

The violence against emergency physicians influences medical students choice of specialty in Saudi Arabia: a cross-sectional study

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ABSTRACT

Background: Emergency medicine (EM) physicians and trainees are particularly affected by workplace violence (WPV) in emergency departments (EDs), posing a global concern for healthcare providers. In Saudi Arabia, limited data exist on how WPV influences medical students' specialty preferences, and clinical performance.

Methodology: Between October 2024 and January 2025, 500 Saudi medical students and clinical year interns participated in a cross-sectional online survey. The English survey evaluated exposure to violence in ED, its effect on clinical performance, reporting practices, efficacy of training, and specialty selection. SPSS was used to analyse the data using Chi-square and Fisher's Exact tests for correlations.

Results: Overall, 44.0% of participants reported witnessing WPV, predominantly verbal abuse (43.2%). Perpetrators were mainly patients (35.4%) and their relatives (40.2%). Female students (47.3%) and those with longer ED rotations experienced higher exposure ($p < 0.05$). Violence discouraged 25.0% from choosing EM, while 23.6% reported a negative impact on specialty decisions. Only 30.2% had received training on managing WPV, which was significantly associated with reduced intent to leave EM ($p < 0.001$). Underreporting was common, driven by fear of stigma and lack of authority.

Conclusion: Medical students' clinical confidence and specialty choices are greatly impacted by violence in EDs, especially for female students and those with prolonged exposure to EDs. To lessen the effects of WPV and increase the appeal of EM careers in Saudi Arabia, improved training, reporting procedures, and institutional safety measures are crucial.

Keyword: Workplace violence (WPV), Healthcare workers (HCWs), Medical students. Emergency medicine (EM), Emergency Departments (EDs), Saudi Arabia.

Introduction

Emergency Medicine (EM) is an important and growing field in healthcare that deals with quickly assessing and treating life-threatening diseases.

It demands quick decisions and is growing over the world to address the needs of different groups of patients [1].

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The first training program for EM in Saudi Arabia started in 2000, and the first four students graduated from the Saudi Board of Emergency Medicine (SBEM) in 2004. Since then, residency opportunities have increased significantly [2]. Emergency departments' (EDs) staff are particularly vulnerable to workplace violence (WPV), including violent and aggressive behaviors primarily perpetrated by patients and visitors, making this a significant and ongoing issue in EDs globally [3, 4]. Global WPV against healthcare workers (HCWs), particularly in EM, have been rising over the past two decades [5]. Studies worldwide have highlighted the prevalence of WPV against HCWs in EDs. The Government Accountability Office in the United States said that HCWs are 5 to 12 times more likely to get hurt at work from violence than people in other fields [6]. A study conducted in Saudi Arabia from July 2018 to July 2019 across 37 EDs in three provinces found that 45% of HCWs had to deal with WPV, mostly verbal threats [7]. The emotional distress and burnout caused by violence frequently lead to workers needing time off, highlighting the need for better policy enforcement and increased awareness [8]. A cross-sectional survey at King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) in Riyadh explored what influences medical students' specialty choices. Of 436 students, 53.4% responded; only 7% ranked EM as their top choice, while 33.2% placed it among their top three, influenced by lifestyle, role models, income potential, residency length, scope of practice, and patient demographics [9]. In Saudi Arabia, WPV affects medical students' career choices in EM, especially for those who are worried about their safety and mental health. This study looks at how WPV affects speciality choices, finds impediments, and offers ways to make medical training and policy better. The goal is to make EDs safer, increase EM recruiting, physician well-being, and patient care quality.

Methods

Study Design and Setting: A cross-sectional study was performed from October 2024 to January 2025 to evaluate the impact of violence against emergency medicine professionals on medical students' speciality selection in Saudi Arabia. **Study Subjects, Inclusion and Exclusion Criteria:** Participants consisted of medical students in their pre-clinical and clinical years, as well as interns residing in Saudi Arabia, all of whom offered informed consent and completed the questionnaire. People who didn't agree to or fill out the questionnaire, as well as people who lived outside of Saudi Arabia, were not included.

Study Tool: Data were collected using an English-language online questionnaire tailored to the academic background of medical students, who primarily use

English in their studies. The tool comprised 19 questions—mostly multiple choice with some open-ended responses—and required approximately 2 minutes to complete. **Measures:** An online questionnaire was distributed via Google Forms including six sections (1) socio-demographic characteristics, (2) educational background, (3) exposure to violence, (4) impact on academic and clinical performance, (5) reporting and support mechanisms, and (6) training and preparedness for violence in clinical settings. The objective was to examine the extent of exposure to violence and its consequences, while also identifying gaps in reporting, support, and training, thereby offering insights to enhance safety and preparedness in clinical environments. **Sampling and Sample Size:** Participants were recruited through online distribution across Saudi Arabia. Using a 95% confidence level, 5% margin of error, and assuming a 50% response distribution, the minimum required sample size was 385. **Ethical Consideration:** The Ethics Committee of King Faisal University formally approved this study, which followed the ethical guidelines of the Declaration of Helsinki. Before giving their informed consent, participants were given a lot of information about the study. Steps were taken to keep the data acquired private and anonymous. Reference number KFU-REC-2024- OCT-ETHICS2864.

Statistical Analysis

Data were entered into Microsoft Excel and analyzed using SPSS. Data were presented as frequency and percentage. Associations between categorical variables were assessed using the Chi-square test or Fisher's Exact test, with statistical significance set at $p < 0.05$.

Results

Our study included 500 participants for the assessment of impact of violence in EDs on their clinical performance (Table 1). Most respondents aged between 18–21 years ($n=233$, 46.6%) and 22–25 years ($n=230$, 46.0%), with a minority aged 26 years or older ($n=37$, 7.4%). Females comprised the majority ($n=330$, 66.0%), and most participants were Saudi nationals ($n=476$, 95.2%). The highest representation was from the Eastern region ($n=276$, 55.2%). Regarding educational status, 41.4% were pre-clinical students ($n=207$), 40.2% were clinical students ($n=201$), and 18.4% were medical interns ($n=92$). Most had less than 2 months of clinical rotation in EDs ($n=337$, 67.4%), while only a few had over 1 year of exposure ($n=8$, 1.6%). (Figure 1) displays the distribution of violence perpetrators encountered by

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participants. The most common source of violence was family members of patients (n=201, 40.2%), followed by the patients themselves (n=177, 35.4%). Healthcare staff members were reported as perpetrators in 7.4% of cases (n=37), while others accounted for 4.4% (n=22). (Table 2) shows the prevalence and perceived impact of violence against emergency physicians among participants (n=500). Nearly half of the respondents (n=220, 44.0%) reported witnessing violence in the EDs. Verbal abuse was the most reported type (n=216, 43.2%), followed by threatening behavior (n=93, 18.6%) and physical assaults (n=77, 15.4%). Most students witnessed such incidents rarely (n=186, 37.2%). A notable proportion did not feel safe during EDs rotations (n=67, 13.4%), while many were uncertain (n=191, 38.2%). About 23.6% (n=118) stated violence influenced their specialty choice, and 25.0% (n=125) had ruled out EM because of it. Only 30.2% (n=151) received training on handling violence, and 17.0% (n=85) found it moderately effective. Common consequences included stress/anxiety (n=162, 32.4%) and reduced interest in EM (n=119, 23.8%). (Figure 2) shows the various reasons participants did not report incidents of violence. The most cited barrier was lack of authority to act (21.2%), followed by lack of awareness about reporting procedures (16.7%) and limited access to support resources (14.3%). (Table 3) reveals significant associations between witnessing violence in the EDs and several participant characteristics. Witnessing violence was more common among older participants, notably those aged ≥ 26 years (n=31, 83.8%; $p < 0.001$). Females reported higher exposure than males (47.3% vs. 37.6%, $p = 0.040$). Regionally, those from the North had the highest rates of exposure (n=13, 76.5%; $p = 0.002$). Educational status showed strong links: medical interns (n=64, 69.6%) and clinical students (n=110, 54.7%) witnessed violence more frequently than pre-clinical students (n=46, 22.2%) ($p < 0.001$). Longer ED rotation durations correlated with higher violence exposure, especially among those with 5–6 months rotations (n=28, 73.7%; $p < 0.001$). No significant associations were found with nationality ($p = 0.544$). (Table 4) shows the factors associated with violence impacting clinical performance among participants (n=500). Age and gender were not significantly associated ($p = 0.874$ and $p = 0.726$, respectively), nor was nationality ($p = 0.173$). However, regional differences were notable ($p = 0.032$): students from the North (n=13, 92.9%) and West (n=43, 84.3%) reported the highest rates of performance impact. Educational status did not show

significant differences ($p = 0.569$), with similar rates across pre-clinical, clinical, and intern groups. Duration of ED rotation was significant ($p = 0.020$); students with longer exposures (> 6 months) were more likely to report violence affecting their performance, with 100% (n=5) of those spending over 1 year in ED affected. (Table 5) explores factors associated with receiving training on handling violence among participants (n=500). Gender showed a significant association ($p = 0.028$), with males (n=62, 36.5%) more likely than females (n=89, 27.0%) to have received training. Age, nationality, region, and educational status were not significantly associated (all $p > 0.05$). However, clinical exposure mattered: participants with longer ED rotations were more likely to have received training ($p < 0.001$). Half of those rotating for 5–6 months (n=19, 50.0%) and those over 1 year (n=4, 50.0%) reported receiving training, compared to only 24.3% (n=82) of those with < 2 months exposure. (Table 6) examines factors associated with quitting EM among participants (n=500). Age, gender, nationality, educational status, and ED rotation duration showed no significant associations ($p > 0.05$). However, region mattered ($p < 0.001$): students from the West (n=30, 52.6%) and North (n=7, 46.7%) were more likely to quit EM. Witnessing violence was strongly associated ($p < 0.001$); among those who witnessed violence, 43.3% (n=93) considered quitting, compared to only 20.0% (n=32) among those who hadn't. Frequency of witnessing violence also mattered ($p = 0.004$), with higher quitting rates among those exposed occasionally. Feeling unsafe in the EDs ($p < 0.001$) and not receiving training to handle violence ($p < 0.001$) were both significantly linked to a higher desire to quit. Bottom line: fear and lack of preparation bleed dreams dry in the chaos of the EDs.

Discussion

Emergency medicine (EM) offers rapid, high-stakes care but exposes clinicians to a heightened risk of workplace violence (WPV) [10]. Although residency positions in Saudi Arabia have expanded since the specialty's inception, relatively few students place EM at the top of their career lists. Lifestyle balance, mentorship, and perceptions of safety strongly influence these choices [11]. Worldwide evidence shows Emergency department' (EDs) staff experience far more aggression than other healthcare workers (HCWs), and local studies mirror that trend, with verbal abuse from patients or relatives predominating [12]. Concern over such violence may discourage trainees, underscoring the need for robust safety protocols, supportive reporting mechanisms, and

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Table 1: Sociodemographic and other parameters of participants (n=500).

		Frequency N (%)
Age	18-21 Years	233 (46.6%)
	22-25 Years	230 (46.0%)
	≥26 Years	37 (7.4%)
Gender	Female	330 (66.0%)
	Male	170 (34.0%)
Nationality	Non-Saudi	24 (4.8%)
	Saudi	476 (95.2%)
Region	Eastern	276 (55.2%)
	South	84 (16.8%)
	West	67 (13.4%)
	Central	56 (11.2%)
	North	17 (3.4%)
Current educational status	Pre-Clinical Medical Students	207 (41.4%)
	Clinical Medical Students	201 (40.2%)
	Medical Interns	92 (18.4%)
Duration of Clinical Rotations in Emergency Department	<2 Months	337 (67.4%)
	3-4 Months	96 (19.2%)
	5-6 Months	38 (7.6%)
	6 Months-1 Year	21 (4.2%)
	>1 Years	8 (1.6%)

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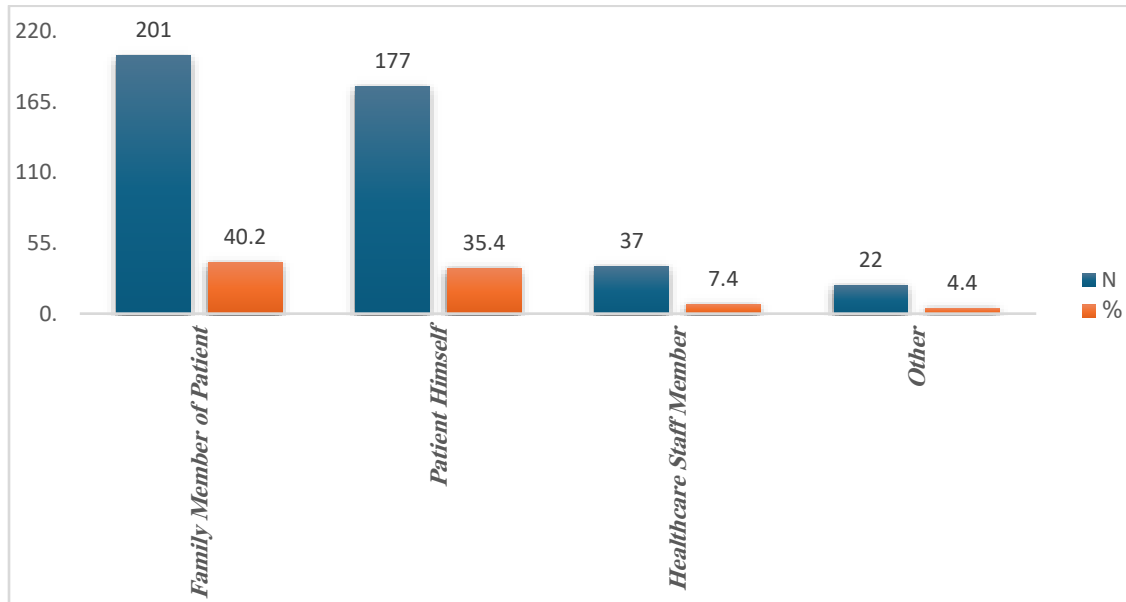


Figure 1: Different perpetrators of the violence (n=500).

Table 2: Prevalence of violence against ER physician and its impact on physicians (n=500).

		Frequency N (%)
Witnessed Violence Against Emergency Physicians	No	280 (56.0%)
	Yes	220 (44.0%)
Type of Violence	None	28 (5.6%)
	Verbal Abuse	216 (43.2%)
	Threatening and Intimidating Behavior	93 (18.6%)
	Physical Assaults	77 (15.4%)
Frequency of witnessing incidents	Rarely (1–2 incidents)	186 (37.2%)
	Occasionally (3–5 incidents)	82 (16.4%)

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	Frequently (>5 incidents)	18 (3.6%)
Feeling safe during ED rotations	No	67 (13.4%)
	Uncertain	191 (38.2%)
	Yes	242 (48.4%)
Violence affecting specialty choice opinion	No	214 (42.8%)
	Uncertain	81 (16.2%)
	Yes	118 (23.6%)
Ruled out EM due to observed violence	No	250 (50.0%)
	Yes	125 (25.0%)
Reported incidents of violence	No	245 (49.0%)
	Yes	116 (23.2%)
Received training on Handling Violence	No	349 (69.8%)
	Yes	151 (30.2%)
Effectiveness of received training	Ineffective	13 (2.6%)
	Moderately Effective	85 (17.0%)
	Very Effective	75 (15.0%)
Impact on clinical performance after witnessing violence	No Significant Impact	89 (17.8%)
	Increased Stress or Anxiety	162 (32.4%)
	Decreased Interest in Emergency Medicine	119 (23.8%)
	Altered Behavior in Clinical Settings	104 (20.8%)

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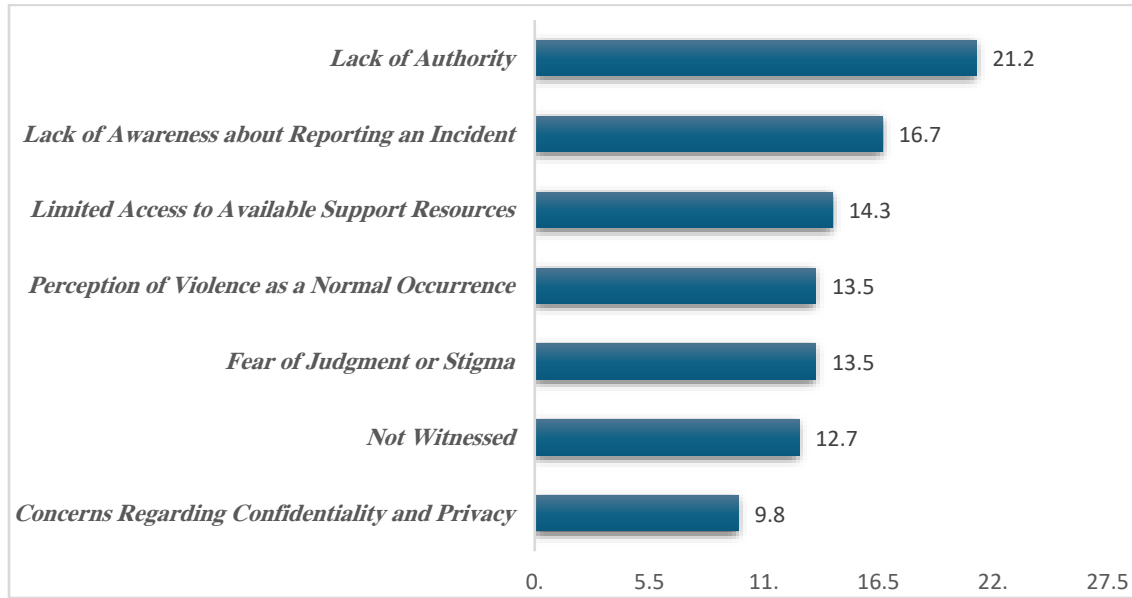


Figure 2: Different reasons of not reporting violence to authorities (n=245).

Table 3: Association between witness of violence with different features.

		Witness Violence in ER		Sig. Value
		No N (%)	Yes N (%)	
Age	18-21 Years	172 (73.8%)	61 (26.2%)	<0.001^a
	22-25 Years	102 (44.3%)	128 (55.7%)	
	≥26 Years	6 (16.2%)	31 (83.8%)	
Gender	Female	174 (52.7%)	156 (47.3%)	0.046^a

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	Male	106 (62.4%)	64 (37.6%)	
Nationality	Non-Saudi	12 (50.0%)	12 (50.0%)	0.544 ^a
	Saudi	268 (56.3%)	208 (43.7%)	
Region	Eastern	164 (59.4%)	112 (40.6%)	0.002^a
	South	55 (65.5%)	29 (34.5%)	
	West	30 (44.8%)	37 (55.2%)	
	Central	27 (48.2%)	29 (51.8%)	
	North	4 (23.5%)	13 (76.5%)	
Educational Status	Pre-Clinical Students	161 (77.8%)	46 (22.2%)	<0.001^a
	Clinical Students	91 (45.3%)	110 (54.7%)	
	Medical Interns	28 (30.4%)	64 (69.6%)	
ED Rotation Duration	<2 Months	215 (63.8%)	122 (36.2%)	<0.001^b
	3-4 Months	40 (41.7%)	56 (58.3%)	
	5-6 Months	10 (26.3%)	28 (73.7%)	
	6 Months-1 Year	11 (52.4%)	10 (47.6%)	
	>1 Years	4 (50.0%)	4 (50.0%)	

(a) Chi-Square Test, (b) Fisher's Exact Test.

Table 4: Association between violence impact clinical Performance with different features.

		Violence Impact Clinical Performance		Sig. Values
		No N (%)	Yes N (%)	
Age	18-21 Years	30 (26.8%)	82 (73.2%)	0.874 ^a
	22-25 Years	48 (26.4%)	134 (73.6%)	
	≥26 Years	11 (30.6%)	25 (69.4%)	
Gender	Female	58 (26.4%)	162 (73.6%)	0.726 ^a
	Male	31 (28.2%)	79 (71.8%)	

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Nationality	Non-Saudi	2 (11.8%)	15 (88.2%)	0.173 ^b
	Saudi	87 (27.8%)	226 (72.2%)	
Region	Eastern	57 (31.5%)	124 (68.5%)	0.032^b
	South	8 (19.5%)	33 (80.5%)	
	West	8 (15.7%)	43 (84.3%)	
	Central	15 (34.9%)	28 (65.1%)	
	North	1 (7.1%)	13 (92.9%)	
Educational Status	Pre-Clinical Students	28 (29.2%)	68 (70.8%)	0.569 ^a
	Clinical Students	37 (24.2%)	116 (75.8%)	
	Medical Interns	24 (29.6%)	57 (70.4%)	
ED Rotation Duration	<2 Months	69 (33.0%)	140 (67.0%)	0.020^b
	3-4 Months	11 (15.5%)	60 (84.5%)	
	5-6 Months	6 (20.0%)	24 (80.0%)	
	6 Months-1 Year	3 (20.0%)	12 (80.0%)	
	>1 Years	0 (0.0%)	5 (100.0%)	

(a) Chi-Square Test, (b) Fisher's Exact Test .

Table 5: Association between received training to handle violence with different Features.

		Received Training to Handle Violence		Sig. Values
		No N (%)	Yes N (%)	
Age	18-21 Years	167 (71.7%)	66 (28.3%)	0.185 ^a
	22-25 Years	161 (70.0%)	69 (30.0%)	
	≥26 Years	21 (56.8%)	16 (43.2%)	
Gender	Female	241 (73.0%)	89 (27.0%)	0.028^a

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	Male	108 (63.5%)	62 (36.5%)	
Nationality	Non-Saudi	17 (70.8%)	7 (29.2%)	0.910 ^a
	Saudi	332 (69.7%)	144 (30.3%)	
Region	Eastern	195 (70.7%)	81 (29.3%)	0.199 ^a
	South	64 (76.2%)	20 (23.8%)	
	West	40 (59.7%)	27 (40.3%)	
	Central	40 (71.4%)	16 (28.6%)	
	North	10 (58.8%)	7 (41.2%)	
Educational Status	Pre-Clinical Students	149 (72.0%)	58 (28.0%)	0.118 ^a
	Clinical Students	144 (71.6%)	57 (28.4%)	
	Medical Interns	56 (60.9%)	36 (39.1%)	
ED Rotation Duration	<2 Months	255 (75.7%)	82 (24.3%)	<0.001^b
	3-4 Months	59 (61.5%)	37 (38.5%)	
	5-6 Months	19 (50.0%)	19 (50.0%)	
	6 Months-1 Year	12 (57.1%)	9 (42.9%)	
	>1 Years	4 (50.0%)	4 (50.0%)	

(a) Chi-Square Test, (b) Fisher's Exact Test

Table 6: Association between different features and quitting of ER Field.

		Want to Quit ER Field		Sig. Values
		No N (%)	Yes N (%)	
Age	18–21 Years	92 (65.7%)	48 (34.3%)	0.537 ^a
	22–25 Years	131 (65.8%)	68 (34.2%)	
	≥26 Years	27 (75.0%)	9 (25.0%)	
Gender	Female	168 (67.5%)	81 (32.5%)	0.643 ^a
	Male	82 (65.1%)	44 (34.9%)	

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Nationality	Non-Saudi	13 (68.4%)	6 (31.6%)	0.868 ^a
	Saudi	237 (66.6%)	119 (33.4%)	
Region	Eastern	148 (71.8%)	58 (28.2%)	<0.001^a
	South	28 (57.1%)	21 (42.9%)	
	West	27 (47.4%)	30 (52.6%)	
	Central	39 (81.3%)	9 (18.8%)	
	North	8 (53.3%)	7 (46.7%)	
Educational Status	Pre-Clinical Students	80 (64.5%)	44 (35.5%)	0.134 ^a
	Clinical Students	105 (63.6%)	60 (36.4%)	
	Medical Interns	65 (75.6%)	21 (24.4%)	
ED Rotation Duration	<2 Months	173 (69.8%)	75 (30.2%)	0.255 ^b
	3–4 Months	48 (64.9%)	26 (35.1%)	
	5–6 Months	18 (58.1%)	13 (41.9%)	
	6 Months–1 Year	8 (50.0%)	8 (50.0%)	
	> 1 Years	3 (50.0%)	3 (50.0%)	
Witnessed Violence	No	128 (80.0%)	32 (20.0%)	<0.001^a
	Yes	122 (56.7%)	93 (43.3%)	
Frequency	Rarely (1–2 Incidents)	123 (67.2%)	60 (32.8%)	0.004^a
	Occasionally (3–5 Incidents)	37 (45.7%)	44 (54.3%)	
	Frequently (>5 Incidents)	11 (61.1%)	7 (38.9%)	
Feel Safe in ER	No	26 (43.3%)	34 (56.7%)	<0.001^a
	Uncertain	87 (66.4%)	44 (33.6%)	
	Yes	137 (74.5%)	47 (25.5%)	
Training Received to Handle Violence	No	191 (76.4%)	59 (23.6%)	<0.001^a
	Yes	59 (47.2%)	66 (52.8%)	

(a) Chi-Square Test, (b) Fisher's Exact Test

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comprehensive de-escalation training. This study shows that the nearly half of the students in our sample (44 %) had already witnessed an assault on an EM physician, and most of those incidents were “only” verbal. Similarly, a study by Alwabili et al. shows that the prevalence of WPV in Saudi Arabia was 56.3% [13]. Our lower overall prevalence compared with the 88.1% figure from a study by Noorullahi et al. likely stems from students spending less time in the EDs, still, it is striking that even short rotations expose nearly half of trainees to violence [14]. Moreover, in the current study, the family members were the top aggressors (40%), followed closely by patients themselves (35%). Several international reports blame poor communication and information gaps for relatives’ hostility. The same dynamic seems to play part in our setting where crowded waiting rooms, anxious families, and patchy updates create a key factor for violence in EDs [15]. Healthcare staff-on-staff violence was rare (7%), but any intra-professional clash further poisons the safety climate and deserves attention. This study also shows that the watching violence clearly dents the specialty enthusiasm. One fourth of the respondents had ruled out EM entirely after an ugly episode, and 24% linked the event to decrease clinical performance. A U.S. survey of EM residents showed that mistreatment in the workplace leads to career regret and burnout [16]. This supports our finding among students that instead of attracting them to the specialty, early exposure to violence is driving them away. Notably, the clinical students, interns, and anyone who spent more than five months in the EDs were most affected from violence in ER. That findings align with the prior data from the study by Querin et al. that residents not the consultant report the most abuse [17]. The women in our study also faced more violence than men (47.3% vs 37.6%). Other studies suggest nurses and female trainees are often on the frontline and may be perceived as easier targets, which aligns with a previous study by Kafle et al. [18]. Regardless of the cause, the pattern is clear: exposure follows predictable trends rather than occurring at random. This study also shows one of the important findings that the students from the Northern and Western provinces were significantly more likely to witness violence and to feel it hampered their performance. We did not measure crowding or staffing at individual hospitals, yet past Saudi studies reported that smaller, less-resourced Eds especially those far from major centers see more aggression, often from relatives angry about transfer delays [19]. Collecting

detailed information on workload, staffing levels, and local culture in future research could clarify why violence spikes in these areas. Notably, the under-reporting remains the quiet accomplice of WPV. Only 23 % of students who saw or experienced abuse filed a report. Their reasons match the previous literature by Adedokun et al. that there is no authority to act, difficult procedures, scant feedback, and fear of stigma [20]. Some even shrugged that violence is “just part of the job” (13%). Thus, normalizing aggression is a dangerous coping strategy; it seeds future disengagement and cynicism. Moreover, the training emerged as a key factor we can actually improve. The students who had completed any training workshop were less likely to want to quit EM, even though training coverage was an anemic 30 %. Moreover, the systematic review by Aljohani et al. shows that the targeted programs like role-play, simulations, and briefings on legal procedures build the confidence and reduce violent incidents in EDs [21]. Our findings extend this evidence to medical students, indicating that universities should teach violence-management skills early, before clinical rotations begin, rather than waiting until after graduation. Implications: These findings recommend five policies to mitigate violence in medical settings: integrating violence-prevention training in medical education, establishing anonymous reporting systems, promoting family engagement through effective communication, implementing a zero-tolerance policy with robust security measures, and providing structured debriefings for staff after incidents. These initiatives aim to protect HCWs and enhance staff retention in EM. Limitations: This study has several limitations. It relied on self-reported data, which may introduce recall and social desirability biases. The cross-sectional design captures associations but not causality. There were disparities between regions, but things like staffing and crowding at each hospital were not looked at. Also, the study sample might not fully represent all medical students in Saudi Arabia.

Conclusion

This study demonstrates that violence in EDs significantly impacts medical students' clinical specialty selection. Not having enough power, not being able to report, and seeing violence just as routine all led to underreporting. Learning how to deal with violence was a protective factor, but people were afraid and insecure, so they didn't want to be around EM. There is an urgent need to improve safety rules and start training earlier.

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Conflict of Interest

None

Funding

None

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