



Original Research Article

SAFETY ATTITUDES AND WORKPLACE VIOLENCE AMONG EMERGENCY ROOM DOCTORS: A CROSS-SECTIONAL STUDY

E. Ramanjaneyulu¹, B. Soujanya Kumar², B V Rao³, M V. Kiran Kumar⁴

¹Assistant Professor, Department of Hospital Administration, S.V. Medical College, Tirupati, India.

²Assistant Professor, Department of Hospital Administration, Government Medical College, Ananthapuramu, Andhra Pradesh, India.

³Civil Surgeon Hospital Administrator, Kurnool, Andhra Pradesh, India.

⁴Assistant Professor, Department of Hospital Administration, Kurnool Medical College, Kurnool, Andhra Pradesh, India.

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Corresponding Author:

Dr. B V Rao
Civil Surgeon Hospital Administrator,
Government General Hospital,
Kurnool, Andhra Pradesh, India.
Email: raobujja@yahoo.co.in

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ABSTRACT

Background: Patient turnover and high-stress environments. In these settings, emergency room doctors play a pivotal role in delivering timely and efficient care to patients with diverse and often critical conditions. However, the demanding nature of emergency medicine, coupled with long working hours, high patient volumes, and exposure to various hazards, poses significant challenges to both patient safety and healthcare provider well-being. Understanding the safety attitudes of doctors working in EDs, particularly in the context of physical violence, is essential for identifying areas of improvement and implementing effective interventions to enhance patient care quality and promote a safer working environment.

Material and Methods: A cross-sectional study was conducted among emergency room doctors. Participants were recruited using convenience sampling methods. A self-administered questionnaire was used to collect data, including demographic information and responses to the Safety Attitudes Questionnaire (SAQ), a validated instrument for assessing safety attitudes in healthcare settings. SAQ scores were analyzed using chi-square tests and analysis of variance (ANOVA), to examine differences based on demographic factors and exposure to violence.

Results: A total of 73 doctors participated in the study. Significant differences in safety attitudes were observed based on gender ($p = 0.0001$), age group ($p = 0.009$), designation ($p = 0.0001$), and exposure to physical violence/threats ($p < 0.0001$). Male participants, older age groups, faculty members, and those not exposed to violence exhibited more positive safety attitudes. Overall, the highest mean SAQ scores were observed in Safety Climate (64.29 ± 13.88) and Stress Recognition (63.44 ± 10.79) categories, while the lowest scores were noted in Perceptions of Management (43.75 ± 5.72). Exposure to violence was associated with significantly lower SAQ scores.

Conclusion: Improving communication, addressing deficiencies in management perceptions, and implementing strategies to prevent violence are crucial for promoting a positive safety culture and enhancing patient care quality in EDs.

Keywords: Emergency department, Safety attitudes, Doctors, Workplace violence, Patient safety.

INTRODUCTION

In the Indian context, emergency departments (EDs) serve as crucial hubs for healthcare delivery, handling a substantial burden of patient visits

annually.^[1] Over 4.7 crore patients sought care in emergency departments across India.^[2] This staggering number underscores the critical role played by emergency physicians in providing timely

and efficient care to individuals with diverse and often life-threatening conditions.^[2]

Despite their pivotal role, doctors working in Indian emergency rooms face numerous challenges that compromise their safety and well-being.^[2] The demanding nature of emergency medicine, characterized by long working hours, high patient volumes, and exposure to various occupational hazards, contributes to heightened stress levels among healthcare providers.^[3] A survey revealed that emergency physicians often work extended shifts, with many reporting fatigue and burnout as significant concerns.^[3]

In addition to workload-related stressors, Indian emergency physicians also contend with systemic issues such as resource constraints and infrastructure limitations.^[4] Overcrowding in EDs is a prevalent issue, leading to delays in patient care and increased pressure on medical staff.^[5] The lack of essential equipment, medications, and support services further exacerbates the challenges faced by doctors in emergency settings.^[5]

Also, the safety of healthcare professionals, particularly doctors, is further complicated by the alarming prevalence of violence and threats of violence within emergency departments (EDs).^[6] According to a nationwide survey, an alarming 75% of doctors in India have reported experiencing some form of violence or aggression during their medical practice.^[6] This includes physical assaults, verbal abuse, threats of violence, and intimidation, with emergency room physicians being particularly vulnerable due to the high-stress nature of their work and the emotionally charged environment of emergency care.^[7,8,9]

Furthermore, the prevalence of medical errors in Indian emergency departments is a cause for concern.^[10] According to a study, adverse events occur in approximately 8-10% of all emergency department visits, highlighting the need for enhanced safety measures and improved patient care protocols.^[10]

The organizational culture within emergency departments also plays a significant role in shaping safety attitudes among doctors. While some institutions prioritize a culture of collaboration, communication, and continuous learning, others may exhibit hierarchical structures and punitive approaches to error reporting.^[11] This variation in organizational culture can impact doctors' willingness to speak up about safety concerns and engage in proactive risk mitigation strategies.^[11]

Moreover, individual factors such as doctors' experience levels, training backgrounds, and coping mechanisms influence their safety attitudes and behaviors.^[10,12] Junior doctors, in particular, may face challenges adapting to the high-stress environment of the emergency department, while senior practitioners may draw upon their clinical expertise to navigate complex situations effectively.^[12]

So, this study was conducted with an aim to assess the prevalence of physical violence among doctors

working in emergency room and their safety attitudes.

MATERIAL AND METHODS

Study Design and Setting

This cross-sectional study was conducted among doctors working in emergency rooms under the Department of Emergency Medicine, of tertiary care center for a period of one month during April 2024 to May 2024.

Participants

The study participants comprised doctors who were currently practicing in emergency rooms across India. Eligible participants included emergency physicians, residents, and medical officers with varying levels of experience and training backgrounds. Participants were recruited through convenience sampling methods, with efforts made to ensure representation from different geographic regions and healthcare settings.

Data Collection

Data collection was primarily conducted through self-administered questionnaires distributed in-person to eligible participants. The questionnaire was designed to capture demographic details such as age, gender, designation; various dimensions of safety attitudes, including perceptions of organizational safety culture, individual safety behaviors, experiences with adverse events, and exposure to workplace violence.

Survey Instrument

The survey instrument was developed based on Safety Attitudes Questionnaire (SAQ) established scale and validated instruments used in previous research on safety attitudes and healthcare provider well-being, adapted to the context of emergency medicine. The SAQ is designed to measure six key safety-related constructs: Teamwork Climate, Safety Climate, Job Satisfaction, Stress Recognition, Perceptions of Management, and Working Conditions.^[13] The SAQ comprised multiple Likert-scale items, typically ranging from 1 to 5 or 6, where respondents were asked to rate their level of agreement or disagreement with each statement. For consistency with previous research, response scores from the Safety Attitudes Questionnaire (SAQ) were transformed to a 100-point scale using the equation: $(\text{Mean dimension score} - 1) \times 25 = \text{the mean score expressed as a percentage}$. Scores of 75 and above indicate a positive attitude toward that sub-scale domain.

Data Analysis

Quantitative data obtained from the survey responses were analyzed using SPSS version 20.0. Descriptive statistics such as frequencies, means, and standard deviations were used to summarize participants' demographic characteristics, physical violence and safety attitudes. Students T test or ANOVA test, were employed to examine

associations between various factors and safety attitudes among emergency room doctors.

Ethical Considerations

Ethical approval IEC-KMC-GGH No: 597/2024 for the study was obtained from the Institutional Ethics Committee of the institution. Informed consent was obtained from all participants prior to their inclusion in the study, ensuring voluntary participation and confidentiality of responses.

RESULTS

In our study, a total of 73 doctors participated in the study, with 57.53% being male and 42.47% female. Regarding age distribution, the majority of participants fell within the 30-45 years age group (56.16%), followed by those aged <30 years (24.66%) and >45 years (19.18%). In terms of designation, 63.01% of participants were SR/JR/MO (Senior Resident/Junior Resident/Medical Officer), while 36.99% were faculty members. Regarding exposure to physical violence, 9.59% of participants reported being exposed to physical violence, while 38.36% reported experiencing threats of physical violence. Among the reasons cited for violence, the most common were delay in getting treatment (82.86%), patient death (77.14%), wrong perception of treatment (45.71%), and worsening of patient condition (60.00%). [Table 1]

The results of the Safety Attitudes Questionnaire (SAQ) indicate varying perceptions among doctors regarding different constructs related to safety attitudes in the emergency room setting. In terms of Teamwork Climate, participants generally expressed positive perceptions, with high mean scores observed for items related to support from colleagues (3.80 ± 0.95) and the ease of asking questions (4.01 ± 0.92). However, there were concerns about the difficulty of speaking up about patient care problems (2.27 ± 1.10). Regarding Safety Climate, participants generally perceived a positive culture for learning from errors (3.98 ± 0.98) and reporting patient safety concerns (4.03 ± 0.92). However, lower mean scores were noted for handling medical errors appropriately (3.47 ± 1.08) and discussing errors openly (2.70 ± 1.11). In terms of Job Satisfaction, participants reported relatively high levels of satisfaction, with positive mean scores for liking their job (4.15 ± 0.85) and feeling proud to work at the hospital (3.65 ± 1.04). However, lower satisfaction was observed for aspects related to the work environment, such as morale in the emergency room area (2.83 ± 1.20). In Stress Recognition, participants acknowledged the impact of workload and fatigue on their performance, with mean scores ranging from 2.96 to 3.85. Perceptions of Management revealed mixed results, with lower mean scores for items related to hospital administration support (2.54 ± 1.12) and adequate staffing levels (2.53 ± 1.36). Finally, Working

Conditions were perceived positively overall, with high mean scores for items related to information availability (3.48 ± 1.03) and adequacy of supervision for trainees (3.59 ± 1.16). However, concerns were noted regarding the hospital's handling of problem physicians and employees (2.72 ± 1.10). [Table 2]

The analysis of Safety Attitudes Questionnaire (SAQ) scores reveals varying perceptions among doctors across different categories related to safety attitudes in the emergency room setting. Overall, the highest mean transformed scores were observed in Safety Climate (64.29 ± 13.88), indicating a relatively positive perception of the organizational commitment to safety and the encouragement of reporting safety concerns. This was followed by Stress Recognition (63.44 ± 10.79), suggesting a recognition of the impact of workload and fatigue on job performance. Job Satisfaction also received a moderately positive score (61.60 ± 13.28), reflecting overall satisfaction levels among participants. However, lower scores were noted in categories such as Perceptions of Management (43.75 ± 5.72), indicating concerns regarding hospital administration support and staffing levels, and Working Conditions (56.88 ± 9.72), suggesting room for improvement in aspects related to information availability and handling of problem physicians and employees. The overall SAQ score was 58.21 ± 7.44 , indicating a moderately positive perception of safety attitudes among doctors in the emergency room setting, with potential areas for targeted interventions to enhance safety culture and improve patient care quality. [Table 3]

The analysis of the Overall Safety Attitudes Questionnaire (SAQ) scores across different demographic and occupational variables revealed significant differences in safety attitudes among doctors working in the emergency room setting. Notably, significant differences were observed based on gender, with male participants reporting higher mean SAQ scores (63.12 ± 13.33) compared to female participants (52.21 ± 6.01) ($p = 0.0001$). Similarly, age group was associated with variations in SAQ scores, with participants aged >45 years reporting the highest mean SAQ score (63.38 ± 14.04), followed by those aged 30-45 years (57.39 ± 6.22) and <30 years (53.57 ± 8.42) ($p = 0.009$). Designation also influenced SAQ scores significantly, with faculty members reporting higher mean scores (64.27 ± 12.24) compared to SR/JR (Senior Resident/Junior Resident) doctors (54.66 ± 6.87) ($p = 0.0001$). Moreover, exposure to physical violence or threat thereof was associated with significantly lower SAQ scores, with participants reporting exposure to physical violence or threats thereof (51.29 ± 5.88) having lower mean SAQ scores compared to those not exposed (65.44 ± 14.79) ($p < 0.0001$). [Table 4]

Table 1: Baseline characteristics of the study participants (N=73)

Variables	Number	%
Gender		
Male	42	57.53
Female	31	42.47
Age group		
<30 years	18	24.66
30-45 years	41	56.16
>45 years	14	19.18
Designation		
Faculty	27	36.99
SR/JR/MO	46	63.01
Exposed to physical violence		
Yes	7	9.59
No	66	90.41
Exposed to threat of physical violence		
Yes	28	38.36
No	45	61.64
Reason for violence*		
Delay in getting treatment	29	82.86
Patient Death	27	77.14
Wrong perception of treatment	16	45.71
Patient condition worsened	21	60.00

*Multiple responses

Table 2: Distribution of SAQ items Responses from the study participants (N=73)

Constructs	SAQ items	Mean ± SD
Teamwork Climate	It is easy for personnel in this Emergency room to ask questions when there is something that they do not understand.	4.01 ± 0.92
	I have the support I need from other personnel to care for patients.	3.80 ± 0.95
	Nurse input is well received in this Emergency room.	3.85 ± 1.03
	In this Emergency room, it is difficult to speak up if I perceive a problem with patient care.	2.27 ± 1.10
	Disagreements in this Emergency room are resolved appropriately (i.e., not who is right, but what is best for the patient).	3.33 ± 1.02
	The physicians and nurses here work together as a well-coordinated team.	3.76 ± 0.95
Safety Climate	The culture in this Emergency room makes it easy to learn from the errors of others.	3.98 ± 0.98
	Medical errors are handled appropriately in this Emergency room.	3.47 ± 1.08
	I know the proper channels to direct questions regarding patient safety in this Emergency room.	3.81 ± 0.98
	I am encouraged by my colleagues to report any patient safety concerns I may have.	4.03 ± 0.92
	I receive appropriate feedback about my performance.	3.12 ± 1.21
	I would feel safe being treated here as a patient.	4.00 ± 1.09
Job Satisfaction	In this Emergency room, it is difficult to discuss errors.	2.70 ± 1.11
	This hospital is a good place to work.	3.61 ± 1.05
	I am proud to work at this hospital.	3.65 ± 1.04
	Working in this hospital is like being part of a large family.	3.02 ± 1.25
	Moral in this Emergency room area is high.	2.83 ± 1.20
Stress Recognition	I like my job.	4.15 ± 0.85
	When my workload becomes excessive, my performance is impaired.	3.75 ± 1.17
	I am more likely to make errors in tense or hostile situations.	3.79 ± 1.15
	Fatigue impairs my performance during emergency situations.	2.96 ± 1.22
Perceptions of Management	I am less effective at work when fatigued.	3.85 ± 1.08
	Hospital management does not knowingly compromise the safety of patients.	3.06 ± 1.29
	Hospital administration supports my daily efforts.	2.54 ± 1.12
	I am provided with adequate, timely information about events in the hospital that might affect my work.	3.07 ± 1.00
Working Conditions	The levels of staffing in this clinical area are sufficient to handle the number of patients.	2.53 ± 1.36
	All the necessary information for diagnostic and therapeutic decisions is routinely available to me.	3.48 ± 1.03
	This hospital constructively deals with problem physicians and employees.	2.72 ± 1.10
	Trainees in my discipline are adequately supervised.	3.59 ± 1.16
	This hospital does a good job of training new employees.	3.51 ± 1.14

Table 3: Distribution of SAQ score (Transformed) for each construct and overall among study participants (N=73)

Category	SAQ score Mean ± SD (Transformed)
Teamwork Climate	59.29 ± 18.99
Safety Climate	64.29 ± 13.88
Job Satisfaction	61.60 ± 13.28
Stress Recognition	63.44 ± 10.79
Perceptions of Management	43.75 ± 5.72
Working Conditions	56.88 ± 9.72
Overall	58.21 ± 7.44

Table 4: Association of Overall SAQ score with independent variables among study participants (N=73)

Variables	Overall SAQ score Mean \pm SD	P value
Gender		
Male (n=42)	63.12 \pm 13.33	0.0001
Female (n=31)	52.21 \pm 6.01	
Age group		
<30 years (n=18)	53.57 \pm 8.42	0.009
30-45 years (n=41)	57.39 \pm 6.22	
>45 years (n=14)	63.38 \pm 14.04	
Designation		
Faculty (n=27)	64.27 \pm 12.24	0.0001
SR/JR (n=46)	54.66 \pm 6.87	
Exposed to Physical Violence/Physical Violence threat		
Yes (n=35)	51.29 \pm 5.88	<0.0001
No (n=38)	65.44 \pm 14.79	

DISCUSSION

The findings of this study provide valuable insights into safety attitudes among doctors working in emergency rooms, shedding light on the complex interplay of demographic, occupational, and experiential factors that influence perceptions of safety culture and patient care quality.

Demographic and Occupational Influences on Safety Attitudes

The significant differences observed in safety attitudes based on demographic and occupational variables highlight the nuanced nature of safety perceptions among healthcare professionals. Consistent with previous studies by Kristensen et al., and Raftopoulos et al., where male participants reported higher mean SAQ scores compared to females (63.12 \pm 13.33 vs. 52.21 \pm 6.01, $p = 0.0001$).^[14,15] This disparity may reflect underlying differences in experiences, perceptions, and coping mechanisms between genders. Similarly, older participants and faculty members exhibited more positive safety attitudes, with higher mean SAQ scores observed among participants aged >45 years (63.38 \pm 14.04) and faculty members (64.27 \pm 12.24) compared to younger age groups and SR/JR doctors, respectively. These findings are consistent with previous studies by Zhao et al., and Rotta et al., highlighting the positive correlation between years of experience and safety attitudes among healthcare professionals.^[16,17] Such differences underscore the importance of considering individual characteristics and roles in shaping safety attitudes and suggest the need for targeted interventions tailored to specific demographic and occupational groups.

Impact of Exposure to Violence on Safety Attitudes

In our study, regarding exposure to physical violence, 9.59% of participants reported being exposed to physical violence, while 38.36% reported experiencing threats of physical violence. In a study by Grover et al., out of the 353 participants, 193 doctors (54.6%) reported being exposed to violence at their workplace in the past 6 months.^[18] In a study by Sharma et al., out of 295 HCWs, 11 (3.7%) HCWs faced physical violence,

whereas verbal abuse was faced by 147 (50%) HCWs.^[19]

Of particular concern is the association between exposure to physical violence or threats thereof and lower SAQ scores. Participants who reported exposure to violence exhibited significantly lower safety attitudes compared to their non-exposed counterparts (51.29 \pm 5.88 vs. 65.44 \pm 14.79, $p < 0.0001$). This finding corroborates previous studies by Kaur et al., Debnath et al., and Ranjan et al., highlighting the detrimental impact of workplace violence on healthcare professionals' well-being and perceptions of safety.^[20,21,22] It underscores the urgent need for interventions aimed at preventing and addressing violence in healthcare settings, including enhanced security measures, staff training in de-escalation techniques, and organizational policies to support victims and promote reporting.^[23]

Implications for Patient Care Quality and Safety Culture

The observed variations in safety attitudes across different dimensions of the SAQ underscore the multifaceted nature of safety culture within emergency departments. While certain aspects, such as teamwork climate and stress recognition, received relatively positive ratings, areas such as perceptions of management and working conditions revealed room for improvement. Interestingly, a comparison with similar studies by Al-Mugheed et al., and Carvalho et al., conducted in different healthcare settings revealed similar trends in safety attitudes.^[24,25] Addressing deficiencies in these domains is critical for fostering a positive safety culture, enhancing communication and collaboration among healthcare teams, and ultimately improving patient care quality and outcomes.^[26,27]

Limitations and Future Directions

Several limitations should be considered when interpreting the findings of this study. The cross-sectional design precludes causal inference, and self-reported data may be subject to recall and social desirability biases. Additionally, the study sample may not be fully representative of all emergency room doctors, and contextual factors specific to individual healthcare institutions may influence safety attitudes. Future research should employ longitudinal designs to explore the temporal dynamics of safety attitudes and examine the

effectiveness of targeted interventions in improving safety culture and mitigating workplace violence. Furthermore, qualitative inquiries may provide deeper insights into the underlying factors driving variations in safety perceptions among healthcare professionals.

CONCLUSION

In conclusion, this study contributes to our understanding of safety attitudes among doctors in emergency rooms, highlighting the importance of addressing demographic, occupational, and experiential factors in promoting a positive safety culture and enhancing patient care quality. By identifying areas for improvement and informing targeted interventions, healthcare organizations can cultivate environments that prioritize safety, well-being, and optimal patient outcomes.

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