

Research Article

Violence against Physicians Working in Emergency Departments in Assiut, Egypt

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Abstract

Background: Workplace violence in hospital emergency departments (EDs) is a common problem, where health care staff is at highest risk. However, this issue is under researched in Egypt and little evidence exists. **Objectives:** This study was conducted to determine the magnitude and types of violence faced by ED physicians, the etiology and sources of violence, sociodemographic factors influencing violence, reporting the violent assaults, the emotional state of the physicians after violence and the probable solutions to this problem. **Methods:** This descriptive cross sectional study included 335 physicians working in the EDs of six hospitals in Assiut city, Egypt. **Results:** The majority of the respondents (78.2%) reported exposure to violence during the previous year: 78.6% verbal and 21.4% physical. There was statistically significant difference association between exposure to violence and poor security at hospitals. Exposure to physical violence was significantly higher among males and in the evening shifts. Taking care of another patient was the most frequent task done by the physicians during the violent assault, where physical violence was significantly more common than verbal violence. Too many family caretakers, lack of education of patient's relatives and insufficient equipment for treatment were the most frequent reasons associated with violence. Physical violence was significantly higher than verbal violence in case of patients suffering of drug abuse or serious illness. The most common coping methods used by the physicians were verbal reply, leaving the scene and calling the police. Patients' relatives were identified as the primary perpetrators of violence; however violence perpetrated by the patients was significantly higher in the governmental hospitals. About 85% of the physicians exposed to violence didn't receive adequate support from the hospital managers, which was significantly higher in the university hospitals than governmental hospitals. In university hospitals, too many family caretakers and serious illness of the patients were significantly associated with violence. However, insufficient equipment for treatment was significantly associated with violence in the governmental hospitals. The most common reactions experienced by the physicians after violence were anger, depression and frustrations. Inadequate coverage by security staff and lack of education of patients' relatives were identified as the major areas that need attention to address the problem. **Conclusion:** Physicians are at high risk of violent assaults in the EDs in Assiut city. Decision makers need to be aware of the causes and potential consequences of such events. There is a need for intervention to protect physicians and provide safer hospital environment.

Key words: violence, physicians, emergency department, developing countries.

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INTRODUCTION

Violence is an important public health problem endangering the social peace in health care establishments and hospitals, just like many other sectors. This has become a very serious problem for both health care providers and even for patients and patient relatives in the recent times. Health care workers are at a high risk of being victims of verbal and physical violence perpetrated by patients and their families.

The studies from different countries have shown that violence against health care workers is increasing and the health sector is the leading sector regarding the confrontation with the violence in the workplace. In the United States, the risk for violence against health care workers is 16 times higher compared to other sectors, and half of the complaints about violence come from the health sector.⁽¹⁾

A report published by the World Health Organization in 2002 emphasized the increase of violence

against health care workers in recent years, and suggested that about 25% of violence during work occurred in the health sector. Workplace violence in the health sector affects all the workplaces and working professions in both genders. The most commonly affected health workers were ambulance workers, nurses, and physicians. The report also showed that more than 50% of participants faced with psychological or physical violence, and this ratio was 75.8% in Bulgaria, 67.2% in Australia, 61% in South Africa, 60% in Portugal, 54% in Thailand, and 46.7% in Brazil.⁽²⁾ The highest incidence of workplace violence occurs in psychiatric wards, emergency departments (EDs), waiting rooms, and geriatric units. The ED is recognized as an area at special risk of violence. The 24-hour accessibility, lack of adequately trained, armed, or visible security guards, and a highly stressful environment were considered some of reasons why EDs are vulnerable to violence^(3,4). The overwhelming majority of perpetrators of ED violence are patients, their family members and visitors.⁽⁵⁾

This subject has been studied in detail in the developed world, emphasizing the magnitude of the problem and its negative effects on patient health and physician performance. Assiut is a developing city with its own specific cultural, socioeconomic, and ethnic characteristics. As a result, when it comes to physician-patient relationships, the perceptions and behaviors of people may be different from other countries. This is the first study of its kind in Assiut city. The objectives of the current study are to identify (a) the magnitude and types of violence faced by the physicians in the EDs in the previous year, (b) the possible etiologies and sources of violence, (c) sociodemographic factors which influence violence, (d) how the violent assaults are reported, (e) the emotional state of the physicians after violence and (f) proposed solutions to mitigate violence.

METHODS

Design and sampling: The design of the study was descriptive cross sectional based on self-administered questionnaire. This study performed an analysis encompassing EDs in six hospitals (3 university hospitals and 3 governmental hospitals) in Assiut city. The questionnaires were distributed to the physicians (Only who are willing to participate in the study) of the EDs by hand. The study population was all physicians working in the EDs of six hospitals. The total number of the physicians working in the EDs of the university hospitals is 243 while that of the governmental hospitals is 235. Total coverage of all physicians working in the EDs was attempted however; only 335 questionnaires were completed yielding a response rate 70.1%. Data collection was completed between March and August 2013.

Instrument: The study tool was an anonymous, self administered questionnaire comprising 21 items prepared by the researcher through a literature scanning. The

questions in the questionnaire were tested for structure and clarity by the researcher in a pilot study with 10 physicians who had previously worked in the EDs. After the pilot study, a few necessary revisions were made to the questions for validation. Data from the pilot study were not included in the study. In the questionnaire, EDs physicians were asked to recall experiences of violent behaviors directed at them during the previous year. The questionnaire included sociodemographic data such as age, sex, working years in the EDs, hospital type, shifts, the security in the hospital and whether any type of training or instructions about how to deal with violence had been received. Such verbal or physical violence, if present, was further classified into brief categories of the types of violence experienced. Verbal violence included the categories of shouting, foul language, rude tone, cursing, verbal threats and others. Physical violence categories were pushing, hair pulling, slapping, kicking, physical threats and others. The perpetrator of the violent behavior could be the patients, relatives, patient's friends or others. The questionnaire included inquiry about the physicians' perception of the factors responsible for the incidents of the violent behavior. These included patient factors (drug abuse, psychiatric disorder, serious illness, death, lack of education, high societal status such as politicians, or others) and service factors (lack of equipment needed for treatment, improper treatment, less staff, too many caretakers, long waiting for consultation, or others). The questionnaire elicited the consequences of violent assault upon the physicians and preventive strategies from the physician's perception to stop violence against them. Also, the questionnaire included some queries about how the physicians defended themselves, what were they doing during the violent behavior, how the violent behavior ended, whether the physicians received adequate support from the hospital management and changes in their post aggression behavior towards the patients.

Statistical Analysis

Data analysis was performed using SPSS version 16. Descriptive statistics and chi-square test were performed. A level of $p < .05$ was considered statistically significant.

Limitation of the study

The questionnaire was prepared specifically by the researcher and a well-known inventory was not used. Moreover, the study used a retrospective self-reporting approach in data collection. This method depends on the ability of the participants to recall events during the year preceding the present study, which might have potential biases.

Ethical Considerations

The participation in the study was voluntary and all participants expressed their approval for the study. Before data collection, the necessary approval was obtained from the Ethics Committee of the Faculty of Medicine at Assiut University. Administrators of the hospitals were informed about the study and its purposes.

RESULTS

Table (1) describes the socio-demographic characteristics of Assiut ED physicians such as age, sex, years of experience in the ED and hospital type. Nearly half of the respondents were younger than 28 years old (51.3%) with a mean age \pm SD of 27.9 \pm 2.7. Also, the majority of them

were males (66.9%), whereas females represented 33.1% of the respondents. Regarding years of experience in the ED, the majority had experience 2 - < 4 years (51.9%) followed by 26.3% with experience < 2 years and then 21.8% with experience \geq 4 years. Most of the respondents were working in the university hospitals (59.1%) against 40.9% in the governmental hospitals

Table (1): Socio-demographic Characteristics of Assiut ED Physicians

Socio-demographic factors	ED Physicians (n=335)	
	No.	%
Age:		
< 28 years	172	51.3
28 - < 30 years	96	28.7
\geq 30 years	67	20.0
Mean \pm SD (Range)	27.91 \pm 2.65 (23 – 40)	
Sex:		
Male	224	66.9
Female	111	33.1
Years of experience in the ED:		
< 2 years	88	26.3
2 - < 4 years	174	51.9
\geq 4 years	73	21.8
Mean \pm SD (Range)	2.82 \pm 2.04 (1 month – 15 years)	
Hospital type:		
University hospitals	198	59.1
Governmental hospitals	137	40.9

Table (2) shows that 78.2% of the respondents reported at least one violent assault during the previous year. Verbal violence had occurred among 78.6% of them against 21.4% for the physical violence. The most common types of verbal violence were shouting, rude tone, cursing, foul language and verbal threats where they experienced by 85.9 %, 51 %, 48.1%, 47.1% and 11.7 % of the respondents,

respectively. The most common types of physical violence were pushing and physical threats where they experienced by 71.4 % and 64.3 % of the respondents, respectively. Violent assaults were common in the evening shifts (60.7%). Additionally, most of those exposed to violence (97.3%) stated that they had not received any type of training on how to deal with violence.

Table (2): Characteristics of Violence Events as Reported by Assiut ED Physicians

Violence events	ED Physicians	
	No.	%
Exposure to any kind of violence: (n=335)		
Yes	262	78.2
No	73	21.8
Type of violence: (n=262)		
Verbal	206	78.6
Physical	56	21.4
Types of verbal violence: (n=206) •		
Shouting	177	85.9
Rude tone	105	51.0
Cursing	99	48.1
Foul language	97	47.1
Verbal threats	24	11.7
Types of physical violence: (n=56) •		
Pushing	40	71.4
Physical threats	36	64.3
Hair pulling	1	1.8
Kicking	1	1.8
Time of exposure to violence: (n=262)		
Morning shift	40	15.3
Evening shift	159	60.7
Both	63	24.0
Receiving training about management of violence: (n=262)		
Yes	7	2.7
No	255	97.3

• More than one answer has been provided.

Table (3) reveals that there was statistically significant association between exposure to violence and poor security at hospital, as less exposure to violence (40%) was detected among those who categorized the security at their hospitals as good, while more exposure to violence

(88.2%) was detected among those who categorized the security at their hospitals as bad ($p < 0.000$). However, no statistically significant differences were detected between age, sex, hospital type and years of experience in the ED on one hand and exposure to violence on the other hand.

Table (3): Relationship between Exposure to Violence and Different Variables

	Exposure to violence				P-value
	Exposed (n= 262)		Not-exposed (n= 73)		
	No.	%	No.	%	
Age					
< 28 years	133	77.3	39	22.7	0.922
28 - < 30 years	76	79.2	20	20.8	
≥ 30 years	53	79.1	14	20.9	
Sex					
Male	181	80.8	43	19.2	0.102
Female	81	73.0	30	27.0	
Hospital type					
University hospitals	150	75.8	48	24.2	0.191
Governmental hospitals	112	81.8	25	18.2	
Years of experience in the ED					
< 2 years	64	72.7	24	27.3	0.344
2 - < 4 years	140	80.5	34	19.5	
≥ 4 years	58	79.5	15	20.5	
Security at hospital					
Good	10	40.0	15	60.0	0.000*
Fair	65	66.3	33	33.7	
Bad	187	88.2	25	11.8	

Table (4) demonstrates that male respondents reported exposure to physical violence more frequently than females (26.5 % versus 9.9%) with statistically significant difference ($p=0.002$). Also, evening shifts showed more exposure to physical violence than morning shifts (26.4%

versus 2.5%) with statistically significant difference ($p=0.004$). However no statistically significant differences were found between ages, years of experience in the ED and hospital type on one hand and type of violence on the other hand.

Table (4): Relationship between Socio-demographic Characteristics of ED Physicians and Types of Violence

Socio-demographic factors	Verbal violence (n= 206)		Physical violence (n= 56)		P-value
	No.	%	No.	%	
Age					
< 28 years	102	76.7	31	23.3	0.635
28 - < 30 years	60	78.9	16	21.1	
≥ 30 years	44	83.0	9	17.0	
Sex					
Male	133	73.5	48	26.5	0.002*
Female	73	90.1	8	9.9	
Years of experience in the ED					
< 2 years	53	82.8	11	17.2	0.455
2 - < 4 years	106	75.7	34	24.3	
≥ 4 years	47	81.0	11	19.0	
Working shift					
Morning shift	39	97.5	1	2.5	0.004*
Evening shift	117	73.6	42	26.4	
Both	50	79.4	13	20.6	
Hospital type					
University hospitals	116	73.3	34	22.7	0.555
Governmental hospitals	90	80.4	22	19.6	

Table (5) shows that 'taking care of another patient' was the most common task done by the physicians during the violent assault (50.4%). Physical violence had occurred more frequently than verbal violence

when the physician took care of another patient (62.5% versus 47.1%) with statistically significant difference ($p=0.04$). Regarding the factors associated with violence, many relatives accompanying the

patient was the most frequent reason of violence (84.4%) followed by lack of education of patient's relatives (79.8%) and then no enough equipment for treatment (50%) (Table 5). However, physical violence was more common than verbal violence when drug abuse and serious illness of the patient were factors associated with violence (44.6 % versus 21.4% for drug abuse and 25% versus 12.6% for serious illness) and the differences were statistically significant for both factors ($p= 0.000, 0.022$ respectively).

Replying verbally, leaving the scene and calling the police were the most common coping methods among those exposed to violence; they were identified by 43.9%, 43.1% and 42.7% of the physicians

respectively. There was statistically significant difference between the types of violence and some coping methods. About 13.1% of those exposed to verbal violence did nothing versus 3.6% of physical violence. On the contrary, calling the police, leaving the scene, reporting to a manager and replying physically were the coping methods which were common among those exposed to physical violence.

Nothing had happened was the most common end of violence in the present study (71%). About 74.3% of those exposed to verbal violence said nothing happened versus 58.9 % of physical violence and 1.5% of those exposed to verbal violence went to court versus 16.1% of physical violence and the difference was statistically significant ($p < 0.000$).

Table (5): Details of Reported Violence Events According to Type of Violence

	Verbal violence (n= 206)		Physical violence (n= 56)		Total (n= 262)		P-value
	No.	%	No.	%	No.	%	
Tasks done by the physicians during the violent assault: ●							
Giving information	63	30.6	24	42.9	87	33.2	0.084
Conduction of physical examination	53	25.7	19	33.9	72	27.5	0.223
Making an intervention	53	25.7	17	30.4	70	26.7	0.488
Taking medical history	48	23.3	14	25.0	62	23.7	0.791
Taking care of another patient	97	47.1	35	62.5	132	50.4	0.04*
Making referral	39	18.9	16	28.6	55	21.0	0.116
Patient or caretaker factors associated with violence: ●							
Drug abuse	44	21.4	25	44.6	69	26.3	0.000*
Serious illness	26	12.6	14	25.0	40	15.3	0.022*
Psychiatric disorders	63	30.6	17	30.4	80	30.5	0.974
Death	54	26.2	21	37.5	75	28.6	0.098
Lack of education	163	79.1	46	82.1	209	79.8	0.618
High status/ Politicians	41	19.9	10	17.9	51	19.5	0.732
Service factors associated with violence: ●							
No enough equipment for treatment	104	50.5	27	48.2	131	50.0	0.763
Improper treatment	20	9.7	8	14.3	28	10.7	0.326
Too many caretakers	171	83.0	50	89.3	221	84.4	0.252
Not enough staff	62	30.1	19	33.9	81	30.9	0.582
Long waiting for consultation	75	36.4	24	42.9	99	37.8	0.377
Coping methods identified by the physicians: ●							
Replied verbally	94	45.6	21	37.5	115	43.9	0.277
Did nothing	27	13.1	2	3.6	29	11.1	0.044*
Called police	71	34.5	41	73.2	112	42.7	0.000*
Left the scene	79	38.3	34	60.7	113	43.1	0.000*
Reported to a manager	47	22.8	25	44.6	72	27.5	0.001*
Went to court	3	1.5	4	7.1	7	2.7	0.061
Replied physically	2	1.0	19	33.9	21	8.0	0.000*
Put up barriers	4	1.9	4	7.1	8	3.1	0.117
Wanted help from any colleagues	23	11.2	11	19.6	34	13.0	0.094
End of violence:							
Nothing happened	153	74.3	33	58.9	186	71.0	
Made an excuse	50	24.3	14	25.0	64	24.4	0.000*
Went to court	3	1.5	9	16.1	12	4.6	

● More than one answer has been provided.

Table (6) reveals that most physicians exposed to aggression at frequency 2-4 times per year (43.1%). Out of the victims of violence during the previous year, 97.3% had suffered from violence perpetrated by the patient relatives. Also, 39.3% of the victims of

violence in the governmental hospitals had suffered from violence perpetrated by the patients versus 6.7% in the university hospitals and the difference was statistically significant. The table also shows that most physicians did not receive adequate support from the

hospital management (84.4%). About 23.2% of the physicians in the governmental hospitals had received adequate support from the hospital management versus 10% in the university hospitals with statistically significant difference ($p=0.004$). Regarding the factors associated with violence, a statistically significant difference was found between hospitals and some factors such as serious illness of the patient, no enough equipment for treatment and too many caretakers. Serious illness of the patient was reported by 23.3% of the staff of the university hospitals versus 4.5% of the governmental hospitals ($p=0.04$). No enough

equipment for treatment was reported by 38% of the staff of the university hospitals versus 66.1% of the governmental hospitals ($p<0.000$). Also, too many caretakers was said by 90% of the staff of the university hospitals versus 76.8% of the governmental hospitals ($p=0.004$). The negative effects of violence on behavior towards the patients were identified by 56.5% of the physicians exposed to violence without significant difference between the university hospitals and the governmental hospitals and reduction of communication with the patients and their relatives was the most common negative effect (37%).

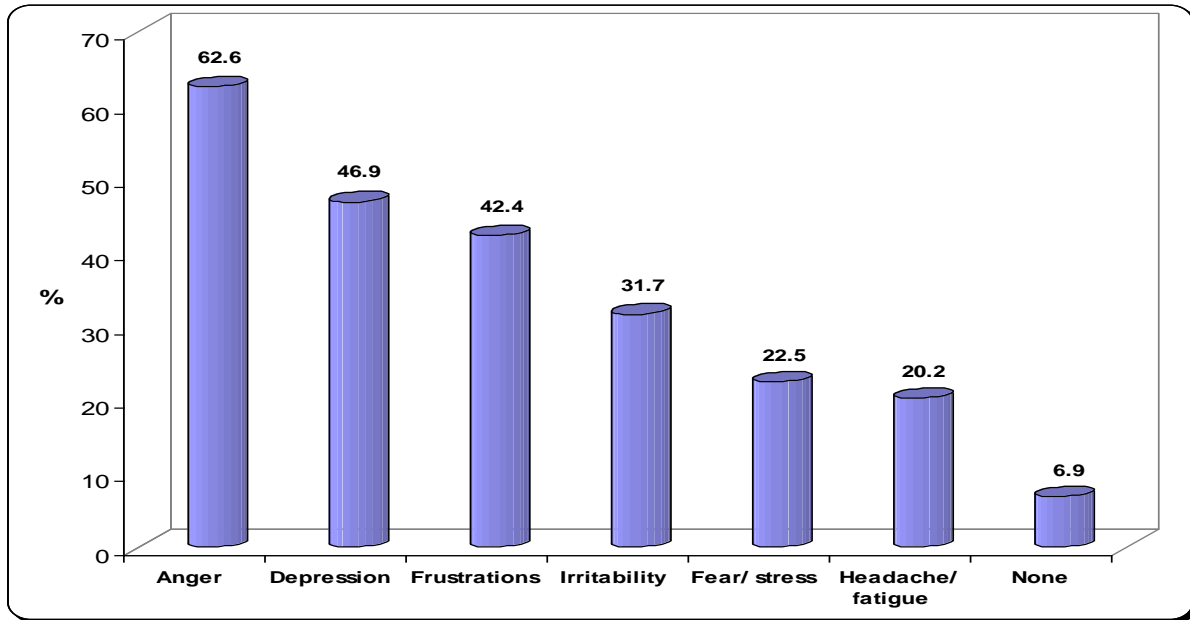
Table (6): Distribution of Different Violence Related Variables by Hospital

Violence related factors	University hospitals (n= 150)		Governmental hospitals (n= 112)		Total (n= 262)		P-value
	No.	%	No.	%	No.	%	
Frequency of aggression per year:							
At least once	42	28.0	30	26.8	72	27.5	0.974
2 – 4 times	64	42.7	49	43.8	113	43.1	
5 times or more	44	29.3	33	29.5	77	29.4	
Perpetrator: ●							
Patient	10	6.7	44	39.3	54	20.6	0.000*
Patient relatives	147	98.0	108	96.4	255	97.3	0.694
Friend of patient	50	33.3	45	40.2	95	36.3	0.254
Receiving adequate support from hospital management:							
Yes	15	10.0	26	23.2	41	15.6	0.004*
No	135	90.0	86	76.8	221	84.4	
Patient/ patient relatives factors associated with violence: ●							
Drug abuse	38	25.3	31	27.7	69	26.3	0.670
Serious illness	35	23.3	5	4.5	40	15.3	0.040*
Psychiatric disorders	52	34.7	28	25.0	80	30.5	0.093
Death	39	26.0	36	32.1	75	28.6	0.276
Lack of education	120	80.0	89	79.5	209	79.8	0.915
High status/ Politicians	25	16.7	26	23.2	51	19.5	0.185
Service factors associated with violence: ●							
No enough equipment for treatment	57	38.0	74	66.1	131	50.0	0.000*
Improper treatment	14	9.3	14	12.5	28	10.7	0.412
Too many caretakers	135	90.0	86	76.8	221	84.4	0.004*
Not enough staff	46	30.7	35	31.3	81	30.9	0.919
Long waiting for consultation	61	40.7	38	33.9	99	37.8	0.266
Changes in post-aggression behavior towards patients:							
Negatively affected	81	54.0	67	59.8	148	56.5	0.347
Not affected	69	46.0	45	40.2	114	43.5	
Area of negative effects: ●							
Reduction the time spent for patients	35	43.2	24	35.8	59	22.5	0.361
Avoiding to take medical risks	17	21.0	19	28.4	36	13.7	0.298
Reduction of care or interest	22	27.2	18	26.9	40	15.3	0.968
Reduction of communication with patients and their relatives	50	61.7	47	70.1	97	37.0	0.283

● More than one answer has been provided.

Only 6.9% of the physicians did not experience any emotions after exposure to violence. However, many physicians experienced some reactions as a result of

violence such as anger (62.6%), depression (46.9%), frustrations (42.4%), Irritability (31.7%), fear (22.5%) and headache (20.2%) (Figure 1).

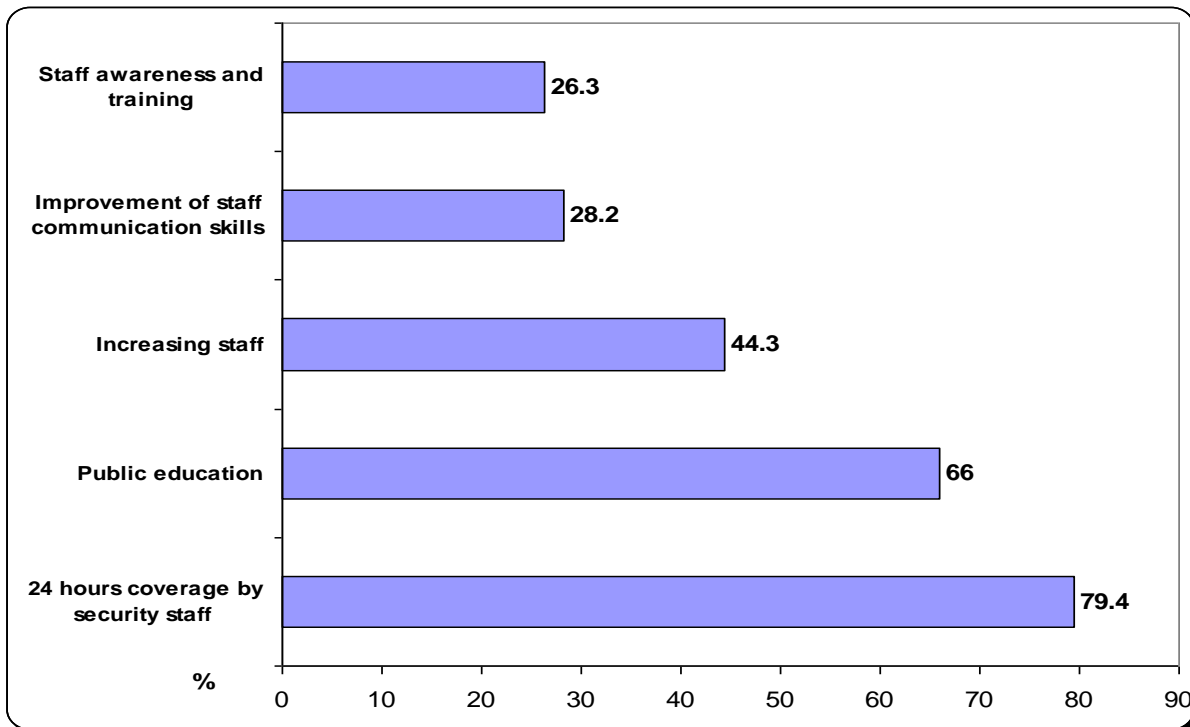


More than one answer has been provided.

Figure (1): Emotions Experienced by ED Physicians after Violence

Figure 2 shows that the majority of the physicians believed that violent incidents can be prevented by 24 hours coverage by security staff (79.4%) and public education (66%). However, 44.3%, 28.2% and 26.3%

of the physicians respectively believed that increasing staff, improvement of staff communication skill and staff awareness and training were the most probable solutions for the prevention of violence.



More than one answer has been provided.

Figure (2): Suggested Solutions for the Prevention of Violence from ED Physician's Perception

DISCUSSION

Violence in the workplace is not uncommon phenomenon in the ED. In studies of physician experiences in countries outside of the United States, violence was found to be part of the workplace environment.⁽⁶⁻⁸⁾ Many studies recognized EDs as a particularly violent environment. These departments are usually attended by aggressive and stressed patients/ visitors and those patients who are impaired by substances are more likely to commit violence against health workers.⁽⁹⁻¹²⁾

In the present study, the majority of physicians (78.2%) reported that they had been exposed to some kind of violence in the previous year, the type of violence was verbal in 78.6% and physical in 21.4%. Although this is comparable to the prevalence found in some studies, it is somewhat less than that reported from other studies.⁽¹³⁻¹⁶⁾

Definitions and perceptions of violence vary by the country and its culture, the structure of health care, the ED environment and may even vary between two physicians working in the same ED. This is why categorization of violence into two distinct groups: verbal and physical was done. Also, further subcategorization of verbal violence into five categories (shouting, rude tone, cursing, foul language and verbal threats) and physical violence into four categories (pushing, physical threats, hair pulling and kicking) was done. This is in order to clarify categories and to make them distinct. These subgroups are shown in table (2) as adopted by a study conducted by Nabil et al.⁽¹⁷⁾

In the present study, 75.8% of the staff in the university hospitals and 81.8% of the staff in the governmental hospitals were exposed to violence without significant difference. This is because the service in the EDs in Assiut city is usually distributed equally over the week among governmental and university hospitals.

The health care providers who categorized the security at their hospital as bad were more exposed to violence, these findings were in consistency with other studies.^(18,19) The results of the present study revealed poor security measures in the hospitals

Certain characteristics have been found to increase the risk of workers being targets of workplace violence in the healthcare setting, including the workers' gender, age, years of experience, marital status, and previous workplace violence training.⁽²⁰⁾ In the present study, inconsistent with other studies in Turkey, Kuwait, Lebanon, and Saudi Arabia^(16, 21-23), no significant difference was found in the overall exposure to violence on one hand and age and years of experience on the other hand. This is because exposure to violence in the present study was

associated with more important factors other than age and years of experience such as lack of education, serious illness of the patient, too many caretakers and no enough equipment for treatment. Also, no significant difference was found in the overall exposure to violence between males and females. The results of the present study are consistent with one conducted in Palestine.⁽¹²⁾

In the present study, males' exposure to physical violence was significantly higher than females, which was in agreement with other studies done in Turkey, Kuwait, Saudi Arabia and Egypt.^(16, 21, 23, 24) This can be attributed to prevalent cultural norms rejecting disrespect to females in these societies. Therefore, it is most probable that patients and their relatives restrain themselves from being physically violent toward a female physician and prefer to express their anger or frustrations towards them in the form of verbal violence.

The present study shows that violence was common in the evening shifts and exposure to physical violence was significantly higher in the evening shifts. Similar results were reported in studies made in the region such as Palestine, Kuwait, Egypt, Iraq and Saudi Arabia.^(12,21,24-26) Higher rates of violence especially the physical type during this time can be attributed to lower presence of hospital administration and shortening of staff during the evening and night shifts.

Taking care of another patient was the most frequent task done by the physicians during the violent assault (50.4%) in the present study. Physical violence was significantly higher than verbal violence when the physicians taking care of another patient. The physician in this circumstance left the patient and took care of another patient so the patients and their relatives demonstrated their anger in the form of physical violence. Also, physical violence was significantly higher than verbal violence when drug abuse and serious illness were factors associated with violence. When the patients and their relatives were drug abusers, they lost the control on their mind so they criminated physical violence. Serious illness of the patient was considered an emergency and the relatives of the patient perform physical violence in order to take the best service for their patient.

The present study found that 97.3% of the physicians had not received training to cope with violent incidents so the physicians tried some own coping methods to deal with violence such as called police, left the scene, reported to a manager and replied physically. These coping methods were higher among those exposed to physical violence than those of verbal violence. The physical violence is not accustomed or accepted by many physicians so they dealt by these coping methods. However, 11.1% of the

physicians did nothing and kept silent but this was common among those exposed to verbal violence than among those exposed to physical violence.

Although 78.2% of physicians experienced violence in the present study, 71% of them reported that nothing had happened as a result of the violent assaults. Making an excuse or going to court was done in small percentage of the violent assaults. Unfortunately, in the present circumstance, as victims of violence in most of the cases think that they will not gain anything, the violence they experienced is not handled through legal procedures, which creates lack of documentation for these kinds of incidents. Bureaucratic difficulties and delayed legal mechanisms limit the interventions for the prevention of violence. However, nothing happened as an end of violence was significantly higher among those exposed to verbal violence than those of physical violence because physical violence is a very huge problem which might need going a court at a rate higher than that of verbal violence.

The present study showed that relatives accompanying the patients were most often responsible for the violence (97.3%) and this confirms what others concluded in their studies in Iran and Turkey.^(27,28) This is because the family bonds of people living in Egypt are traditionally strong. This means that all the family members go to the hospital and wait beside their patient until recovery. However, violence perpetrated by the patients was significantly higher in the governmental hospitals. The difference may result from the severity of cases received by the university hospitals in comparison with governmental hospitals which receive mild cases. This is why the patient was the perpetrator of the violent assaults in the governmental hospitals in most circumstances.

About 84% of the physicians exposed to violence didn't receive adequate support from the hospital management. This may be related directly to affirmation and acceptance of aggression as a way of handling and resolution of problems in our social setting, and to failure in taking adequate dissuasive measures against violence. Adequate support from the hospital management was significantly higher in the governmental hospitals and this was consistent with a study conducted in Turkey.⁽¹⁹⁾ They are aware of aggression problem in governmental hospitals and take precautions such as reporting to juridical authorities.

In the present study, it was found that too many caretakers, lack of education of patient's relatives and not enough equipment for treatment were generally considered to be the major factors contributing to the high incidence of violence. Overcrowding in the ED previously has been recognized as a significant challenge in local EDs.⁽²⁹⁾ Likewise, 84.4% of the physicians in this study attributed "too many

caretakers" as an important factor associated with overcrowding and hence leading to violent incidents. There is a need to address this problem at the administrative level of the hospitals. However, "too many caretakers" as a factor associated with violence was reported more by the staff of the university hospitals in comparison with the governmental hospitals. This is because university hospitals receive more serious illnesses and this attracts more caretakers to take care of their patients. Therefore, serious illness of the patient as a factor associated with violence is significantly higher in the university hospitals. Also, no enough equipment for treatment was reported more by the staff of the governmental hospitals in comparison with the university hospitals. This is because governmental hospitals which belong to the Ministry of Health and Population suffer from lack of supplies, materials and equipment in comparison with university hospitals.

In the present study, negative effects of violence on behavior towards patients were reported by 56.5% of the physicians exposed to violence and reduction of communication with patients and their relatives was the most common negative effect (37%) and this was consistent with other studies,^(19,30) These results reveal a serious reduction in job productivity and efficiency as well as motivation of health care providers upon exposure to aggression at work.

In a study of emergency service workers in Canada, 95% of the participants rated 24-hr coverage by security services and 68% a workshop on violence prevention strategies as the most useful interventions for the prevention of violence.⁽⁹⁾ Most of the emergency physicians in the state of Michigan desired additional resources to cope with the threat of violence in their workplaces, including a course of presentations on management of violent patients and information on their legal rights.⁽³⁾ In the present study, the most important suggestions from the physician's perspectives for prevention of violence were 24 hrs coverage by security staff and public education.

In conclusion, the current study revealed that violence is a major problem facing ED staff and serious measures need to be taken in order to avoid the growing number of violent incidents. Training on the management of violence should be available as part of on-the-job training for staff working in ED. Appropriate preventive strategies such as improving security coverage and increasing the number of staff working in the EDs may have an effect in reducing violence.

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