

Field Study

## Occupational Violence at Lebanese Emergency Departments: Prevalence, Characteristics and Associated Factors

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**Abstract: Occupational Violence at Lebanese Emergency Departments: Prevalence, Characteristics and Associated Factors: Mohamad ALAMEDDINE, et al. Health Management and Policy, Faculty of Health Sciences, American University of Beirut, Lebanon—Background:** Emergency departments (EDs) workers are at increased risk of exposure to occupational violence. The prevalence of occupational violence is potentially higher and consequences are more serious in areas with poor security conditions. **Objectives:** We investigated the prevalence, characteristics and factors associated with the exposure of ED workers to violence at Lebanese hospitals. **Methods:** All ED employees at six tertiary hospitals in Lebanon were surveyed using a cross-sectional design. The survey instrument included four sections collecting demographic/professional information and measuring exposure to violence, degree of job satisfaction and degree of professional burnout. The questionnaire was distributed to all ED employees at participating hospitals and was completed by 256 ED workers (70.3% response rate). Multinomial and binary logistic regressions were used to investigate factors significantly associated with verbal and physical violence. **Results:** Over the past 12 mo, four in five ED employees were verbally abused and one in four was physically assaulted. Exposure to verbal abuse was associated with serious outcomes including significantly higher levels of occupational burnout and an increased likelihood to quit current job. Exposure to physical violence was associated with increased likelihood-to-quit, nurse status and “public hospital” employment. **Conclusion:** Violence largely prevails

at Lebanese EDs. Most vulnerable are nurses and employees of public hospitals who are disproportionately exposed to violence. ED stakeholders must work collaboratively to investigate the root causes of violence and devise and implement effective antiviolence policies and measures. Such measures will be necessary to protect the well-being and decrease the turnover of ED workers.

(J Occup Health 2011; 53: 455–464)

**Key words:** Emergency departments, Lebanon, Occupational health, Professional burnout, Turnover, Violence

Emergency departments (EDs) are consistently identified as a place where workers are disproportionately exposed to violence compared with their counterparts in other departments<sup>1–4</sup>. Little has been done to investigate the incidence, determinants and outcomes of violence and aggression in hospital EDs in the Middle East Region. In Lebanon, ensuring a healthy work environment in EDs is of particular importance, since the country experiences frequent wars and civil unrest. Lebanon has faced for decades higher violence and poor security conditions and measures compared with the developed world. The numerous wars and armed civil conflicts did not only precipitate unanticipated pressures on EDs but also left many in the society armed and more prone to resort to violence. Although such events could jeopardize the health and well-being of ED workers, they were never systematically investigated.

### Literature Review

Depending on the context examined, definitions used, time period covered and methodology utilized, there is a wide variation in the reported incidence of Verbal Abuse (VA) and Physical Violence (PV) in healthcare settings. Yet, most studies agree that nurses are the most vulnerable

Received May 14, 2011; Accepted Aug 24, 2011

Published online in J-STAGE Sep 27, 2011

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to violent incidents and that exposure to VA is higher than that to PV<sup>2,5-10</sup>. The most commonly reported perpetrator(s) of violence were patients' family members or friends and patients<sup>3,8,11-13</sup>. With respect to patient characteristics, the existence of a mental health condition was found to be most predictive of violent behavior, followed by alcohol abuse, substance abuse and patient's expectations<sup>14-16</sup>.

Exposure to violence precipitates serious physical, psychological and professional consequences on healthcare workers, including impaired job performance, moderate to severe and long-term psychological effects, burnout and turnover<sup>8,17,18</sup>. Despite its serious consequences, most healthcare workers tend to underreport their exposure to violent incidents<sup>8,9,11,15</sup>.

Irrespective of the study, violence appears to be a significant professional issue that warrants the attention of stakeholders and decision makers, considering that violence has unfortunately become "part of the job" or "the daily normal" at many healthcare facilities around the globe<sup>3,10,19,20</sup>.

#### *The context in the Middle East Region*

Although information on workplace violence in healthcare settings in the Middle East is relatively scarce, limited available evidence reveals that exposure to VA and PV is a serious issue that jeopardizes the safety of healthcare workers and affects the quality of patient care provided<sup>21-25</sup>. Note that most studies in the region focus on ED physicians. For example, a study on a sample of doctors in Kuwaiti EDs showed that 86% of surveyed physicians experienced VA and 28% experienced physical attacks, 7% of which could have engendered serious or fatal injury<sup>23</sup>. Another study on emergency physicians in Morocco reported that 47% of respondents reported exposure to verbal abuse and 8.3% experienced physical assault<sup>25</sup>. Studies examining violence in Turkish EDs identified the families of patients as the main perpetrator of violence and outlined the serious emotional reactions of ED staff exposed to violence, including anger, shame, humiliation and frustration<sup>26-29</sup>.

#### **Objective**

This study is the first to systematically examine the level, characteristics and factors significantly associated with exposure to violence at Lebanese EDs.

#### **Methodology**

A cross-sectional design was utilized to survey all ED workers in the six large tertiary hospitals in Beirut, Lebanon. These EDs are the busiest out of 30 EDs in Greater Beirut based on their reported annual visits. Four of the six hospitals were not-for-profit academic medical centers, one was a public hospital and one was a private-for-profit hospital. All medical and nonmedical workers in direct contact with patients and their families in the ED

were surveyed, including both ED providers and nonproviders. ED providers are all ED employees/trainees that provide medical services to patients including physicians, nurses, undergraduate and postgraduate medical/nursing trainees. ED non-providers include all ED employees that come in direct contact with ED patients/visitors, yet do not provide medical services, including receptionists, admitting personnel, cashiers and protection/security officers.

#### *Ethical approval*

The study along with the final version of the survey instrument and associated consent forms were reviewed and received continuous approval throughout the duration of the study from the Institutional Review Board (IRB) of the leading research institution and the research boards of all participating healthcare facilities.

#### *The survey instrument*

The survey instrument included four sections: (1) demographic and professional background, (2) exposure to violence, (3) level of burnout using the Maslach Burnout Inventory and (4) satisfaction with the work environment. To enhance the content validity of the survey instrument, it was reviewed and amended by a panel of experienced ED professionals, including an attending physician, a nurse, a statistician consultant and a researcher. The final version of the questionnaire was unanimously approved by all members of the expert panel. It was pilot tested on 21 ED workers (excluded from the study), and necessary amendments were introduced to enhance clarity.

#### *Data collection*

All ED workers at the six participating institutions were invited to complete the survey questionnaire. To ensure anonymity and decrease the possibility of the presence of a social desirability bias, ED employees were asked to place their completed questionnaire in sealed envelopes and deposit them in a collection box accessible to the research team at each of the participating hospitals. A total of 256 out of 364 (70.3%) ED workers completed the questionnaire. Each of the six institutions had an individual response rate that exceeded 60%.

#### *The Maslach-Burnout Inventory*

The Maslach-Burnout Inventory (MBI) is established internationally as a leading measure of burnout that has demonstrated a similar factorial structure and performed almost similarly across many countries<sup>30-34</sup>. It is a 22-item questionnaire that measures burnout syndrome across three subscales: emotional exhaustion-EE [9 questions], depersonalization-DP [5 questions] and personal accomplishment-PA [8 questions]. The EE subscale measures workers' feelings of emotional wear-out and fatigue at work. The DP subscale measures workers'

**Table 1.** Absolute and relative distribution of surveyed emergency departments (ED) employees by selected demographic and professional characteristics (n=256)

Variables	Values	Number	Percentage
Gender	Male	162	63.3
	Female	88	34.4
	Missing	6	2.3
Age group	18–25	66	25.8
	26–35	112	43.8
	36–45	42	16.4
	46+	27	10.5
	Missing	9	3.5
Current position in this ED	Attending physician	18	7
	Trainees	68	26.6
	Nursing staff	106	41.4
	Administrative staff	31	12.1
	Security personnel	33	12.9
Working status in this ED	Trainees	68	27.3
	Regular employees		
	Full time	135	52.7
	Part time	21	8.2
	Casual	15	5.9
	Missing	17	5.9

degree of being impersonal and distant in delivering care, treatment and instructions to recipients of services. Finally, the PA subscale measures an employee's level of competence and feeling of professional achievement at work<sup>35</sup>.

Each of the questions in the MBI investigates one of the dimensions of burnout across a seven-point response format ranging from "Never" (a score to zero) to "Daily" (a score of six). For every survey respondent, the scores for the questions relating to each of the three subscales of burnout were added to generate a subscale score. Note that a higher score on EE and DP is indicative of burnout, whereas for PA the opposite was true. These scores were then compared to the numerical cut-off points for medical professions, provided by the authors of the MBI, to determine whether each of the subscales corresponds to a high, average or low level of burnout<sup>35</sup>.

#### Statistical analysis

Data were entered in the Statistical Package for the Social Sciences, version 16.0 (SPSS for Windows, Rel. 16. 2008. SPSS Inc., Chicago, IL, USA). Sample characteristics were summarized using mean and standard deviation for numerical data and frequency and percentages for categorical data. Exposure to Verbal Abuse (VA) and Physical Violence (PV) were considered two separate dependent variables and were analyzed separately in order to better understand the factors associated with each. Note that exposure to VA was measured on a four-point Likert

scale (never, 1–3 incidents, 4–15 incidents and 15+ incidents), while exposure to PV, originally measured on a four point Likert scale, was regrouped into 2 categories (never versus ever) due to the scarcity of reports of PV especially in the high frequency levels. Two multivariate logistic regression models were used to investigate factors significantly associated with violence, an ordinal logistic regression model for VA and a binary logistic regression model for PV. All analyses were conducted at a 0.05 significant level.

## Results

### Sample description

Table 1 provides a detailed account of the frequency distribution of personal and professional characteristics of survey respondents. The table reveals that nurses constitute the largest professional group at surveyed EDs (41.4%), followed by undergraduate/graduate trainees (26.6%). With respect to gender, two thirds of the respondents were males. This could be attributed to the fact that most administrative staff members and all security personnel at the surveyed EDs were males. Survey respondents were relatively young, with close to 70% of all respondents aged 35 yr or less and 55% of them being single. Furthermore, the majority (52.7%) of the sample had a permanent appointment at the ED.

### Exposure to violence

Table 2 provides a summary of respondents' reported

**Table 2.** Employees' reported exposure to and characteristics of violence at surveyed emergency departments (ED)

	Providers n=192	Nonproviders n=64	All ED employees n=256
Exposure to verbal abuse ( <i>p</i> -value 0.004)			
Never	21.6%	11.7%	19.2%
1–3 incidents	<b>28.9%</b>	<b>30.0%</b>	<b>29.2%</b>
4–15	<b>23.2%</b>	<b>10.0%</b>	<b>20.0%</b>
15+	<b>26.3%</b>	<b>48.3%</b>	<b>31.6%</b>
Exposure to physical violence ( <i>p</i> -value 0.740)			
Never	73.7%	75.9%	74.2%
Ever (≥1 incidents)	<b>26.3%</b>	<b>24.1%</b>	<b>25.8%</b>
Most common types of verbal abuse*			
Loud noises and shouting			66%
Angry outbursts			44%
Swearing and cursing			31%
Sarcastic/condescending comments			26%
Most common types of physical violence*			
Pushing, punching and grabbing			39%
Punching furniture, equipment and supplies			30%
Threatening moves or body gestures			19%
Attack with an object			16%
Top instigators of violence in ED*			
Waiting times in the EDs			77.8%
Unmet expectations by patients and families			50.4%
Alcohol/drug abuse			43.8%
Staff attitude			38.3%
Mental illness			35.5%
Lack of effective antiviolence policies			34.4%
Antiviolence policies and regulations			
Answered yes to the question “Does your ED/hospital have specific antiviolence policies and regulations?”			33.9%
Answered yes to the question “Are these policies and regulations being implemented?”			26.1%

\* Note that categories in this question are not mutually exclusive.

exposure to and characteristics of violence at surveyed EDs. The table reveals that over the last twelve months prior to survey completion, 80.8% (n=207) and 25.8% (n=66) of all ED employees reported exposure to at least one incident of VA and PV, respectively. With respect to VA, two thirds of ED employees reported being shouted at and to a lesser extent being subjected to other types of verbal abuse. In terms of exposure to PV, analysis reveals that the most common form of reported PV was directed at staff members in terms of pushing, punching and grabbing (39%) rather than directed at the physical structure/equipment of the ED, e.g., punching furniture, equipment and supplies (30%). Note that although attacking with an object (such as a gun or knife) is the least reported form of PV (16%), it usually results in the most severe physical injuries.

Survey respondents expressed an assortment of factors

that they believe instigate violence at EDs, and some of these factors were internal to the EDs, while others were relevant to patient/visitor characteristics. Factors relating to ED visitors included unrealistic family expectations (50.4%), intoxication by alcohol/drugs (43.8%) and presenting with a mental illness (35.5%). Internal factors related to the way the EDs were administered and included waiting times in the EDs (77.8%), staff attitude (38.3%) and lack of effective antiviolence policies (34.4%). Note that in regards to the latter, only one third of surveyed employees confirmed the presence of antiviolence policies at their institutions, with a quarter confirming that ED policies, when existing, are being implemented.

Compared with ED providers, nonproviders had both a higher frequency of ever exposure to VA, although the difference was not statistically significant (88.3% versus 78.4%, *p*-value 0.089), and a higher frequency of being

**Table 3.** Intention to quit and level of burnout among emergency departments (ED) providers and nonproviders

	Providers n=192	Nonproviders n=64	All ED employees n=256
Intention to quit ( <i>p</i> -value 0.038)			
Very likely/Likely	<b>31.1%</b>	<b>46.8%</b>	<b>34.6%</b>
Undecided	18.3%	23.4%	19.4%
Very unlikely/Unlikely	50.6%	29.8%	46.0%
Burnout level			
Emotional exhaustion (EE)			
High	<b>54.2%</b>	<b>56.9%</b>	<b>54.9%</b>
Average	21.2%	17.2%	20.3%
Low	24.6%	25.9%	24.9%
Depersonalization (DP)			
High	<b>45.5%</b>	<b>36.5%</b>	<b>43.5%</b>
Average	25.3%	23.1%	24.8%
Low	29.2%	40.4%	31.7%
Personal accomplishment (PA)			
High	27.7%	32.0%	25.4%
Average	26.6%	28.0%	26.9%
Low	<b>45.8%</b>	<b>40.0%</b>	<b>44.5%</b>

*p*-value: PA 0.750, DP 0.300, EE 0.806.

exposed to more than 15 incidents of VA over the last 12 mo (48.3% versus 26.3%, *p*-value 0.004). This could be attributed to the fact that nonproviders included security guards whom job entails a higher frequency of exposure to violence. In contrast, ED providers reported a comparable propensity of being ever exposed to physical violence (26.3% versus 24.1%; *p*-value: 0.740). Of all ED employees reporting PV, 36.2% of ED providers and 41.7% of nonproviders reported that their exposure to PV resulted in an injury (*p*-value: 0.725). Note that among providers, nurses' expressed a significantly higher rate of ever exposure to PV (34.6%) compared with attending physicians (27.8%) and trainees (13.2%, *p*-value: 0.008).

#### *Burnout and intention to quit*

Intention to quit current position within the next 1–3 yr was investigated among ED staff; the results are summarized in Table 3. Analysis revealed that more than a third of all ED workers (34.6%) indicated that it is either likely or highly likely for them to quit their work at the ED within the next 1–3 yr. This rate was higher for nonproviders (46.8%) as compared with ED providers (31.1%, *p*-value: 0.038). In contrast, only half of the providers and less than a third of nonproviders indicated that it is either unlikely or very unlikely for them to quit. This higher intention to quit amongst nonprovider could be partially attributed to the fact that ED providers are educated and trained to be career-committed clinicians dedicated to serving in a healthcare institution. Most of

them derive an exceptional degree of intrinsic reward from addressing the emergency medical needs of patients. Nonproviders, on the other hand, have more versatility to seek employment outside EDs or even outside the healthcare sector.

Table 3 also reveals the summary findings of the three subscales of burnout. While both ED providers and nonproviders had comparable levels of EE, with more than half of both suffering from a high level of emotional exhaustion, the levels of DP and PA differed between the two groups. More specifically, the level of DP was higher among ED providers (45.5%) compared with nonproviders (36.5%, *p*-value: 0.300), and the level of burnout on the personal accomplishment subscale was lower among providers (27.7%) compared with their nonprovider counterparts (32.0%, *p*-value: 0.750).

#### *Multivariate analyses*

##### *Verbal abuse (VA)*

An ordinal logistic multivariate regression was conducted to study the significant associations with exposure to VA among the ED staff (Table 4). The results showed that VA in the ED was significantly associated with the 3 subscales of burnout (EE, DP and PA levels), position and intention to quit.

Respondents reporting a high level of EE had more than 2 times the odds of exposure to a higher level of VA as compared with respondents with an average level of EE (95%CI: 1.05, 4.33; *p*-value: 0.037). Similarly, respondents with a high level of PA had 2.7 times the odds

**Table 4.** Verbal abuse against emergency departments (ED) staff: an ordinal logistic regression

Variable	Factors	Odds ratio	95% CI		<i>p</i> -value
			Lower bound	Upper bound	
EE level	High vs. low	1.00	0.48	2.07	0.994
	High vs. average	<b>2.13</b>	<b>1.05</b>	<b>4.33</b>	<b>0.037</b>
DP level	High vs. low	<b>3.40</b>	<b>1.68</b>	<b>6.90</b>	<b>0.001</b>
	High vs. average	<b>3.74</b>	<b>1.88</b>	<b>7.43</b>	<b>&lt;0.001</b>
PA level	Low vs. high	1.72	0.86	3.45	0.125
	Low vs. average	<b>2.70</b>	<b>1.25</b>	<b>5.80</b>	<b>0.011</b>
Intention to quit	Very likely vs. very unlikely	<b>2.92</b>	<b>1.08</b>	<b>7.94</b>	<b>0.035</b>
	Likely vs. very unlikely	1.16	0.47	2.87	0.742
	Undecided vs. very unlikely	<b>2.64</b>	<b>1.06</b>	<b>6.57</b>	<b>0.036</b>
	Unlikely vs. very unlikely	1.33	0.60	2.97	0.485
Position	Attending vs. RN	2.53	0.87	7.41	0.090
	Nonproviders vs. RN	<b>2.72</b>	<b>1.18</b>	<b>6.30</b>	<b>0.019</b>
	Trainee vs. RN	1.72	0.87	3.43	0.121

EE: Emotional exhaustion. DP: Depersonalization. PA: Personal accomplishment. RN: Registered Nurse.

of being exposed to higher levels of VA compared with their counterparts with average levels of PA (95% CI: 1.25, 5.80; *p*-value: 0.011). Finally, ED employees with a high level of DP had 3.40 (95% CI: 1.68, 6.90; *p*-value: 0.001) and 3.74 times (95% CI: 1.88, 7.43; *p*-value: <0.001) the odds of being exposed to higher levels of VA as compared with employees with low and average levels of DP; respectively.

With respect to intention to quit, respondents that were very likely to quit had close to three times the odds of being subjected to higher levels of VA compared with their counterparts who were very unlikely to quit (95% CI: 1.08, 7.94; *p*-value 0.035). Furthermore, respondents who were undecided about quitting had 2.64 times the odds of being exposed to higher levels of VA compared with their counterparts that were very unlikely to quit (95% CI: 1.06, 6.57; *p*-value: 0.036).

Compared with nurses, ED nonproviders had 2.72 times the odds of being subjected to higher levels of VA (95% CI: 1.18–6.30; *p*-value: 0.019). This might not come as a surprise, since nonproviders include security and administrative personnel whose jobs entail communicating to patients and accompanying family/friends unfavorable news, including denial or restriction of beds, inpatient bed waiting times, restrictions of coverage, insurance denials, requests for cash deposits, denial or delay of care until payment is made, etc.

#### Physical violence (PV)

A binary logistic regression was conducted to identify the variables that were significantly associated with exposure of ED staff to PV (Table 5). The choice of the regression method was based on the fact that VA is a

dichotomous variable. Intention to quit, exposure to VA, ED position and type of institution were found to have significant interactions with exposure to PV.

Within the overall sample, respondents who were likely or very likely to leave the ED within the upcoming 1–3 yr were found to have 2.4 times the odds of being exposed to PV compared with their counterparts who were either undecided or had expressed that it was unlikely they would leave their current position.

Working as a nurse was associated with 5.81 and 5.40 times the odds of being exposed to PV compared with ED trainees (95% CI: 1.85, 18.18; *p*-value: 0.003) and nonprovider staff (95% CI: 1.51–13.33, *p*-value: 0.007), respectively.

The institution type was also significantly associated with exposure to PV. Analysis reveals that ED staff working at a public institution had 5.82 times the odds of being exposed to PV compared with their counterparts at academic medical centers (95% CI: 2.36, 14.39; *p*-value <0.001). Exposure to PV was also significantly associated with exposure to VA. Indeed, ED staff who had reported between 4 and 15 and more than 15 VA incidents had 7.48 (95% CI: 2.11, 26.56; *p*-value: 0.002) and 5.36 (95% CI: 1.56, 18.36; *p*-value: 0.008) times the odds of being ever exposed to PV compared with ED staff who did not encounter any incident of VA; respectively.

#### Discussion

Study results suggest that violence, especially VA, appears to be a work environment reality despite the fact that it has been demonstrated to precipitate serious consequences on ED employees' productivity, as well as their physical, emotional and professional well-

**Table 5.** Physical assault against emergency departments (ED) staff: a binary logistic regression

Variable	Factors	OR	95% CI for EXP (B)		p-value
			Lower	Upper	
Intention to quit	Very likely & likely vs. all others	<b>2.43</b>	<b>1.083</b>	<b>5.474</b>	<b>0.031</b>
Position	Nurses vs. attending physicians	0.90	0.25	3.26	0.867
	Nurses vs. trainees	<b>5.81</b>	<b>1.85</b>	<b>18.18</b>	<b>0.003</b>
	Nurses vs. nonproviders	<b>5.40</b>	<b>1.51</b>	<b>13.33</b>	<b>0.007</b>
Institution	Public vs. academic medical centers	<b>5.82</b>	<b>2.36</b>	<b>14.39</b>	<b>&lt;0.001</b>
	Private vs. academic medical centers	0.83	0.19	3.60	0.800
Verbal abuse	1–3 times vs. none	1.30	0.325	5.189	0.711
	4–15 times vs. none	<b>7.48</b>	<b>2.106</b>	<b>26.56</b>	<b>0.002</b>
	15+ times vs. none	<b>5.36</b>	<b>1.56</b>	<b>18.36</b>	<b>0.008</b>

being<sup>2, 8, 10, 18, 36, 37</sup>. Exposure to violence can further influence employees’ decisions to quit their ED jobs<sup>2, 12, 17, 18</sup>. Such consequences should be seriously contemplated by policy and decision makers, especially in light of the current and future anticipated shortages of human resources in the Middle East Region and the high attrition of nurses from the health care market in Lebanon<sup>38, 39</sup>.

*Verbal abuse, an occupational hazard with serious consequences*

Exposure to VA is certainly disruptive to daily operations and distracts staff away from patient care. Affected ED staff members need an indeterminate amount of downtime to return to their normal function and efficiency, *if they do*. Other patients and visitors who witness such outbursts also suffer from such experiences and end up with a poor perception of the work environment, the quality of care and operations, the ED and the hospital. More importantly, the presence of VA is associated with higher odds of exposure to PV. What starts as an unresolved heated argument or angry quarrel at the ED could logically escalate into PV.

Our finding that exposure to VA is significantly associated with a higher intention to quit current position coupled with the high reported rate of exposure of surveyed ED staff to VA (80.8%) is quite alarming, as it indicates a potentially higher rate of turnover at surveyed EDs. These findings flag a priority issue for ED managers and decision makers to investigate the underlying causes for their staff’s intention to quit and examine antiviolence policies at their institutions to ensure adequate staffing of EDs in the future.

The significant association between exposure to VA and the three subscales of burnout is disquieting. Exposure to higher levels of VA is indeed significantly associated with higher levels of EE and DP and lower levels of PA. Hospital stakeholders should realize that increased exposure to VA in their EDs is leading to staff burnout, loss of productivity and eventually turnover. This does

not only precipitate higher costs for their institution (to recruit new ED workers) but also provokes significant operational disruptions, all of which could be compromising the quality of patient care delivered in their EDs.

*Nurses and public hospital employees are at a higher risk of violence*

In developing nations, ED nurses, not physicians, often lead the medical team on all aspects of ED operations. From the patient’s arrival to final disposition, any mismatch between patient/companion expectations (e.g., immediate admission and care by experienced specialists) and ED operations/resources (e.g. no specialists are present at the ED, waiting time, etc.) could result in violence typically directed towards the ED personnel present in the vicinity, managing the patient or communicating information. This could justify ED nurses’ significantly higher exposure to PV compared with other ED staff members. This finding calls on ED stakeholders to identify nurses as the ED workers most vulnerable to PV and devise targeted strategies to protect them against the repercussions of such violence. Note that our findings are in conformity with prior published reports identifying ED nurses as the most vulnerable population to violence<sup>10, 15, 18</sup>.

Analysis revealed that working in a public institution was significantly associated with exposure to physical violence in the ED. Such a finding was previously reported in the literature<sup>40</sup>. This could be attributed to a higher mismatch between patient/companion expectation and available ED operations/resources than is delivered in private hospital EDs. In developing countries, public institutions usually suffer from a sharper scarcity of resources precipitating more restricted access to ED and inpatient beds. They may also be facing difficulty supporting, recruiting or retaining adequate numbers of qualified ED personnel. ED operations in public hospitals are often less structured, patients and companions are more distressed and outbursts of anger escalating to PV are

therefore more frequent.

#### *Need to strengthen occupational safety in hospitals*

The present study also unearthed some serious shortcomings with the security measures in place at healthcare organizations. The fact that many of the surveyed ED employees did not know (or could not confirm) the specific antiviolence policies and procedures they have in place raises a concern, not only with inadequacy or unavailability of these policies and practices, but also with their implementation. Indeed, more than a third of surveyed employees confirmed the absence of effective antiviolence policies in their institutions. These findings flag a priority for ED administrators to ensure the presence and implementation of effective antiviolence policies and procedures in order to enhance the safety of ED staff members. Antiviolence policies and procedures need also to be integrated as an accreditation requirement at Lebanese hospitals.

#### *Violence instigators are amenable to managerial intervention*

The findings of this study demonstrate that the top rated factors instigating violence at EDs are amenable to the intervention of management. Violence usually results from unmet expectations by patients or their accompanying family members and friends (e.g., prompt service, care by senior personnel and unrestricted access). For example, some patients/families get angry if they are told to wait for their turn at the emergency room until a provider is free to examine them. Managerial intervention could reduce the waiting time problem inside EDs by a better implementation of the triage system to ensure smoother operations. Ensuring a shorter turnaround time at EDs also necessitates better coordination with other departments inside the healthcare organization (e.g., laboratory, radiology, inpatient or intensive care bed admission, pharmacy and inventory management). In doing so, ED administration could tap into the power of technology through the implementation of health information systems to support the running of smoother operations, stronger intra- and interdepartmental coordination, as well as better monitoring and evaluation of ED functions to support performance improvement.

ED managers could also invest in the professional development and training of ED providers and nonproviders in the areas of customer service, effective communication, teamwork and violence prevention. The anger, fear and frustration of patients/families could be decreased if staff members take the time to effectively listen to their worries and respond courteously to their questions.

#### *Limitations*

A number of limitations of this study warrant mentioning; first, despite the best effort of the research

team to pilot test the survey questionnaire, it cannot be ascertained that all surveyed staff were able to comprehend all questions asked. Second, the relatively small number of attending physician respondents in this study did not support the detection of statistical significance in some of the analyses. This is due to the small number of attending physicians employed at Lebanese EDs. Third, the inclusion of trainees and part-time and casual ED employees might have lead to underestimation of the level of exposure to violence in Lebanese EDs due to the limited time that these employees spend on the ED premises compared with regular full-time committed ED employees. Fourth, the study might have underestimated exposure to violence, since surveyed employees might not remember all the incidents they were exposed to over the last 12 months. Finally, the cross-sectional nature of the study allowed for the detection of significant association but did not permit the investigation of causality, which would require longitudinal analyses.

#### **Conclusion**

The currently prevailing levels of violence at Lebanese EDs are not conducive to a healthy work environment and staff retention. Effective measures must be implemented to protect ED personnel from violence, particularly nurses and employees of public hospitals who appear to be disproportionately exposed to or affected by VA and PV. The well-being of such providers, whether employed in public or private institutions, is essential to retain them and to prevent their burnout and attrition.

We call on healthcare authorities, orders and associations, policy makers, decision makers, managers and administrators to commit to a root cause analysis of the mismatch between ED patient needs and ED resources and to work collaboratively towards the establishment and enforcement of antiviolence measures in their EDs leading to the future enforcement of a zero tolerance policy for violence in Lebanese EDs. Such a strategic initiative is pivotal to enhance the well-being, retention and productivity of ED workers and could potentially improve the quality of patient care provided in EDs.

*Acknowledgments:* The study was supported by a generous grant from the University Research Board of the American University of Beirut. The authors would also like to acknowledge participating hospitals for their kind help and cooperation and Ms. Nour Alayan for editorial support.

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