



CRISIS VS CALM? BURNOUT AND AGGRESSION IN EMERGENCY DEPARTMENTS COMPARED TO OTHER SPECIALTIES- A CROSS-SECTIONAL STUDY OF BURNOUT AND AGGRESSION IN TERTIARY HOSPITALS, KARACHI

Dr Sheharyar Abid^{1*}, Dr Fatmah Shah², Dr Haroon Bin Abid³, Dr Muhammad Wajahatullah⁴, Dr Muhammad Ali Kamran⁵, Dr Habiba Ghulam Hyder⁶

^{1*}Registrar Emergency Medicine, Dr Ziauddin Hospital Email: sheharyarfakeha@gmail.com

²Postgraduate Dermatologist, Dow University of Health Sciences Email: Fatmahshahjilani@gmail.com

³Resident Medical Officer, South City Hospital Email: haroonbenabid@gmail.com

⁴Senior Registrar Emergency Medicine, Al Tibri Medical College and Hospital Karachi Email: drwajahat.em@gmail.com

⁵Consultant Critical Care Medicine, Ziauddin Hospital Email: ali_kamran12@hotmail.com

⁶Cardiology Fellow, Dr Ziauddin Hospital Email: habiba.hyder142@gmail.com

***Corresponding author:** Dr Sheharyar Abid

*Email: sheharyarfakeha@gmail.com

Abstract

Background: Burnout and workplace aggression are increasingly recognized as major occupational challenges among healthcare professionals, particularly in high-pressure environments such as emergency departments. These factors negatively influence mental well-being, job satisfaction, and patient care quality.

Objective: To determine and compare the prevalence of burnout and aggression among healthcare professionals working in Emergency Departments and other medical subspecialties in tertiary care hospitals.

Methods: A cross-sectional observational study was conducted among 376 doctors and nurses from Emergency Departments and other subspecialties in tertiary care hospitals in Karachi. Data were collected using a structured questionnaire including demographic details, the Maslach Burnout Inventory–Human Services Survey (MBI-HSS), and the Buss–Perry Aggression Questionnaire. Statistical analysis was performed using SPSS, and a p-value <0.05 was considered significant.

Results: Burnout prevalence was significantly higher among Emergency Department staff compared with other specialties. High emotional exhaustion, depersonalization, and reduced personal accomplishment were commonly reported. Aggression levels were also higher among emergency healthcare workers, with verbal aggression being the most frequent. A significant association was observed between aggression and burnout, and factors such as working in Emergency Departments, limited professional experience, female gender, and exposure to workplace violence emerged as key predictors.

Conclusion: Burnout and workplace aggression are strongly interrelated and more pronounced among Emergency Department professionals. Institutional interventions focusing on violence

prevention, mental health support, and workload management are essential to improve healthcare workforce well-being and patient care outcomes.

Keywords: Burnout; Aggression; Emergency Department; Healthcare Workers; Workplace Violence; Occupational Stress; Emotional Exhaustion; Tertiary Care Hospitals.

INTRODUCTION:

Healthcare professional burnout has emerged as a significant work-related and population-wide issue across the globe, in high-stress clinical settings. It is typified by emotional fatigue, depersonalization, and less personal achievement following an extended duration of being subjected to workplace stress factors {1}. According to recent studies, burnout correlates with low job satisfaction, poor clinical practice, and high probability of medical errors, which subsequently deteriorates patient safety and quality of healthcare provision {2}. Emergency departments have become one of the most challenging environments of healthcare systems as they are overcrowded, decisions are made quickly, workloads are unpredictable and patients are in critical condition. Recent systematic reviews and cross-sectional studies show that emergency physicians and nurses are more exposed to burnout than other professionals in the specialty {3,4}. These results highlight the psychosomatic load of emergency services and the necessity of specific interventions. This burden is further compounded by aggression and violence at the workplace. Verbal abuse, threats, and physical assaults are common among healthcare workers, especially in emergency environments, and they greatly impact not only the mental condition of workers but also their professional work as well {5}. In the recent past, prevalence of violence at work has been high in the healthcare sector and verbal and physical aggression have been cited to be the most prevalent forms of violence in the sector {6,7}. The correlation between aggression and burnout at the workplace has become an issue of growing concern in modern literature. Violence has been found to be a factor which causes stress, anxiety, depression and professional dissatisfaction thus increasing the chances of burnout among the healthcare providers {8}. Moreover, the research has shown that aggression in the clinical environment can adversely affect collaboration, interaction, and patient outcomes {9}. Burnout and aggression in the emergency departments compared to other fields of medicine have received less research in comparison although there is increased awareness among the world population with fewer studies simultaneously providing data on the comparison of burnout and aggression between the emergency departments and other medical specialties, particularly in developing health sector. This relationship is vital in the development of preventive measures, institutionalization, and enhancement of well-being of the workforce. Thus, the proposed study will establish and compare the incidence of burnout and aggression among healthcare workers working in emergency departments with other medical subspecialties in tertiary care hospitals. Through a simultaneous analysis of the two phenomena, the research aims at creating evidence that can be translated into policy making, workplace safety interventions, and mental-health supports to assist healthcare workers in their workplaces {10}.

METHODOLOGY:

This is a cross-sectional observational study that was carried out among the healthcare providers in Emergency Department and chosen medical subspecialties of tertiary care hospitals in Karachi, Pakistan, during a three to five months period after ethical approval of the study was obtained by the Institutional Ethical Review Committee. The sample was represented by the combination of both the public and the private hospitals to have a range of diversity in workplace conditions and patient load. The target population included his medical doctors and staff nurses who are working in Emergency Departments and other subspecialties such as Internal Medicine, General Surgery, Pediatrics, and Orthopedics. Any healthcare professional aged 18 years and above who was actively employed during the study period and was ready to give informed consent had been included. Other healthcare workers, dentists, participants who were on leave and those who refused to take part or failed to complete the questionnaires were not included in the research. Daniel formula of prevalence studies ($n = Z^2 \times P(1 -$

P)/d 2) was used to calculate the sample size, assuming a confidence level of 95 ($Z = 1.96$), a prevalence of 42.4 percent of burnout as estimated by other previous studies and a margin of error of 5 percent, which gave a final sample size of 376 participants. The participants were recruited using a purposive non-probability sampling method which made sure that both groups had representation in terms of Emergency Departments and others. The structured close-ended questionnaire was used to gather data through the application of demographic variables and the validated assessment tools. Demographic data comprised of age, gender, occupation, hospital affiliation, education status, and years of experience in professional practice. The questionnaire was administered both on paper at duty breaks and through electronic media in the form of online. The involvement was voluntary and informed consent in writing was recorded before data was collected. The questionnaire should have taken less than 10 minutes to complete, which was the approximated time required to complete the questionnaire. To evaluate burnout, Maslach Burnout Inventory-Human Services Survey (MBI-HSS) which is a validated 22-item questionnaire that measures emotional exhaustion, depersonalization, and personal accomplishment with 7 points Likert scale was used to evaluate burnout. The aggressiveness was assessed by Northouse through the use of the Buss Perry Aggression Questionnaire which assessed physical aggression, verbal aggression, anger, and hostility using standardized scoring schemes. The two tools have been extensively employed in health research studies and have been implemented based on the protocols of scores. The prevalence of burnout and levels of aggression among healthcare professionals were the primary outcome variables, and demographic and occupational factors (gender, years of experience, and department of work) were the secondary ones. The study was done in secrecy and the participants were advised of their right to pull out at any point without the repercussions. All data were anonymized and were used in research purposes. The data were analyzed and typed into SPSS software. The computed descriptive statistics involved demographic variables in form of frequencies and percentages in categorical variables and mean and standard deviation in continuous variables. The differences between the Emergency Department and non-Emergency Department staff and the correlations between burnout and aggression were compared with the help of proper inferential statistical tests. The value of P below 0.05 was regarded as statistically significant.

RESULT:

A total of 376 healthcare professionals participated in the study, including doctors and nurses working in Emergency Departments and other medical subspecialties across tertiary care hospitals in Karachi. Among the participants, 210 (55.9%) were female and 166 (44.1%) were male, with a mean age of 32.8 ± 6.4 years. Doctors constituted 61.2% of the sample, while nurses accounted for 38.8%. Equal representation was maintained between Emergency Departments and other subspecialties, with 188 participants recruited from each group. Most participants had 1–5 years of professional experience (42.3%), followed by 6–10 years (29.5%), less than one year (15.4%), and more than 10 years (12.8%). Detailed demographic characteristics are presented in Table 1.

Assessment of burnout using the Maslach Burnout Inventory–Human Services Survey revealed that high emotional exhaustion was present in 162 (43.1%) participants, high depersonalization in 138 (36.7%), and reduced personal accomplishment in 121 (32.2%). Overall, the prevalence of burnout was markedly higher among Emergency Department staff compared to those working in other specialties, reported in 54.8% and 34.6% of participants respectively, with the difference being statistically significant ($p < 0.001$). Emergency Department professionals demonstrated greater emotional exhaustion and depersonalization, while reduced personal accomplishment was also more frequently observed in this group. These findings are summarized in Table 2.

Aggression levels measured using the Buss–Perry Aggression Questionnaire showed that 149 (39.6%) participants had high overall aggression scores. Domain-wise analysis indicated that verbal aggression was the most common (46.3%), followed by anger (41.8%), hostility (37.5%), and physical aggression (28.4%). Participants working in Emergency Departments consistently reported higher

aggression scores across all domains compared to those in other subspecialties, and this difference reached statistical significance ($p < 0.05$). Comparative aggression scores are presented in Table 3. When comparing Emergency Department staff with those from other specialties, burnout prevalence was 54.8% versus 34.6%, and aggression prevalence was 48.9% versus 30.3%, respectively. Emergency Department professionals reported significantly higher emotional exhaustion, anger, and hostility scores, reflecting the demanding and high-pressure nature of their work environment. This comparison is illustrated in Figure 1.

A significant association was observed between aggression and burnout, as participants with higher aggression scores were more likely to exhibit burnout than those with lower aggression levels (OR = 2.1; 95% CI: 1.4–3.3; $p = 0.002$). Emotional exhaustion showed the strongest correlation with anger and hostility domains of aggression. These relationships are presented in Table 4 and Figure 2.

Multivariate logistic regression analysis further identified independent predictors of burnout, including working in the Emergency Department, having less than five years of professional experience, exposure to verbal aggression, and female gender. Among these, working in the Emergency Department emerged as the strongest predictor (Adjusted OR = 2.6; 95% CI: 1.7–4.1). The regression model and predictors are summarized in Table 5.

Table 1: Demographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	166	44.1
Gender	Female	210	55.9
Profession	Doctors	230	61.2
Profession	Nurses	146	38.8
Department	Emergency	188	50
Department	Other Specialties	188	50
Experience	<1 year	58	15.4
Experience	1–5 years	159	42.3
Experience	6–10 years	111	29.5
Experience	>10 years	48	12.8

Table 2: Burnout Prevalence and MBI Subscale Distribution

Burnout Component	Emergency (%)	Non-ED (%)	p-value
Emotional Exhaustion	52.1	34.1	<0.001
Depersonalization	44.3	29.1	0.002
Reduced Personal Accomplishment	38.5	25.9	0.01
Overall Burnout	54.8	34.6	<0.001

Table 3: Aggression Domain Scores Among ED vs Non-ED Staff

Aggression Domain	Emergency (%)	Non-ED (%)	p-value
Physical Aggression	35.2	21.6	0.01
Verbal Aggression	55.4	37.2	0.002
Anger	49.1	34.5	0.01
Hostility	44.6	30.3	0.02

Table 4: Association Between Aggression and Burnout

Variable	Odds Ratio (OR)	95% CI	p-value
High Aggression vs Burnout	2.1	1.4–3.3	0.002
Verbal Aggression	1.8	1.2–2.9	0.01
Anger	2.3	1.5–3.5	<0.001

Table 5: Multivariate Logistic Regression for Predictors of Burnout

Predictor	Adjusted OR	95% CI	p-value
Emergency Department Work	2.6	1.7–4.1	<0.001
Experience <5 years	1.9	1.2–3.0	0.01
Female Gender	1.6	1.1–2.5	0.03
Exposure to Verbal Aggression	2.2	1.4–3.4	0.002

Figure 1. Comparison of burnout and aggression prevalence between healthcare professionals working in Emergency Departments and those in other medical subspecialties in tertiary care hospitals.

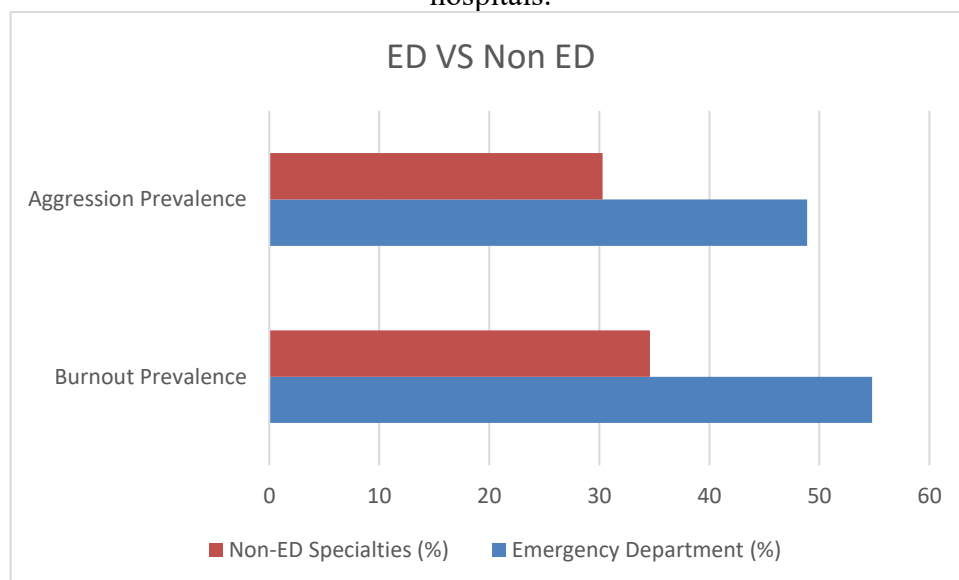
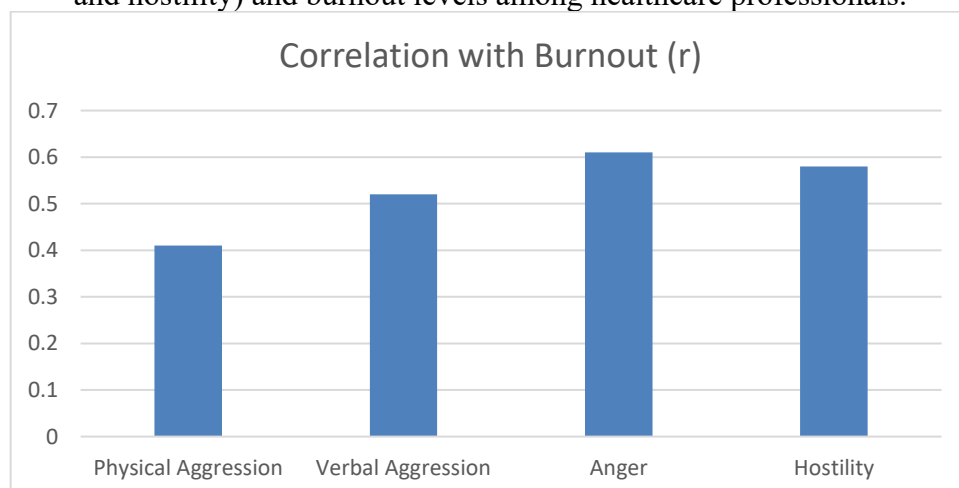


Figure 2. Relationship between aggression domains (physical aggression, verbal aggression, anger, and hostility) and burnout levels among healthcare professionals.



Discussion:

The current research shows that burnout and aggression rates among healthcare professionals at the tertiary care hospitals are very high, with an even higher rate of the identified trends in Emergency Department employees than in the workers of other subspecialties. Such results are in line with the current international literature that suggests that emergency medical settings are one of the most psychologically challenging clinical environments because of the workload rates, emotional pressure, and workplace violence exposure {1,2}. The literature has shown in the recent past that there is a high level of burnout among the emergency physicians and nurses specifically in terms of emotional exhaustion and depersonalization. An international multi-centre study undertaken across emergency healthcare personnel revealed that burnout remains a major issue that affects high percentages of frontline workers with workplace stressors and organizational issues being at the centre stage of the burnout problem {3}. In the same vein, cross-cultural studies indicate that burnout prevalence is diverse in healthcare institutions, but it is always greatest when dealing with emergency and critical care specialists {4}. In the current study, aggression and workplace violence were found to be major factors that contributed to burnout, especially among the Emergency Department employees. This is in line with the current evidence that workplace violence is extremely common in the health care field and that it has a close relationship with stress, anxiety, and emotional burnout in the professionals concerned 5. Research have established that medical professionals who are exposed to physical or verbal violence score higher on burnout and less job satisfaction than those who are not exposed to violence {6}. In addition, aggression at the place of work has been associated with long-term psychological impacts such as depression, sleeping disturbance, and desire to abandon the occupation {7}. The observed correlation between aggression and burnout is in favor of the prior existing evidence that occupational violence is a significant source of stress in emergency care environments. It has been shown that workplace violence is a strong predictor of burnout and it can mediate its role in the overall psychological wellbeing of emergency medical personnel in the workplace {8}. These results support the idea that aggression and burnout exist in a common pathway that is mediated by occupational stress and environmental difficulties. The other significant discovery in the study was that burnout was found to be more prevalent in medical workers of less experience. According to the current literature, early-career professionals are especially susceptible because of the lack of well-developed coping mechanisms, the significant clinical pressure, and the absence of the well-organized support systems {9}. The findings highlight the role of mentorship, training, and institutional mental support as a provider of junior staff. The differences observed based on gender in this research are also consistent with the findings of recent studies, which indicates that the female healthcare employee can be affected by the emotional load because of workplace stresses, care-giving responsibilities, and experiencing aggression more than the male counterparts do in the same setting {10}. It is hence necessary to tackle gender-related job issues with the aim of enhancing healthcare workforce well-being. The implications of burnout are far reaching and can directly influence both the health of individual psyche and healthcare systems as well as patient outcomes. Recent research has shown that medical burnouts in healthcare workers is linked to low patient safety, poor communication, low job satisfaction, and a high probability of making medical errors {1,4}. Burnout is also a serious problem as it leads to absenteeism, decreased productivity, and workforce losses, which have become a critical issue in the healthcare delivery system in all countries and states worldwide. In terms of organization, this evidence suggests the necessity of specific interventions that can help to minimize workplace aggression and psychological stress. It is indicated that intervention programs like structured workplace violence prevention programs, training on de-escalation, supportive leadership, and workload management strategies can help to reduce the occurrence of burnout and enhance professional resilience to a significant extent {5,8}. Developing conducive working conditions and institutional psychological support can thus be critical in reducing aggression and burnout in the healthcare providers. The research has a contribution to literature since it is the first to compare burnout and aggression directly between Emergency Department and non-Emergency Department healthcare professionals in tertiary care hospitals. The outcomes highlight the peculiarities of work of

emergency personnel and the necessity to implement changes at policy levels, change institutions, and monitor the condition of healthcare workers around the clock. Nevertheless, longitudinal studies are necessary to comprehend the causal associations and assess the long-term effects of preventive interventions. Finally, burnout and aggression are still correlated professional issues in the contemporary healthcare systems, especially in emergency facilities. Preventing workplace violence, increasing institutional support, and applying mental health interventions are necessary measures that can avert the harm of healthcare professionals and maintain the high quality of provided care

Conclusion

Burnout and workplace aggression are common among healthcare professionals, particularly those working in Emergency Departments, where psychological stress and exposure to violence are significantly higher. The study highlights a strong association between aggression and burnout, indicating that hostile work environments contribute to emotional exhaustion and reduced professional well-being. Early-career staff and female healthcare workers appear more vulnerable, emphasizing the need for targeted support. Institutional interventions such as violence prevention strategies, mental health support, and workload management are essential to protect healthcare workers and improve patient care outcomes. Addressing these challenges at organizational and policy levels is critical for sustaining workforce resilience and healthcare quality.

References

1. West CP, Dyrbye LN, Shanafelt TD. Physician burnout: contributors, consequences and solutions. *J Intern Med.* 2020;288(5):516–529.
2. Tan BYQ, Chew NWS, Lee GKH, et al. Psychological impact of the COVID-19 pandemic on healthcare workers. *Lancet Reg Health West Pac.* 2020;4:100045.
3. Woo T, Ho R, Tang A, Tam W. Global prevalence of burnout symptoms among nurses: a systematic review and meta-analysis. *Int J Environ Res Public Health.* 2020;17(8):2609.
4. Gómez-Urquiza JL, De la Fuente-Solana EI, Albendín-García L, Vargas-Pecino C, Ortega-Campos EM, Cañadas-De la Fuente GA. Prevalence of burnout syndrome in emergency nurses: a meta-analysis. *Crit Care Nurse.* 2017;37(5):e1–e9.
5. Byon HD, Sagherian K, Kim Y, Lipscomb J, Crandall M, Steege LM. Nurses' experience with workplace violence: a systematic review. *J Adv Nurs.* 2021;77(4):1500-1517.
6. Aljohani B, Burkholder J, Tran QK, et al. Workplace violence in the emergency department: a systematic review and meta-analysis. *Int Emerg Nurs.* 2021;58:101030.
7. Zhang X, Wang J, Hao Y, et al. Workplace violence against healthcare workers and mental health outcomes: a cross-sectional study. *Front Public Health.* 2022;10:896512.
8. Liu J, Gan Y, Jiang H, et al. Prevalence of workplace violence against healthcare workers: a systematic review and meta-analysis. *BMC Health Serv Res.* 2019;19:1-12.
9. De Hert S. Burnout in healthcare workers: prevalence, impact and prevention strategies. *J Clin Med.* 2020;9(7):2406.
10. Shanafelt TD, Dyrbye LN, Sinsky C, et al. Relationship between clinician burnout and patient safety. *Mayo Clin Proc.* 2020;95(8):1571-1580.