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# Workplace Violence: A Regional Survey in Iranian Hospitals' Emergency Departments

Hossein Jabbari-Bairami [1], Fariba Heidari [1*], Vahideh Ghorbani [2], Fariba Bakhshian [3]

[1] Department of Community Medicine, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran [2] Department of Health and Management, School of Health, Tabriz University of Medical Sciences, Tabriz, Iran [3] Vice-chancellor Office, Tabriz University of Medical Sciences, Tabriz, Iran

## Abstract

**Background and Objectives:** Violence toward healthcare workers has emerged as an important health problem. This type of violence has the potential to severely influence healthcare workers, patients, and the community. This study aimed to explore the prevalence of violence in emergency departments, and to identify associated risk factors using a sample of emergency department healthcare workers in Iran.

**Methods:** This cross-sectional study was conducted in emergency departments of five referral hospitals in Tabriz, the center of an Iranian north-western province. A questionnaire validated by experts was used to collect demographic and violence-related data. The data were summarized using descriptive statistical methods. Logistic regression analysis was used to identify the potential violence risk factors.

**Findings:** The majority of participants (84.5%) expressed experiencing at least one violent event within the past three months of conducting the study. Almost all respondents reported experiencing stress, anxiety, depressive moods, or job dissatisfaction. A statistically significant association was found between violent events experienced by the respondents during work in emergency departments and their work experience (OR = 0.88, P = 0.02), age (OR = 0.86, P < 0.001), and sex (OR = 9.10, P = 0.005).

**Conclusions:** According to our results, a high proportion of workers in emergency department experience violent incidents during working hours. The statistically significant association between violent events and work experience indicate limited work experience as a risk factor of violent incidents in emergency department. To compensate for lack of adequate work experience in younger emergency departments employees, there is a need for targeted training programs aiming to enhance communication and violence management skills in this group. In addition, male clinicians are the primary targets for violence reducing strategies.

**Keywords:** Emergency Department, Violence, Healthcare, Hospital

## Background and Objectives

Workplace violence may occur in any profession. Over the past decade, the level of workplace violence has increased three folds [1]. Research has found violent incidence rates in healthcare workers to be varying from 22% in Europe to 76% in Hong Kong [2, 3, 4]. The ever-growing trend of violence in healthcare settings is so serious that the US Center for Disease Control and Prevention has described this situation as an epidemic of violence in the workplace [1, 5].

Violence in the workplace has different physical, psychological, social, and fiscal consequences, including loss of workdays, job dissatisfaction, job resignation, reduced performance, stress, anxiety, Post-Traumatic Stress Disorders (PTSD), injuries, and even death [6, 7].

Apart from criminal justice aspects, violence toward healthcare workers is now considered as an important public health problem. In today's competitive world, survival of organizations and their continuous progress is contingent upon their emphasis on safety of their staff.

Among healthcare settings, the emergency departments (EDs) are at highest risk of violence, and nurses in such departments are three times more likely to experience violent events as compared with other employees [1, 8]. In addition, not only are ED workers influenced by violence in workplace, this type of violence also is a threat for the community health, considering

*Corresponding author: Fariba Heidari, Department of Community Medicine, School of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran, P.O.Box: 5166615739, Tel: + + 98 411 3364673, Fax: +98 411 3364668, E-mail: fariba_heidari@hotmail.com

the crucial role of emergency departments in the health system [9].

In this study, we surveyed the violent events as perceived by healthcare workers in EDs of five referral hospitals to gain insight into prevalence and risk factors of this phenomenon. In addition, we explored existence of potential violence preventing factors as suggested by ED workers.

## Methods

### Settings and Sample

This cross-sectional study was conducted during April-June 2012 in five hospitals in the Tabriz City, situated in north-western Iran. The surveyed hospitals included one orthopedic, one pediatric, one cardiac, and two general hospitals. The study sample consisted of workers in EDs including practitioners, nurses, security staff, orderlies and secretaries. The inclusion criterion was working in emergency departments for at least six months.

### Measurement Instrument

A self-developed questionnaire consisting of six items addressing workplace violence and six open questions related to potential overcoming strategies was used to collect data. Two independent experts in the field confirmed content validity of the instrument.

### Data Analysis

Data were summarized using descriptive statistical methods. The association between rate of violence experience and demographic variables was examined using logistic regression analysis. Data were analyzed using IBM SPSS Version 16 Software. $P < 0.05$ was considered to represent statistical significance.

### Ethics

The study was approved by the ethical committee of Tabriz University of Medical Sciences. Verbal consent of all participants was obtained before administering of the questionnaire. Respondents were assured of confidentiality of their responses by their anonymous participation.

## Results

### Demographic Data

Table 1 presents the demographic characteristics of the respondents. In this survey, 110 out of a target sample of 250 individuals returned a valid questionnaire (response rate = 44%).While 52% of the respondents were female, 42% were nurses, 66.7% possessed a bachelor degree or higher and 67.3% were married. While 66.4% of the respondents had a work experience of less than five years, the average work experience was 4.2 years ranging from 6 months to 20 years. Average age of the respondents was 34.2 years, ranging from 25 to 55 years.

### Descriptive Analysis

Among the participants, 93 individuals (84.5%) reported experiencing at least one violent incident within the last three months of conducting the study. The average number of violent incidents in the past three months was 4.96, ranging from one to 40 incidents.

While a majority of violent incidents were verbal (73.3%), several respondents reported experiencing physical violence. A small number of participants (10.5%) reported missing their workdays because of encountering serious physical damage due to the violence. In addition, almost all respondents (98%) expressed experiencing stress, anxiety, depressive moods, or job dissatisfaction.

Most violent acts were reportedly committed by the visitors or patients' family members (85%), whereas a minority of violent events (14%) was originated from the patients. Only in a single case, a colleague perpetrated the violence.

Responses indicated that less than half of ED workers (49.5%) reported violent incidents to the supervisors. In addition, none of the respondents believed in the benefit of violent incident reporting, except in very complicated and severe circumstances.

The participants were also asked to comment on the existence of potential violence reducing factors (Table 2). With the exception of fixed chairs in the waiting rooms and presence of experienced staff which were perceived relatively adequate, participants' perception of other potential violence reducing factors was unsatisfactory.

### Inference Analysis

Our analysis identified a statistically significant association between rate of violence experience during work in EDs and work experience (OR = 0.88, P = 0.02). Additionally, a strong inverse relationship was observed between the age of the clinicians and the likelihood of encountering violence (OR = 0.86, $P < 0.001$). It was also observed that female clinicians were less likely to experience violence in EDs as compared with their male counterparts (OR = 9.10, P = 0.005). No statistically significant association was observed between violent events and other demographic factors (Table 3).

## Discussion

According to our results, a high proportion of ED workers experience at least one violence event within the past three months of conducting this survey. This observation is consistent with precedent studies [1, 7, 10] as well as data reported by World Health Organization (WHO) [1]. These consistent findings highlight the need for global organized efforts to address the problem of violence in health settings.

Our study found a high proportion of violent acts to be verbal rather than physical. This observation contrasts with the results of similar studies in the US and Europe, which indicated a high proportion of physical violence incidents as compared with the verbal type [11, 12, 13]. On the other hand, our result is in agreement with the findings of a similar study in Turkey, reflecting the possible influence of cultural affinity between the two countries on the pattern of workplace violence [14, 15].

In addition to serious consequences such as physical injuries, job resignation, and lost workdays, workplace violence can result in less explicit but more prevalent outcomes in healthcare workers, including stress, anxiety, anger, fatigue, low perception of workplace safety, and lack of motivation, depressive moods, and job dissatisfaction [4, 16]. Although these adverse outcomes might be considered less serious compared with physical injuries, studies demonstrate that they have long-term negative impacts on the health system, including increased cost of health care, reduced quality of patient care, and low performance of disease management [16, 17, 18].

Our results identified the majority of violent events to be perpetrated by visitors. This observation is not consistent with some reports identifying patients as the predominant perpetrators of violent incidents [17, 19]. This contrast emphasizes the need for local surveys to identify and prioritize targets for intervention strategies.

In our surveyed health settings, more than half of the violent incidents were not reported to the supervisors and none of the clinicians believed in the usefulness of violent event reporting. This observation is congruent with other studies reflecting reluctance of ED workers to report violent events. The reasons for this reluctant can be attributed to the fear of being identified as guilty, being blamed or punished by administrators, or low perception of the usefulness of incident reporting [20, 21].

Most potential violence reducing factors were perceived unsatisfactory to be. They include presence of adequate social workers in EDs (to help the patients and their families receiving appropriate social support), availability of training courses on violence management, adequacy of security staff, availability of regulations to control the number of visitors in EDs, and clear working relationships between colleagues.

Other studies have identified crowding, inadequate personnel, limited work experience, long waiting time for patients and their visitors, and inadequate conveying of information to the patients as the major contributors to violent incidents [5, 22]. Hence, to attain a low violence risk environment for clinicians, adequacy of such factors should be emphasized in intervention plans.

The statistically significant association between violent events and work experience on the one hand, and violence and age of the staff on the other hand, underscore work experience as a violence prevention factor. To compensate for lack of adequate experience in younger ED healthcare workers, there is a need

**Table1 Demographic Characteristics of the Participants**

| Variables | Number (%) |
|---|---|
| Sex (*n = 110*) | |
| Female | 57 (51.8) |
| Male | 53 (48.2) |
| Profession (*n = 110*) | |
| Practitioner | 10 (9.1) |
| Nurse | 47 (42.7) |
| Secretary | 19 (17.3) |
| Guardsman | 10 (9.1) |
| Orderly | 24 (21.8) |
| Education (*n = 106*) | |
| High school graduate | 71 (67) |
| Some college | 10 (9.4) |
| Bachelor or higher | 25 (23.6) |
| Marital status (*n = 110*) | |
| Married | 74 (67.3) |
| Single | 36 (32.7) |
| Age (*n = 110*) | |
| 25-34 years | 59 (53.6) |
| 35-44 years | 42 (38.2) |
| 45-54 years | 8 (7.3) |
| > 55 year | 1 (0.9) |
| Work experience (*n = 110*) | |
| <5 years | 73 (66.4) |
| 5-9 years | 26 (23.6) |
| 10-14 years | 6 (5.5) |
| 15-20 years | 5 (4.5) |

**Table 2 Adequacy of Potential Violence Reducing Factors as Perceived by Emergency Department Workers**

| Violence reducing factors | Scores (In percent) |
|---|---|
| Adequate security staff | 20.9 |
| Presence of social workers in EDs | 0 |
| Fixed chairs in waiting room | 84.5 |
| Availability of training courses on violence management | 0 |
| Defined working relationships between employees | 17.3 |
| Availability of regulations to control the number of visitors in ED | 39.1 |
| Adequacy of experienced staff | 60 |

for targeted training programs aiming to enhance their communication and violence management skills. Studies indicate that frequent and regular training can decrease violence in nurses [20, 23].

Our results also indicated that male ED workers were approximately nine times more likely to experience violence than their female colleagues. This finding is consistent with some other studies in the US and Iran [13, 15]. However, in another study in Hong Kong, no significant relationship was found between violence rate and gender. Different findings on the impact of gender on violent incidents may be due to cultural and social differences and the proportion of workforce in the healthcare system in different contexts [7]. However, the strong relationship between gender and violence incident rate in our study indicates the need for a higher focus on male ED workers in developing and implementing intervention strategies.

### Policy Implications

The results of this study have important implications for alleviating violence in EDs. The fact that over half of clinical staff was unwilling to report violence incidents highlights

**Table3 The Relationship between Violent Experience and Demographic Factors**

| Factor | Violence Experienced N (%) | Non-violence Experienced N (%) | OR [a] | 95% CI [b] for OR | Significance (P-value) |
|---|---|---|---|---|---|
| Age | - | - | 0.86 | 0.79-0.93 | 0.000 |
| Work experience | - | - | 0.88 | 0.79-0.98 | 0.020 |
| Gender | | | | | |
| Female | 42 (73.7) | 15 (26.3) | Referent | - | 0.005 |
| Male | 51 (96.2) | 2 (3.8) | 9.10 | 1.97-42.09 | |
| Profession | | | | | |
| Practitioner | 9 (90) | 1 (10) | Referent | - | |
| Nurse | 42 (89.4) | 5 (10.6) | 0.93 | 0.09-8.98 | 0.442 |
| Secretary | 14 (73.7) | 5 (26.3) | 0.31 | 0.03-3.11 | |
| Guardsman | 10 (100) | 0 | 1.79 | NA [c] | |
| Orderly | 18 (75) | 6 (25) | 0.33 | 0.03-3.20 | |
| Education | | | | | |
| High school graduate | 60 (84.5) | 11 (15.5) | 1.36 | 0.42-4.40 | 0.874 |
| Some college | 10 (100) | 0 | 4.09 | NA [c] | |
| Bachelor or higher | 20 (80) | 5 (20) | Referent | - | |
| Marital status | | | | | |
| Married | 64 (86.5) | 10 (13.5) | Referent | - | 0.422 |
| Single | 29 (80.6) | 7(19.4) | 0.64 | 0.22-1.87 | |

Note: [a] Odd Ration, [b] Confidence Interval, [c] Not Applicable.

the need for promoting a blameless culture in which human errors are distinguished from system failure. Several lines of study have established the importance of such a strategy to encourage clinical staff for incidents reporting [7].

In addition, while healthcare workers must be informed about the usefulness of reporting violent events, effective reporting systems should be implemented, to enable systematic collection and analysis of violent events data.

Development of appropriate guidelines is necessary to instruct healthcare workers in managing critical conditions, to help staff anticipate the potential occurrence of violence and make preventive decisions, and to minimize the interdisciplinary conflicts among clinical staff. The optimal working hours for healthcare workers of different specialties should be specified in order to minimize medical errors—a potential cause of violence [1]. In addition, security staff should receive adequate training in managing critical situations.

### Study Limitations

The results of this study should be interpreted in the light of its limitations. The limited sample size and the low response rate in this survey require caution in generalizing the results. In addition, although studies of the similar type can provide cross-sectional insight into the immediate contributing factors and outcomes of workplace violence, they do not compensate the need for identifying long-term consequences of workplace violence, suggesting a ground for future research.

## Conclusions

This study was conducted to survey the prevalence and risk factors of workplace violence in emergency departments. The survey identified a high rate for violence in emergency departments. The incidents of violence were significantly higher in young and low work experience staff, emphasizing the need for training program to partially compensate for the lack of experience in these groups. In addition, based on our results, male clinicians are the primary targets for violence reducing strategies.

Moreover, presence of sufficient social workers in EDs, availability of training courses on violence management, adequacy of security staff, availability of regulations to control the number of visitors in EDs, and clear working relationships between colleagues should be improved in order to attain a reduced violence rate in emergency departments.

### Abbreviations

(ED): Emergency Department

### Competing Interests

The authors declare no competing interests.

### Authors' Contributions

HJB designed the study. FH contributed to data analysis, interpretation of the results, manuscript preparation, and revision of the manuscript. VG collected the data and contributed to interpretation of the results. FB contributed to manuscript preparation. All authors read and approved the final manuscript.

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