BMJ Open

Workplace violence against physicians in Turkey's emergency departments: a cross-sectional survey

Başak Bayram,[1] Murat Çetin,[2] Neşe Çolak Oray,[1] İsmail Özgür Can[3]

To cite: Bayram B, Çetin M, Çolak Oray N, *et al*. Workplace violence against physicians in Turkey's emergency departments: a cross-sectional survey. *BMJ Open* 2017;**7**:e013568. doi:10.1136/bmjopen-2016-013568

► Prepublication history and additional material are available. To view these files please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2016-013568).

Received 25 July 2016
Revised 9 March 2017
Accepted 10 March 2017

[1]Department of Emergency Medicine, School of Medicine, Dokuz Eylül University, İzmir, Turkey
[2]Department of Emergency Medicine, Ministry of Health Tekirdağ Public Hospital, Tekirdağ, Turkey
[3]Department of Forensic Medicine, School of Medicine, Dokuz Eylül University, İzmir, Turkey

Correspondence to
Dr Başak Bayram; basakdr@yahoo.com

ABSTRACT

Objective We aimed to determine the prevalence of violence directed at emergency department (ED) physicians in Turkey and confirm the factors influencing such violence.

Design Cross-sectional survey study.

Setting Country of Turkey.

Participants Physicians currently practising in EDs in Turkey.

Main outcome measures The prevalence of violence directed at physicians and factors that may influence it, such as physicians' personal characteristics, ED characteristics and physicians' opinions regarding the causes of and suggested methods of preventing violence.

Results A total of 713 physicians participated. Of these, 78.1% reported being subjected to violence in the past year and 65.9% reported more than one such incident. Being subjected to violence was related to age (p=0.008), working in an ED with a high patient admission rate (p=0.018), current position (p<0.001), working outside regular work hours (p<0.001), working in a state hospital (p<0.001) and level of experience (p<0.001). Gender, type of patient typically seen, region and patient waiting period did not influence subjection to violence. The present safety precautions against violence do not appear to influence the prevalence of violence.

Conclusions Our results indicated that ED physicians' experience of violence is related to personal characteristics such as age and level of expertise, and hospital and ED characteristics such as high patient admission rates. Presently, no measures taken to reduce this violence have been proven effective.

Strengths and limitations of this study

- This study is the first comprehensive survey of workplace violence against physicians working in emergency departments throughout Turkey.
- This survey was completed in response to an open invitation; thus, it might have been completed mainly by physicians who had been subjected to violence in the past and thus are more sensitive to this issue.
- It is possible that the findings would be different if the data were collected at physicians' actual places of work and in response to real-time incidents and reports.
- The survey was not tested before this study.

INTRODUCTION

Every year, approximately 1.3 million people die worldwide due to interpersonal violence, accounting for 2.5% of the total number of deaths.[1] As with all forms of violence, workplace violence against healthcare personnel is an important problem, and it has been spreading worldwide. Workers in the psychiatry, emergency departments (EDs) and general care fields are believed to have the highest risk of such violence.[2] A previous study reported that more than half of all the reported cases of physical and verbal violence had occurred in psychiatry services and EDs.[3] EDs are open 24 hours a day, 7 days a week, and provide care to patients from all age groups and the entire spectrum of illness. EDs—being every hospital's 'open doors'—have a higher risk of violence. Studies conducted across the world indicate that ED personnel frequently encounter this problem.[4–7]

Violence against healthcare personnel is similarly an important problem in Turkey, with one study finding that 44.7% of all healthcare personnel are subjected to violence every year. Although nurses are the highest risk group for violence in many parts of the world, physicians and dentists were reported as the highest risk groups for workplace violence in the health sector in Turkey.[8] This may be due to the fact that physicians are regarded as the primary representatives of healthcare in the country. Unrealistic expectations of patients and their families from physicians and blaming physicians for their problems are the other possible reasons.[8 9] Over the past decade, five physicians were killed by patients or patients' relatives. Violence against physicians is most commonly encountered in the EDs of the country.[9] Over the years, the number of patients admitted to EDs in Turkey has increased to such an extent that this number over the last 2 years is greater than

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

the country's entire population. This has been accompanied by an increase in incidents of violence and various other problems encountered during the provision of services in the EDs.

Many studies to date have examined the severity and outcomes of violence against healthcare personnel. However, few studies have examined the factors that lead to incidents of violence, such as the security conditions of the EDs, physicians' area of expertise and experience, and patient characteristics. In this study, we aimed to determine the prevalence of violence directed at ED physicians in Turkey and the factors influencing such violence. Furthermore, we examine physicians' suggestions regarding the prevention of such violence. Despite local studies being conducted with emergency physicians previously,[10 11] this is the first comprehensive survey of workplace violence frequency among physicians practising in EDs throughout Turkey.

MATERIALS AND METHODS

Study design and population

This prospective cross-sectional survey study aimed to cover all ED physicians in Turkey. There are 135 616 physicians in Turkey, according to data from the Turkish Ministry of Health. Of these, 57.4% work at the Ministry of Health hospitals and 20.8% work at university hospitals; the remaining 21.8% work at private hospitals. According to 2014 data, out of all the physicians in Turkey, 643 are emergency medicine residents and 903 are emergency medicine specialists. Additionally, there are 15 paediatric emergency medicine specialists, and approximately 30 students minoring in paediatric emergency medicine or who are pursuing a specialty in paediatrics and are working in paediatric EDs.[12] In Turkey, emergency medicine and paediatric emergency medicine specialists and residents work in training and research hospitals belonging to medical schools and the Ministry of Health. In the other types of hospitals, EDs are typically staffed by general practitioners (GP) and family physician specialists; however, the number of such physicians is continually changing and is not officially reported. Despite this, it is estimated that this number is no less than 5% of all physicians in the country; thus, within a 99% CI and a 5% margin of error, the study population was determined to be 612 (https://www.surveymonkey.com/mp/sample-size-calculator/). However, because of the possible data loss resulting from conducting an internet survey, we sought to recruit a population 10% above this figure. And so the survey was completed by 713 physicians.

Physicians were contacted via e-mail and social media (Facebook, Twitter, etc). Specifically, emergency medicine residents and specialists who were members of the Emergency Medicine Association of Turkey were contacted via personal e-mail, while the survey was simultaneously publicised through social networking sites to other physicians.[9] The physicians were classified according their area of expertise, as follows: (1) emergency medicine specialist, (2) emergency medicine resident, (3) specialist doctor (other than emergency medicine), (4) academic staff and (5) GP.

DATA COLLECTION

We completed all data collection within a month (between 26 August and 26 September 2015) after receiving approval for the study from the Dokuz Eylül University Faculty of Medicine Scientific Research Ethics Board.

A survey comprising 25 items in total was prepared for the study. The survey examined physicians' level of education, age, gender, current position, whether they had been subjected to violence in the ED, the type of violence, the routine procedures following incidents of violence and their results, and physicians' thoughts on the causes of and suggested methods preventing such violence. To evaluate subjection to violence, participants were asked whether they had been subjected to violence in the past year according to the 'Workplace Violence in the Health Sector Country Case Studies Research Instruments-Survey Questionnaire, Geneva 2003', which was prepared by a joint programme by the International Labour Office, International Council of Nurses, WHO and Public Services International. We also evaluated whether their colleagues working in the same department had been subjected to violence in the past year. Physical violence was divided into 'assault' and 'assault with a firearm/sharp object.' Apart from the traditional definitions of violence, we also investigated physicians' experience of complaint procedures in state hospitals; this was regarded as a form of violence because, according to Turkey's health policy, every complaint made against physicians employed in state hospitals is investigated. For items assessing the type of violence experienced, what they were doing at the time of the incident, the perceived causes of the violence and their suggested solutions, the participants were permitted to select multiple answers; all other items required a single answer.

The survey was uploaded to a website and completed online (www.surveey.com). The individual approval of participants was made compulsory on the entry page of the survey following an explanation of the study. In order to prevent repetitive entries, the website was restricted with a digital object identifier.

STATISTICAL METHODS

IBM SPSS Statistics V.22.0 was used for all data analyses. The one-sample binomial test was used to test the homogeneity of categorical data, while the χ^2 test with the Monte Carlo simulation and Fisher's exact test were used to compare these data. The data were examined at a 95% CI, and $p<0.05$ was deemed statistically significant. To determine the effect sizes of results with more than two categories and that had a $p<0.20$ in the comparative analysis, a binary logistic regression analysis was conducted to calculate ORs with CIs using the forward stepwise (likelihood ratio) method.

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

Table 1 Experience, frequency and type of violence among participants

Question		n	%
Have you been subjected to violence in the past year?	More than once	470	65.9
	Once	87	12.2
	No	156	21.8
Is there anyone in your ED besides yourself who has been subjected to violence over the past year?	Yes	692	97.1
	No	21	2.1
How often are you subjected to violence?	Every shift	58	8.1
	Almost every shift	201	28.2
	More than once a month	109	15.3
	Once a month	165	23.1
	Rarely	180	25.2
What type of violence have you been subjected to?*	Insult	674	94.5
	Threat	545	76.4
	Complaints to state authorities	454	63.7
	Mobbing	284	39.8
	Attack on personal or hospital property	257	36
	Physical violence	222	31.1
	Assault	209	29.3
	Assault with firearm/sharp object	40	5.6
	Sexual assault	7	1
	Unanswered	2	0.3

*More than one answer is possible.
ED, emergency department.

RESULTS

A total of 713 physicians participated in our survey. Most participants were between 30 and 40 years of age and 60.1% were male. Furthermore, 34% of the physicians were emergency medicine residents, 24.7% were emergency medicine specialists, 20.9% were GPs, 10.4% were academic staff, and 9.4% were specialists and residents from other areas of expertise. Most participants were from the Marmara (Northwest), Central Anatolia and Aegean regions (West), according to geographical distribution across Turkey. Most (60.2%) of the participants worked at the Ministry of Health hospitals, 31.7% worked at university hospitals, and 4.1% worked at private hospitals.

We found that 78.1% of the physicians reported being subjected to violence in the past year and 65.9% declared being subjected to violence on more than one occasion over the past year. Furthermore, 97.1% reported that healthcare workers in their department other than themselves were subjected to violence over the past year. Notably, 8.1% of the participants reported being subjected to violence at every shift, while 28.2% reported being subjected to violence almost every shift. Regarding the type of violence encountered, insults (94.5%) and threats (76.4%) were the most frequently encountered; 31.1% of the participants reported being subjected to physical violence, while 5.6% reported being subjected to assault with firearms or sharp objects (table 1).

We found a significant relationship between the type of hospital and experience of violence over the past year; specifically, physicians who worked at training and research hospitals and state hospitals were more likely to have experienced violence than those who worked at private hospitals (p<0.001). Physicians below the age of 30 (OR: 5.63 (95% CI 3.9 to 7.95)), those with ED experience of 1–4 years (OR: 5.26 (95% CI 3.89 to 7.12)) and shift workers (OR: 4.12 (95% CI 3.20 to 5.32)) had the greatest odds of experiencing violence (table 2). A statistically significant relationship was also found between physicians' current position and experience in EDs and subjection to violence (p<0.001). Compared with academic staff, resident physicians with an education in fields other than emergency medicine and GPs were 6.67 and 5.20 times as likely to be subjected to violence, respectively (figure 1). Physicians who worked at hospitals with a high number of ED patients were also more likely to be subjected to violence (p=0.018). No relationship was found between being subjected to violence and gender, region, type of patients typically treated and patient waiting periods. We found that 43.8% of the participants

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

Table 2 Relationship of being subjected to violence with various personal and institutional variables

Variable	Categories	Answers (n (%)) No	Yes	Total	OR	95% CI	p
Gender	Female	54 (34.6)	222 (39.9)	276 (38.7)			0.265
	Male	102 (65.4)	335 (60.1)	437 (61.3)			
Age (years)	<30	38 (24.4)	214 (38.4)	252 (35.3)	5.63	3.9 to 7.95	**0.008**
	30–39	98 (62.8)	296 (53.1)	394 (55.3)	3.02	2.4 to 3.8	
	40–49	18 (11.5)	44 (7.9)	62 (8.7)	1.0	Reference	
	>50	2 (1.3)	3 (0.5)	5 (0.7)	–		
	Total	156 (100)	557				
How many years have you been working at the ED?	<1	20 (13.1)	75 (13.6)	95 (13.3)	3.75	2.29 to 6.14	**<0.001**
	1–4	50 (32.7)	263 (4.78)	313 (43.9)	5.26	3.89 to 7.12	
	5–9	40 (26.1)	134 (24.4)	174 (24.4)	3.35	2.35 to 4.77	
	10–19	42 (27.5)	76 (13.8)	118 (16.6)	1.0	Reference	
	>20	1 (0.7)	2 (0.4)	3 (0.4)	–		
	Unresponsive			10 (1.4)			
Current position	GP	24 (15.4)	125 (22.7)	149 (20.9%)	5.21	3.37 to 8.06	**<0. 001**
	EM resident	47 (30.1)	194 (35.2)	241 (33.8%)	4.13	3.00 to 5.68	
	Resident (other than EM)	6 (3.8)	40 (7.3)	46 (6.5%)	6.67	2.83 to 17.72	
	EM specialist	38 (24.4)	138 (25.0)	176 (24.7%)	3.63	2.54 to 5.20	
	Specialist (other than EM)	6 (3.8)	15 (2.7)	21 (2.9%)	2.17	0.82 to 5.70	
	Academic staff	35 (22.4)	39 (7.1)	74 (10.4%)	1.0	Reference	
	Unresponsive		6 (0.8%)				
Region	Marmara (Northwest)	33 (21.2)	136 (24.7)	169 (23.7)	4.12	2.82 to 6.02	0.082
	Aegean (West)	28 (17.9)	110 (20.0)	138 (19.4)	3.93	2.60 to 5.94	
	Central Anatolia	40 (25.6)	103 (18.7)	143 (20)	2.58	1.79 to 3.71	
	East Anatolia	7 (4.5)	54 (9.8)	61 (8.6)	7.71	3.51 to 16.95	
	Southeastern Anatolia	12 (7.7)	54 (9.8)	66 (9.3)	4.50	2.40 to 8.41	
	Mediterranean (South)	18 (11.5)	42 (7.6)	60 (8.4)	2.33	1.34 to 4.05	
	Black Sea (North)	18 (11.5)	51 (9.3)	69 (9.7)	1.0	Reference	
	Unresponsive			7 (1)			
Type of hospital	State hospital	27 (18.2)	176 (32.7)	203 (28.5)	6.52	4.35 to 9.78	**<0. 001**
	Training and research hospital	42 (28.4)	184 (34.1)	226 (31.7)	4.38	3.13 to 6.13	
	University hospital (state)	62 (41.9)	155 (28.8)	217 (30.4)	2.5	1.86 to 3.35	
	Private hospital	17 (11.4)	24 (4.4)	41 (5.8)	1.0	Reference	
	Unresponsive			26 (3.6)			
Work schedule*	Daytime worker plus night shifts	55 (35.3)	219 (39.3)	274 (38.4%)	3.98	2.96 to 5.35	**<0. 001**
	Shift workers	75 (48.1)	309 (55.5)	384 (53.9%)	4.12	3.20 to 5.32	
	Daytime worker	26 (16.7)	29 (5.2)	55 (7.7%)	1.0	Reference	

Continued

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

Table 2 Continued

Variable	Categories	Answers (n (%)) No	Yes	Total	OR	95% CI	p
What is the average number of patients that apply to your ED in a day?	<100	12 (7.7)	26 (4.7)	38 (7.7)	1.0	Reference	**0. 018**
	100–200	38 (24.4)	78 (14.0)	116 (24.4)	2.17	1.09 to 4.27	
	200–300	32 (20.5)	101 (18.1)	133 (20.5)	2.05	1.39 to 3.02	
	300–400	15 (9.6)	64 (11.5)	79 (9.6)	3.16	2.12 to 4.70	
	400–500	13 (8.3)	58 (10.4)	71 (8.3)	4.27	2.43 to 7.47	
	500–1000	46 (29.5)	230 (41.3)	276 (21.2)	4.46	2.45 to 8.14	
	>1000	13 (8.3)	80 (14.4)	93 (13.0)	4.55	3.12 to 6.63	
What is the waiting period of patients in your ED?	Patients are directly admitted (without triage)	76 (48.7)	277 (49.7)	353 (49.5)			0.358
	In accordance with the triage duration	72 (46.2)	234 (42.0)	306 (42.9)			
	Might wait for a period exceeding the triage duration	8 (5.1)	46 (8.3)	54 (7.6)			
Type of patients treated at your ED	Only adult patients	56 (35.9)	160 (28.7)	216 (30.3)			0.232
	Paediatric and adult patients	93 (59.6)	371 (66.6)	464 (65.1)			
	Only paediatric patients	7 (4.5)	26 (4.7)	33 (4.6)			
Have any of your previous complaints against an incident of violence gone to court?	Yes	44 (28.2)	268 (48.1)	312 (43.8)			**<0.001**
	No	112 (71.8)	289 (51.9)	401 (56.2)	2.36	1.61 to 3.47	

*(1) Shift worker, physicians working rotating shift schedules; (2) daytime worker, physicians working only during regular work hours (08:00–17:00 in Turkey); and (3) daytime worker plus night shifts, physicians have some night shifts after regular work hours on the same day without any rest.
ED, emergency department; EM, emergency medicine; GP, general practitioner.

who reported legal proceedings were initiated against the violent party following the incident of violence at their EDs.

Ninety-four per cent of the physicians reported that there were security precautions against violence at their ED. While the most common precaution was the

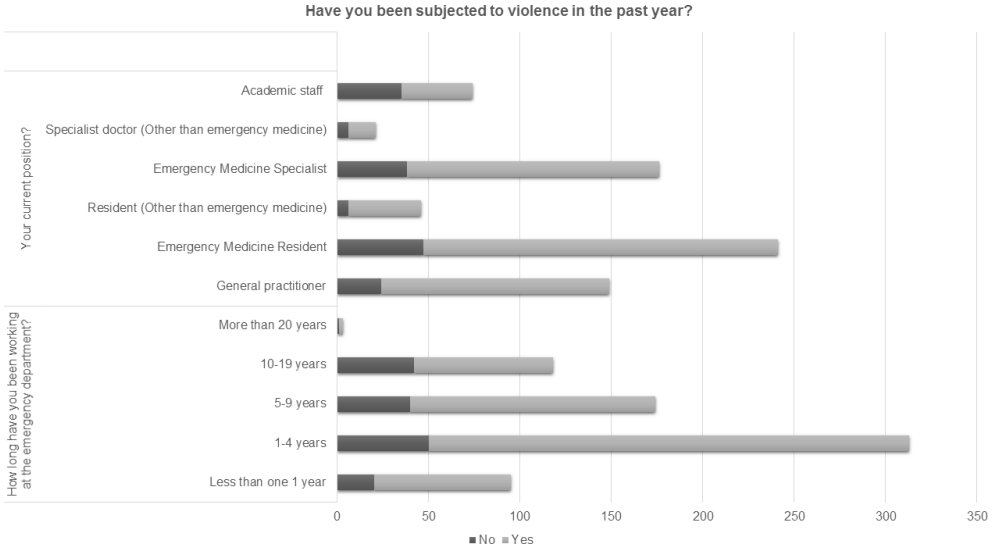


Figure 1 Relationship of subjection to violence with physicians' experience in an emergency department and current position.

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

Table 3 Security precautions against violence in emergency departments (EDs) and their effect on violence

Have you been subjected to violence in the past year?		No				Yes		p Value
Question		n	%	N	%	n	%	
Are the precautions against violence at your ED?	Yes	670	94	147	94.2	523	93.9	0.737
	No	43	6	9	5.8	34	6.1	
Are there security guards at your ED?	Yes	654	92	144	92.9	510	91.7	0.739
	No	57	8	11	7.1	46	8.3	
Is there a police checkpoint at your ED?	Yes	455	63.8	99	63.5	356	64.1	0.925
	No	256	36.2	57	36.5	199	35.9	
Are there metal detectors?	Yes	15	2.1	4	2.6	11	2.0	0.751
	No	698	97.9	152	97.4	546	98.0	
Are there security cameras?	Yes	497	69.7	103	66	394	70.7	0.279
	No	216	30.3	53	34	163	29.3	
Are there any precautions that prevent entry into the ED?	Yes	61	8.6	9	28.2	52	48.1	0.219
	No	652	91.4	147	71.8	505	51.9	

presence of security guards, 91.4% of the participants reported that there were no precautions that prevented entry into the ED. We found no relationship between the security precautions at the ED and being subjected to violence over the past year (table 3). Forty-three participants (6%) reported that there is no security precautions against violence in their EDs. When comparing instances of physical violence according to the presence of security precautions, we found that physicians working at EDs with no security measures were subjected to more physical violence ($p<0.01$) than were other physicians. No significant relationship was found between any security precaution and physical violence or assault with a firearm/sharp object.

Four hundred and eighty physicians (67.2%) believed that the medical conditions of the patients did not increase the disposition towards violence, while 649 (89.8%) participants believed that the sociocultural status and 559 participants (78.4%) believed that the education level of persons were the most important factors in their disposition towards violence (figure 2). When the physicians were asked about their reaction to being subjected to violence, 49.6% (n=354) stated that they had done nothing and had merely continued with their work. Furthermore, 33% (n=238) stated that they had continued on with their work after taking a short break, 54.1% (n=386) stated that they had implemented Code White (Ministry of Health's official emergency code for workplace violence against healthcare providers in Turkey), and 37.2% (n=265) stated that they had reported the incident to law enforcement. We also noted that 69.4% (n=492) of the physicians stated that the type of violence experienced would affect their decision about whether to press charges. Physicians reported that they mostly relied on their coworkers during incidents of violence (n=391; 54.8%); few placed their trust in hospital administrators, the Ministry of

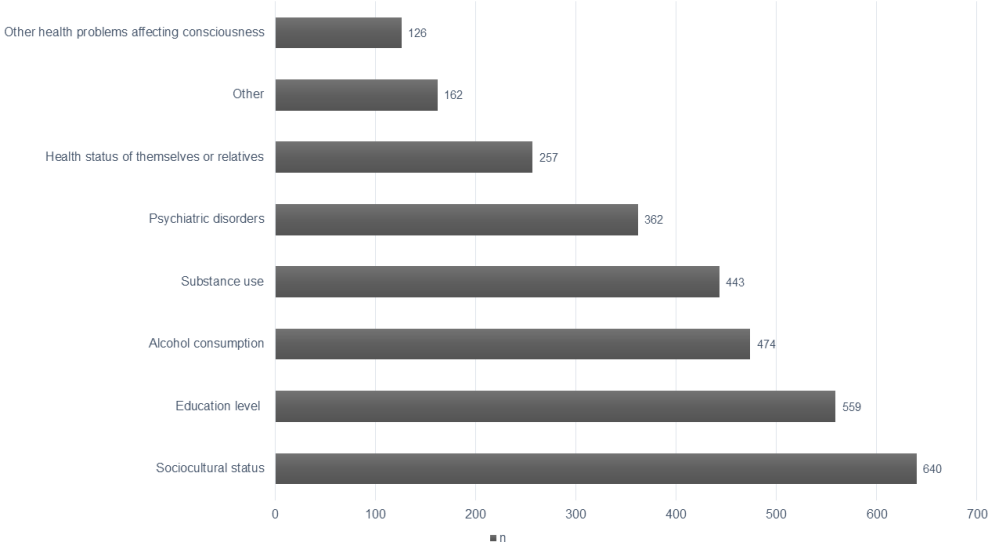


Figure 2 Physicians' opinions on the causes of a disposition towards violence.

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

Table 4 Suggested methods of preventing violence according to physicians

Suggestion	n	%
Increase the severity of punishments	519	72.8
The Ministry of Health and hospital administrators must change their attitudes	442	62
Measures should be taken to alleviate the overcrowding at EDs	312	43.8
Increasing the security precautions at EDs	258	36.2
Prevention of the entry of patients' relatives into the EDs	170	23.8
Changing the working conditions at EDs/ increasing the number of personnel	154	21.6
Physicians should show zero tolerance against violence	93	13
Public campaigns should be undertaken	86	12.1
I do not think that any measure will succeed	28	3.9

ED, emergency department.

Health and law enforcements, at 1.4%, 0.3% and 7.8%, respectively. Most (97.3%) of the physicians believed the legislation regarding violence was insufficient.

The two most important causes of violence were reported by physicians as the policies of the Ministry of Health (87.4%; n=623) and the overcrowded nature of the EDs (71.7%; n=511). When physicians were asked for their suggestions on preventing violence, 72.8% (n=519) of the participants agreed that the severity of the punishment of such crimes should be increased, while 62% (n=442) of them agreed that the Ministry of Health and administrators must change their attitudes (table 4).

DISCUSSION

The study results indicate that, as is the case globally, violence against ED physicians in Turkey is a frequently encountered and serious problem faced by physicians. In accordance with previous studies, the rate of reporting incidents of violence is low in Turkey.[4] Our results showed that in Turkey, age, current position, level of experience in working at EDs, working as rotating shifts, the number of patients visiting the ED and the type of hospital influenced physicians' likelihood of being subjected to violence. Gender did not influence ED physicians' subjection to violence, in contrast to other healthcare specialties.[8]

Healthcare workers have a greater risk of being subjected to violence compared with workers in any other career. The European Agency for Safety and Health at Work reported that the healthcare sector has the highest reported exposure to violence among occupational groups in the European Union, with a rate of 15.2%.[13] Notably, 13% of all injury and diseases in the healthcare and social service sectors in the USA result from violence, and 25% of ED nurses in the USA reported that they were subjected to physical violence more than 20 times over the last 3 years.[14 15] When comparing other healthcare settings, working in ED increases the risk of violence. For instance, an Italian study reported that radiologists have a high risk of workplace violence practically only when working in emergency.[16] A previous study evaluating the residents and specialists working in the resident programme in the USA reported that 78% of clinicians were subjected to verbal or physical violence in the past year; furthermore, 21% of these clinicians reported that it had happened more than once.[17] In Pakistan, 72.5% of physicians and nurses working in EDs reported that they had been subjected to verbal violence in the past year, while 16.5% reported that they had been subjected to physical violence.[7] In the present study, 78.1% of physicians reported that they had been exposed to violence in the past year and 65.9% of them reported that this had occurred more than once. It is known that there is an association between workplace violence and physicians' mental health. And the physician subjected to violence is stressed and the distressed doctor is more exposed to violence.[11 18]

Specialised training in emergency medicine began in Turkey in 1994. The number of openings in healthcare specialisations for students in Turkey is determined by the Ministry of Health according to the needs of that specialisation. A large number of emergency medicine resident openings were made available due to the country's increasing need for such specialists over the past 22 years. However, in 2013, about 70% of the openings announced went unfilled. The lack of security for ED physicians and the high rates of violence directed at them are cited as some of the most important reasons for why new physicians do not choose to practise this branch of medicine.[19] Looking at the age and experience of the physicians in our sample, we found that most were under the age of 40 and had been working at an ED for less than 10 years. This result likely arises from the fact that the emergency medicine specialisation is only 22 years old in Turkey. However, this result also calls to mind the possibility that non-specialist but still highly experienced doctors might be avoiding working in EDs. Violence is a major factor preventing staff positions at EDs from being filled as noted before. Our study determined that among all physicians working at the EDs, residents and GPs were the physician group most commonly subjected to violence. However, it is possible that physicians who specialise in the field are more successful at incident handling.

In the present study, 492 physicians (69.4%) answered 'yes' to the question 'would the type of violence you experience affect your decision to press charges against the person?'. Notably, 94.5% of these physicians reported that they had experienced some form of violence before. These results suggest that physicians are being subjected to violence more often than is being officially reported. It is likely that certain types of violence in EDs, such as insults and threats, are viewed as 'part for the course' by physicians working therein and thus are tolerated

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

more. As such, devising measures to increase the number of reports of violent incidents might be helpful, such as awareness training to help workers realise what incidents would constitute violence and improving reporting systems.[20] Emergency code applications were created for just that reason—to help healthcare workers report incidents of violence. Furthermore, in accordance with the 'Regulation on the Principles and Procedures of Legal Aid in Crimes Against Ministry of Health Staff' (dated 28 April 2012), the Ministry of Health provides legal aid to victims of such violence. Our study found that 54.1% of physicians subjected to violence implemented Code White. This indicates that almost half of physicians still do not report the incidents they experience. It is well known that healthcare workers do not report most incidents of violence encountered for various reasons, such as the belief that it would not change anything or a fear of losing their jobs.[21] The belief that the reported incident would not lead to legal action is also a reason.[22] The lack of reporting might also be due to physicians' distrust of the national health administration and the justice system. Healthcare workers should be encouraged to adopt a zero-tolerance attitude towards violence and therefore report every incident.

A Ministry of Health call centre (Alo 184) has been established in Turkey as of the year 2004, thereby enabling patients and their relatives to report their experiences in healthcare centres. Many healthcare workers have been placed under investigation because of calls made to this centre. This situation is another reason why physicians in Turkey do not wish to work at EDs.[19] Indeed, 63.7% of the physicians in our study reported that they have been a target of a complaint. Patient-oriented health policies employed to increase healthcare quality are often viewed by physicians as a cause of violence in this way.

Overall, our study noted that 99.7% of the physicians in the ED had been subjected to at least one type of violence. This rate is far higher than of any other study on violence in Turkey. Baykan *et al* found that 86.4% of physicians they studied had been subjected to violence.[9] Canbaz *et al* reported that 75.9% of prehospital healthcare workers and 62.3% of ED workers were subjected to violence in a local study.[23] This rate was 71% in another study evaluating experience of violence among psychiatrists.[24] Pinar *et al* found that 58.2% of the 3377 physicians and dentists they studied had been subjected to some form of violence.[8] The findings of our study support the fact that ED physicians in Turkey are subjected to more violence than any other type of physicians.

It is recommended that hospitals take various security precautions to decrease incidents of violence, such as using metal detectors or restricting the entry of persons to certain areas of the hospital. Forty physicians (5.6%) reported being subjected to violence with a firearm or sharp object in the present study, while only 2% reported that metal detectors were used in their EDs. It is well known that armed persons can easily enter EDs unopposed, which no doubt creates a feeling of insecurity among healthcare workers working therein.[25–27] Although precautions against weapons have not been linked to a decrease in incidents of violence, they have been found to increase the detection rate of weapons.[28 29] Training healthcare workers to recognise aggressors and to take the necessary action might help to reduce incidents of violence; however, there is no evidence that such training programmes are effective in permanently decreasing the prevalence of violence in EDs.[30] Magnavita reported that a prevention programme including educational, organisational and medical measures contributed to reducing violence in a psychiatric unit.[31] Violence in the EDs is a complex and heterogeneous phenomenon, and for that reason there is no single solution. Comprehensive prevention programmes should be established by organisations to reduce or eliminate the risk of violence. According to the Occupational Safety and Health Administration guidelines, an effective workplace violence prevention programme should include management commitment and employee participation, worksite analysis, hazard prevention and control, safety and health training, and recordkeeping and programme evaluation.[32]

Some healthcare fields attract violence because of the characteristics of patients and work conditions.[2] Alcohol and drug use among patients and patient waiting periods have been cited as the most important causes of violence in EDs.[33 34] Relatedly, most physicians in this study believed that the sociocultural status and educational levels of patients were primary causes of violence, followed by alcohol and drug use. However, contrary to the findings of other studies, we observed no connection between triage waiting periods and violence. This is perhaps because the waiting periods in EDs in Turkey are lower than in other countries, and there is an absence of a national health policy regarding triage. On the other hand, our study focused only on physicians in this regard; in fact, triage personnel are arguably the most affected by patient waiting periods. As such, this cause is more foregrounded in studies on nurses.[35] It is also notable that the causes of violence may differ even among professions in the same sector. While researching the causes and suggestions for preventing violence, the sociocultural conditions of the country should be considered. However, considering that there is no difference in experience of violence among the regions in Turkey, a common suggestion for prevention that is applicable to all EDs across Turkey should be considered.

CONCLUSION

Violence against ED physicians in Turkey is a frequently encountered, repeated problem faced by physicians at their place of work. The results of our study indicated that violence is influenced by a number of factors, such as age, experience in working in an ED, current position, type of hospital, work schedule and number of patients admitted to the ED. Furthermore, physicians working in EDs in Turkey believe health policies to be a cause of violence and reported that the legislation on violence is

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

currently insufficient. Future studies that aim to decrease the amount of violence in EDs should not focus solely on health administrators; policymakers, security forces and healthcare workers should conduct joint studies on all causes of violence to ensure a safe work environment for healthcare workers in EDs.

LIMITATIONS

This survey was completed in response to an open invitation; thus, it might have been completed mainly by physicians who had been subjected to violence in the past and thus are more sensitive to this issue. It is possible that the findings would be different if the data were collected at physicians' actual places of work and in response to real-time incidents and reports. One of the most important limitation of our study is the fact that we distributed the request for participation and survey link via e-mails, social media and internet. We used closed groups of emergency medicine and paediatric emergency medicine associations in social media. Only one open website, which only publishes news for physicians, announced the survey (www.asistanhekim.org). Despite the fact that we don't believe some non-physicians would be interested in completing the survey via this website, it is possible that non-physicians also participated in theoretically. Although the level of experience, current position and geographical distribution of the participating physicians appear to resemble the distributions of the total population of physicians in Turkey, it is entirely coincidental. Furthermore, the survey was not tested and validated before this study.

Acknowledgements We would like to thank the Emergency Medicine Association of Turkey, particularly its president, Professor Dr Yıldıray Çete. Additionally, we are indebted to the Pediatric Emergency Medicine Association and www.asistanhekim.org website editor Dr Özgür Niflioğlu for helping us reach physicians for our study by making announcements via social media. The preliminary report of this study was presented as an oral presentationat the 11th Turkish Emergency Medicine Congress on 26–29 October 2015, Girne, Turkish Republic of Northern Cyprus. This article is dedicated to the three emergency physicians, Suna, Aslı and Melike, who committed suicide.

Contributors Conceived and designed the experiments: BB, MÇ, NÇO, IÖC. Performed the experiments: BB, MÇ. Analysed the data: BB, MÇ, NÇO. Wrote the paper: BB, MÇ, NÇO, IÖC.

Funding This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Ethics approval Dokuz Eylul University School of Medicine Scientific Research Ethics Board.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement No additional data are available.

Open Access This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/

© Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2017. All rights reserved. No commercial use is permitted unless otherwise expressly granted.

REFERENCES

1. World Health Organization. *Global status report on violence prevention 2014*. Geneva: World Health Organization, 2014.
2. Dubb SS. It doesn't "come with the job": violence against doctors at work must stop. *Bmj* 2015;350:h2780.
3. Magnavita N, Heponiemi T. Violence towards health care workers in a Public Health Care Facility in Italy: a repeated cross-sectional study. *BMC Health Serv Res* 2012;12:108.
4. Kennedy MP. Violence in emergency departments: under-reported, unconstrained, and unconscionable. *Med J Aust* 2005;183:362–5.
5. Kowalenko T, Walters BL, Khare RK, *et al*. Michigan college of emergency physicians Workplace violence task force. workplace violence: a survey of emergency physicians in the state of Michigan. *Ann Emerg Med* 2005;46:142–7.
6. Jenkins MG, Rocke LG, McNicholl BP, *et al*. *et al*Violence and verbal abuse against staff in accident and emergency departments: a survey of consultants in the UK and the republic of Ireland. *J Accid Emerg Med* 1998;15:262–5.
7. Zafar W, Siddiqui E, Ejaz K, *et al*. Health care personnel and workplace violence in the emergency departments of a volatile metropolis: results from Karachi, Pakistan. *J Emerg Med* 2013;45:761–72.
8. Pinar T, Acikel C, Pinar G, *et al*. Workplace violence in the health sector in Turkey: a national study. *J Interpers Violence*; Published Online First: 28 June 2015.
9. Baykan Z, Öktem İS, Çetinkaya F, *et al*. Physician exposure to violence: a study performed in Turkey. *Int J Occup Saf Ergon* 2015;21:291–7.
10. Talas MS, Kocaöz S, Akgüç S. A survey of violence against staff working in the emergency department in Ankara, Turkey. *Asian Nurs Res* 2011:5:197–203.
11. Erdur B, Ergin A, Yüksel A, *et al*. Assessment of the relation of violence and burnout among physicians working in the emergency departments in Turkey. *Ulus Travma Acil Cerrahi Derg* 2015;21:175–81.
12. Ministry of Health. *Status report of health education and human resources for health on Turkey*. Ankara: Ministry of Health, 2014. http://sbu.saglik.gov.tr/Ekutuphane/kitaplar/insangucu.pdf (accessed 20 May 2016).
13. Current and emerging occupational safety and health (OSH) issues in the healthcare sector, including home and community care. https://osha.europa.eu/en/tools-and-publications/publications/reports/current-and-emerging-occupational-safety-and-health-osh-issues-in-the-healthcare-sector-including-home-and-community-care/view (accessed 9 Feb 2017).
14. Bureau of Labor Statistics, US Department of Labor. *Nonfatal occupational injuries and illnesses requiring days away from work*. Washington, DC: Bureau of Labor Statistics, US Department of Labor, 2013. http://www.bls.gov/opub/cwc/sh20100825ar01p1.htm. (accessed 20 May 2016).
15. Gacki-Smith J, Juarez AM, Boyett L, *et al*. Violence against nurses working in US emergency departments. *J Healthc Prot Manage* 2010;26:81–99.
16. Magnavita N, Fileni A, Pescarini L, *et al*. Violence against radiologists. I: prevalence and preventive measures. *Radiol Med* 2012;117:1019–33.
17. Behnam M, Tillotson RD, Davis SM, *et al*. *et al*Violence in the emergency department: a national survey of emergency medicine residents and attending physicians. *J Emerg Med* 2011;40:565–79.
18. Magnavita N. Workplace violence and occupational stress in healthcare workers: a chicken-and-egg situation-results of a 6-year follow-up study. *J Nurs Scholarsh* 2014;46:366–76.
19. Satar S, Cander B, Avcı A, *et al*. Why specialty in emergency medicine is not preferred? *Eurasian J Emerg Med* 2013;12:234–6.
20. Stene J, Larson E, Levy M, *et al*. *et al*Workplace violence in the emergency department: giving staff the tools and support to report. *Perm J* 2015;19:e113–7.
21. Kvas A, Seljak J. Unreported workplace violence in nursing. *Int Nurs Rev* 2014;61:344–51.
22. Senuzun Ergün F, Karadakovan A. Violence towards nursing staff in emergency departments in one turkish city. *Int Nurs Rev* 2005;52:154–60.
23. Canbaz S, Dündar C, Dabak S, *et al*. Violence towards workers in hospital emergency services and in emergency medical care units in Samsun: an epidemiological study. *Ulus Travma Acil Cerrahi Derg* 2008:14:239–44.
24. Altinbaş G, Türkcan A, Türkcan A, *et al*. A survey of verbal and physical assaults towards psychiatrists in Turkey. *Int J Soc Psychiatry* 2011;57:631–6.
25. Ayranci U, Yenilmez C, Balci Y, *et al*. *et al*Identification of violence in turkish health care settings. *J Interpers Violence* 2006;21:276–96.

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.

26. Ordog GJ, Wasserberger J, Ordog C, *et al*. *et al*Violence and general security in the emergency department. *Acad Emerg Med* 1995;2:151–4.
27. Simon HK, Khan NS, Delgado CA. Weapons detection at two urban hospitals. *Pediatr Emerg Care* 2003;19:248–51.
28. Rankins RC, Hendey GW. Effect of a security system on violent incidents and hidden weapons in the emergency department. *Ann Emerg Med* 1999;33:676–9.
29. Malka ST, Chisholm R, Doehring M, *et al*. Weapons Retrieved after the implementation of Emergency Department Metal detection. *J Emerg Med* 2015;49:355–8.
30. Fernandes CM, Raboud JM, Christenson JM, *et al*. Violence in the emergency department study (VITES) Group. the effect of an education program on violence in the emergency department. *Ann Emerg Med* 2002;39:47–55.
31. Magnavita N. Violence prevention in a small-scale psychiatric unit: program planning and evaluation. *Int J Occup Environ Health* 2011;17:336–44.
32. US Occupational Safety and Health Administration. *Guidelines for preventing workplace violence for healthcare and social service workers*. Washington, DC: OSHA Publication, 2015. https://www.osha.gov/Publications/osha3148.pdf (accessed 9 Feb 2017).
33. Lyneham J. Violence in NSW emergency departments. *Aust J Adv Nurs* 2000;18:8–17.
34. Boz B, Acar K, Ergin A, *et al*. Violence toward health care workers in emergency departments in Denizli, Turkey. *Adv Ther* 2006;23:364–9.
35. Morphet J, Griffiths D, Plummer V, *et al*. *et al*At the crossroads of violence and aggression in the emergency department: perspectives of australian emergency nurses. *Aust Health Rev* 2014;38:194–201.

BMJ Open: first published as 10.1136/bmjopen-2016-013568 on 29 June 2017. Downloaded from http://bmjopen.bmj.com/ on September 2, 2021 by 193.140.151.30. Protected by copyright.