, emotional demands, and organizational factors, (inadequate staffing, poor work-life balance). Higher stress and burnout levels correlated significantly with lower job satisfaction, increased intention to leave, perceived lower quality of patient care, and higher rates of self-reported medical errors.

Conclusion:
Stress and burnout among ED staff significantly impact staff well-being and patient care quality. Effective interventions, (organizational support, provision of mental health resources, and resilience training programs), are essential to alleviate these issues and enhance job satisfaction and patient outcomes in ED settings.

Keywords: *Emergency staff, Stress, Burnout, Well-being, Patient care, Healthcare workers.*

INTRODUCTION

Stress and burnout among emergency department (ED) staff are pressing concerns in healthcare, given the demanding and unpredictable nature of the emergency setting. Burnout, characterized by emotional exhaustion, depersonalization, and diminished personal accomplishment, has been widely documented among ED healthcare professionals, including nurses, physicians, and allied health workers. The combination of high patient loads, frequent exposure to critical medical conditions, and workplace challenges creates an environment that is both physically and psychologically taxing.[1]

Burnout among ED staff is significantly more prevalent compared to other medical specialties. The studies indicate that burnout rates among ED personnel can range from 26% to as high as 82%, depending on job role and working conditions which was conducted in Spain found that approximately 8.19% of ED nurses exhibited high burnout levels, while a substantial proportion reported moderate stress and job dissatisfaction.[1]

Similarly, research conducted in multiple **Dr.**emergency settings highlighted that burnout is closely linked to increased turnover rates, heightened medical errors, and reduced patient satisfaction. The psychological toll of working in emergency care extends beyond burnout, with ED professionals reporting secondary traumatic stress and compassion fatigue. It was found that 85% of ED nurses experienced at least one symptom of secondary traumatic stress, while 86% reported moderate to high levels of compassion fatigue.[2] Such conditions not only affect individual well-being but also compromise the quality of care provided to patients.

The emergency department is a particularly stressful environment due to several factors. Heavy workloads and overcrowding are persistent challenges, with staff required to manage a high patient volume while often working with limited resources. Overcrowding leads to prolonged waiting times, increased patient acuity, and heightened stress levels among healthcare workers.[1] Emotional and psychological strain is another major contributor to burnout, as ED professionals frequently witness trauma, death, and emotionally charged situations. The unpredictable nature of emergencies, coupled with the need for rapid decision-making, contributes to significant psychological distress.[3] Workplace violence and aggression further exacerbate stress levels. A study conducted in German emergency departments found that 87% of ED personnel had experienced physical violence from patients, while 97% reported verbal aggression.[2] The emotional impact of such experiences can increase psychological distress and contribute to burnout.

A large-scale study conducted in France found that 50.7% of ED physicians experienced burnout, significantly higher than other staff categories, primarily due to excessive job strain and low mental health scores (upto 14). Similarly, research from South Africa reported a burnout prevalence of 45.1% among ED staff, with 71.57% of participants at high risk for emotional exhaustion or depersonalization. Among doctors, the burnout rate was even higher, reaching 57.89%, while 50% of nurses experienced significant burnout symptoms (upto 15).[4]

Work-related stressors such as high workload, poor work-life balance, and inadequate support systems were identified as key contributors to burnout.[4,5] The South African study highlighted that although burnout awareness was relatively high (41.8%), the actual utilization of interventions remained strikingly low, with only 8.82% of affected staff engaging in burnout management programs.[5]

High levels of burnout have been directly associated with decreased job satisfaction, increased medical errors, and compromised patient care quality. A study assessing the relationship between burnout and job performance in emergency settings found that emotional exhaustion was significantly correlated with dissatisfaction regarding working conditions and interpersonal relationships. Additionally, depersonalization among ED staff was linked to higher turnover intentions and decreased workplace engagement.[5]

Organizational factors such as workload distribution and administrative burden further contributed to burnout. Research indicated that emergency medical professionals with high emotional exhaustion scores also reported dissatisfaction with workload, organizational fairness, and limited job autonomy, all of which negatively affected their performance.[6]

Given the significant impact of burnout, various interventions have been proposed to mitigate stress among ED professionals. Mindfulness-based and educational interventions have been shown to reduce stress levels and improve emotional well-being. However, the long-term sustainability of these interventions remains uncertain, highlighting the need for continued research in this area. Organizational changes and policy reforms, such as improved staffing ratios, better workload distribution, and enhanced security measures, have also been recommended to create a safer and healthier ED environment. While organizational interventions have been found to reduce stress, some research indicate that they may inadvertently increase burnout levels due to higher expectations from staff.[7]

The COVID-19 pandemic has further intensified stress levels among ED personnel, exacerbating existing challenges related to burnout, job dissatisfaction, and psychological distress. The study reviewing the mental health of healthcare workers during epidemic and pandemic crises found that those exposed to infected patients experienced higher levels of anxiety compared to their counterparts in lower-risk environments.[8] Similarly, a cross-sectional survey conducted during the COVID-19 pandemic found that burnout and stress were significantly high among ED professionals, with low job satisfaction and widespread emotional exhaustion reported across different healthcare disciplines.The pandemic introduced additional stressors, such as inadequate personal protective equipment (PPE), staff shortages, and rapidly changing protocols, all of which placed an even greater burden on ED staff. In addition to direct exposure to critically ill patients, many ED professionals faced social stigma and discrimination outside the workplace due to their association with COVID-19 cases, further exacerbating stress and emotional exhaustion.[9]
Leadership and communication strategies have also been identified as critical components in reducing burnout among ED staff. Effective crisis communication, characterized by consistent and transparent information dissemination, has been shown to significantly lower burnout levels.[3] Research suggests that fostering a culture of open dialogue, where staff members feel

heard and valued, leads to better psychological outcomes. Additionally, addressing workplace violence through staff safety measures is essential. Given the high prevalence of aggression toward ED staff, hospitals must implement strategies to protect their personnel. Training programs on de-escalation techniques, along with strict enforcement of policies against violence, can help reduce the incidence of aggression in ED settings.[2]
Burnout and stress among emergency department staff are critical issues that require urgent attention.

The nature of ED work exposes healthcare professionals to intense physical, emotional, and psychological demands, leading to high burnout rates. Addressing these challenges requires a multi-faceted approach, including individual coping strategies, organizational support, and systemic policy changes. Strengthening leadership communication, improving staff safety measures, and investing in evidence-based interventions can help create a more sustainable and resilient emergency workforce.[3,9] Little is known about the prevalence, severity and contributing factors of stress and burnout among doctors, nurses, helpers, and policemen posted in the emergency medicine department in developing nations, more so in rural setups. The present study would help in better comprehension of the existing scenario and in further implementing changes and policies to fortify the mental health and well-being of these individuals.

OBJECTIVES

Primary:

1. Determine levels of perceived stress and burnout among Emergency Department (ED) staff members.

Secondary:

2. Identify primary factors contributing to stress and burnout.
3. Evaluate the impact of stress and burnout on job performance and patient care.
4. Propose interventions to mitigate stress and burnout among ED staff.

MATERIALS AND METHODOLOGY

This cross-sectional observational study was conducted over one month in June 2024 at Department of Emergency Medicine and Casualty, Chigateri Hospital, Davangere City**,** Karnataka State, India. The study aimed to assess burnout and stress among emergency department staff, with a total sample size of 150 participants selected from a pool of 200 using purposive sampling. The study included all staff members posted in the department during the study period who provided informed consent. However, individuals who were on leave during the study period or did not complete the survey were excluded from participation.
The survey distribution strategy included giving potential participants pamphlets that outlined the purpose of the study and assured them of confidentiality and anonymity. The leaflets included a link to a Google Form, where people could complete the survey. The first page of the Google Form included an informed consent form, which participants had to read and approve before proceeding. To ensure inclusivity, the survey was mostly administered in English; however, for individuals who were not fluent in the language, the investigators conducted the survey in their local language being Kannada.
Basic patient information including demographics, psychosocial, medical and psychiatric history was documented through google forms. All the participants were assessed for levels of perceived stress using the Perceived Stress Scale (PSS), [10] and level of burnout including emotional exhaustion, depersonalization, and personal accomplishment using the Maslach Burnout Inventory (MBI).[11]

Detailed information about the following parameters were assessed as a part of the survey:

- Socio demographic parameters- age, gender, marital status, occupation
- Occupational parameters- years of service since first employment, days of work/ week.
- Any other comorbidity (medical and psychiatric)
- Contributing Factors: Questions related to workload, time pressure, emotional demands, organizational support, and work-life balance.
- Impact on Job Performance and Patient Care: Self-reported measures of job satisfaction, intention to leave, perceived quality of care, and occurrence of medical errors.

Statistical Analysis:

All the collected data was entered in Microsoft Excel sheet and analysis of the variables was done using the SPSS windows version 30.0.

Ethical Consideration:

1) Institutional Ethics Committee clearance was obtained.
2) Written informed consent was documented for all subjects before their participation in the study.
3) This study did not include any active interventions that could be of possible risk to the subjects.
4) Subjects who were found to be under significant stress or experiencing burnout or those with active suicidal ideation were referred to the department of psychiatry and treated accordingly.

RESULTS

Among 200 staff members invited, 150 (75%) completed the survey. The sample included 60 physicians (40%), 70 nurses (47%), and 20 support staff (13%). The mean age was 34.2 years, with a range of 25-55 years. The average tenure in the ED was 8.5 years(Table 1).

Table 1: Socio-demographic characteristics of the study population

Characteristics	Value
Total Participants	150 (75% response rate)
Role	
Doctors	60 (40%)
Nurses	70 (47%)
Support staff	20 (13%)
Mean age	34.2 years
Age range	25-55 years
Average tenure in ED	8.5 years

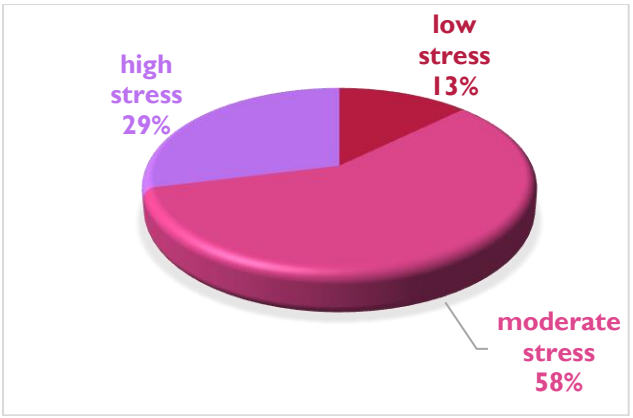

Figure 1: Distribution of severity of stress in the study population according to Perceived Stress Scale (PSS)

The Perceived stress scale (PSS) was used to evaluate severity level and frequency of stress as low, moderate and high.The results (Figure 1) indicate that a majority of participants (58%) experienced moderate stress levels, with PSS scores ranging from 14 to 26. High stress levels (PSS score 27–40) were reported by 28.67% of the participants, highlighting a significant proportion of staff experiencing considerable psychological distress. Only 13.33% of participants reported low stress levels (PSS score 0–13), and the average PSS score was 23.5 (SD=6.4), suggesting that moderate to high stress levels was prevalent among ED staff.

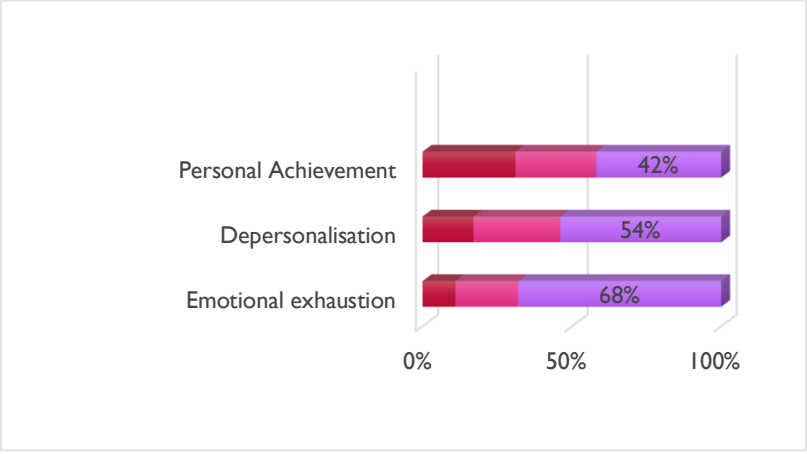

Figure 2: Distribution of severity of burnout according to Maslach Burnout Inventory (MBI)

The Maslach Burnout Inventory (MBI) was utilized to evaluate burnout severity across three key dimensions: emotional exhaustion, depersonalization, and personal achievement. The results (Figure 2) indicate that emotional exhaustion was the most prevalent aspect of burnout, with 68% of participants experiencing high levels, while 21% reported moderate levels and only 11% had low emotional exhaustion. Depersonalization was significant, with more than half (54%) of the staff exhibiting high depersonalization, 29% experiencing moderate levels, and 17% reporting low levels. Regarding personal achievement, 42% of participants experienced low personal accomplishment, a key indicator of burnout, while 27% had moderate levels and 31% reported high personal achievement.

Table 2: Major Stressors Contributing to Burnout among ED Staff

Stressor Category	Percentage of Participants Affected (%)
High Patient Load & Time Constraints	78%
Emotional Demands (Critically Ill Patients & Trauma Cases)	65%
Organizational Factors (Inadequate Staffing, Lack of Support, Poor Work-Life Balance)	70%

Workload and time pressure emerged as major concerns, with 78% of participants identifying high patient load and intense time constraints as primary stressors. Emotional demands also played a crucial role, as 65% of respondents reported that handling critically ill patients and traumatic cases contributed significantly to their stress levels. Additionally, organizational factors such as inadequate staffing, lack of support, and poor work-life balance were cited by 70% of participants as key contributors to burnout (Table 2).

Table 3: Correlation Analysis of Variables

Variable Relationship	Correlation (r)	Significance (p-value)	Interpretation
Perceived Stress & Job Satisfaction	-0.56	< 0.01	Higher stress leads to lower job satisfaction.
Burnout & Quality of Patient Care	-0.42	< 0.05	Higher burnout correlates with lower perceived quality of care, negatively affecting patient outcomes.
Burnout & Medical Errors	0.39	< 0.05	Increased burnout is associated with higher rates of self-reported medical errors, indicating performance decline.

The correlation analysis (Table 3) indicated that perceived stress negatively correlated with job satisfaction ($r = -0.56$, $p < 0.01$), suggesting that higher stress levels lead to lower job satisfaction.
Similarly, burnout negatively affected the quality of patient care ($r = -0.42$, $p < 0.05$), implying that increased burnout results in poorer patient outcomes. Additionally, burnout is positively associated with medical errors ($r = 0.39$, $p < 0.05$), meaning that higher burnout corresponds to more self-reported errors.

Table 4: Multiple Regression for Burnout Predictors

Predictor	Coefficient (β)	p-value	Interpretation
Perceived Stress	-0.0487	0.644	Not significant in predicting burnout.
Age	-0.1531	0.177	No strong relationship between age and burnout.
Experience	-0.0893	0.669	No strong relationship between experience and burnout.

Table 5: Multiple Regression for Job Satisfaction

Predictor	Coefficient (β)	p-value	Interpretation
Emotional Exhaustion	-1.4360	<0.001	Higher emotional exhaustion significantly lowers job satisfaction.
Depersonalization	-1.1852	<0.001	Higher depersonalization significantly reduces job satisfaction.
Personal Accomplishment	-0.0063	0.862	No significant impact on job satisfaction.

Table 6: Logistic Regression for Turnover Intentions

Predictor	Coefficient (β)	p-value	Interpretation
Burnout	0.48	<0.01	Higher burnout increases turnover risk.
Job Satisfaction	0.0265	0.283	Not a strong predictor of turnover intention.
Perceived Stress	-0.0214	0.434	Not a significant predictor.

Table 7: Multiple Regression for Medical Errors

Predictor	Coefficient (β)	p-value	Interpretation
Emotional Exhaustion	0.0556	<0.001	Higher emotional exhaustion leads to more medical errors.
Depersonalization	0.0779	<0.001	Higher depersonalization leads to more medical errors.
Perceived Stress	-0.0171	0.055	Not a significant predictor.

The regression analysis (Table 4) revealed that perceived stress, age, and experience do not significantly predict burnout. However, emotional exhaustion ($\beta = -1.4360$, $p < 0.001$) and depersonalization ($\beta = -1.1852$, $p < 0.001$) significantly reduce job satisfaction, while personal accomplishment has no notable effect (Table 5). The burnout ($\beta = 0.48$, $p < 0.01$) significantly increases turnover intention, but job satisfaction and perceived stress do not (Table 6). Finally, medical errors (Table 7) are significantly predicted by emotional exhaustion ($\beta = 0.0556$, $p < 0.001$) and depersonalization ($\beta = 0.0779$, $p < 0.001$), whereas personal achievement and perceived stress were not significant predictors.

DISCUSSION

Burnout among emergency responders has emerged as a critical issue, as evidenced by the findings of this study. The high prevalence of burnout among ambulance service personnel is consistent with the results reported by **Lebimoyo and Sanni**, who observed similar levels of PTSD in this group studied.[12] Contributing factors to burnout align with the insights from **Soravia et al**, which emphasize the cumulative exposure to traumatic events experienced by emergency responders, including police officers and firefighters. This repeated exposure can significantly exacerbate emotional and psychological strain. [13]

The impact of burnout on job performance is evident, with this study identifying a strong negative correlation between burnout and job satisfaction ($r = -0.56$). This finding reinforces the conclusions of **Abbaspour et al**, highlighting the detrimental effects of burnout on workplace morale and engagement. [14] Furthermore, the study found that higher levels of burnout are associated with a decline in perceived quality of care ($r = -0.42$) and an increase in self-reported medical errors ($r = 0.39$). These results resonate with the work of **Hodkinson et al**, underscoring the significant implications of burnout on patient outcomes. [15] Collectively, these findings emphasize the need for targeted interventions to address burnout and its widespread consequences in emergency care settings.

The findings of this study highlight the urgent need for policy changes to address burnout among emergency responders. Implementing peer support programs and promoting enhanced work-life balance initiatives could play a pivotal role in mitigating burnout, as suggested by **Charak et al.**[16] Such interventions are essential for fostering a supportive work environment and improving the overall well-being of healthcare professionals.

However, the study's cross-sectional design restricts the ability to establish causal relationships between burnout and its contributing factors or outcomes. Additionally, data collection from a single hospital raises concerns about the generalizability of the findings to other healthcare settings.

Figure 3: Contributing factors for stress and burnout among emergency department staff members

Workplace stress and burnout are often the result of multiple contributing factors(Figure 3)that create a challenging work environment. Lack of autonomy can lead to frustration and disengagement when employees feel they have no control over their tasks or decisions. Poor coping mechanisms make it difficult for individuals to manage stress effectively, leading to emotional exhaustion. Personal stressors, such as family issues or financial difficulties, can compound workplace pressures, making it harder to focus and perform well. Shift work disrupts natural sleep patterns and work-life balance, increasing fatigue and stress. Insufficient recovery time prevents employees from recharging, leading to chronic exhaustion. Poor communication can create misunderstandings, confusion, and a lack of support among team members. Additionally, interpersonal conflicts foster tension and reduce collaboration, making the work environment more stressful. All these factors contribute to a negative work environment, increasing the risk of burnout and negatively impacting overall well-being and productivity.

Proposed Interventions

Addressing stress and burnout among emergency department staff requires a comprehensive approach. Strengthening organizational support by increasing staffing levels, ensuring adequate resources, providing sufficient rest breaks, and enhancing communication can create a more sustainable work environment. Integrating mental health resources, such as counselling services, stress management programs, and peer support groups, can help staff manage work-related pressures more effectively. Additionally, training initiatives, including resilience training, crisis management programs, and routine team debriefings after critical incidents, can improve staff preparedness and emotional well-being. Encouraging work-life balance through flexible scheduling and promoting time off is essential in mitigating burnout. Moreover, regular monitoring and evaluation through assessments, feedback mechanisms, and recognition or reward systems can help maintain a positive and supportive workplace.

CONCLUSION

Stress and burnout are pervasive issues among ED staff, driven by multiple factors including workload, emotional demands, and organizational challenges. Addressing these issues through targeted interventions is crucial for improving the well-being of healthcare providers and enhancing the quality of patient care. Healthcare organizations must take proactive steps to support their staff and create a sustainable work environment.

Future research should prioritize longitudinal studies to evaluate the long-term effects of interventions on reducing burnout and improving job performance and patient care. Additionally, exploring organizational factors across diverse healthcare environments could provide deeper insights into systemic contributors to burnout and inform the development of tailored strategies to combat it effectively.

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