

Physical violence against health care workers: A nationwide study from Iran

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ABSTRACT

Background: Workplace violence is a serious and problematic phenomenon in health care settings. Research shows that health care workers are at the highest risk of such violence. The aim of this study was to address the frequency of physical violence against Iranian health personnel, their response to such violence, as well as the contributing factors to physical violence.

Materials and Methods: A cross-sectional study was conducted in 2011, in which 6500 out of 57,000 health personnel working in some teaching hospitals were selected using multi-stage random sampling. Data were collected using the questionnaire of "Workplace Violence in the Health Sector" developed by the International Labor Organization, the International Council of Nurses, the World Health Organization, and the Public Services International.

Results: The findings revealed that 23.5% of the participants were exposed to physical violence in the 12 months prior to the study. Nurses were the main victims of physical violence (78%) and patients' families were the main perpetrators of violence (56%). The most common reaction of victims to physical violence was asking the aggressor to stop violence (45%). Lack of people's knowledge of employees' tasks was the most common contributing factor to physical violence (49.2%).

Conclusions: Based on the results, legislating appropriate laws in order to prevent and control violence in the workplace is necessary. Moreover, developing educational programs to manage the incidence of physical violence should be on health centers' agenda.

Key words: Health care worker, health personnel, Iran, physical violence, workplace violence

INTRODUCTION

Workplace violence (WPV) is referred to any incident or situation in which a person in his workplace or work-related circumstances

is subjected to mistreatment, threats, or aggression.^[1] WPV is one of the most important and complex issues in health care settings.^[2,3] Health care workers are 16 times more likely to experience WPV than other workers. According to the International Council of Nurses, the likelihood of health care workers' exposure to violence is even higher than prison guards or police officers.^[4] WPV is categorized into physical and non-physical (psychological) violence. Although all types of violence are destructive, physical violence can hurt victims physically and psychologically more than other forms.^[5] Physical violence involves use of physical force against an individual or a group, and can lead to physical, psychological, or sexual harm and includes punching, kicking, slapping, shouting, pushing, biting, pinching, and wounding using sharp objects.^[6]

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In 2007, nearly 15% of work facilities were assigned to violent and threatening acts in USA.^[7] Results of a study conducted during 2009–2010 in Italy showed that 13.4% of nurses reported at least one physical attack during the past year.^[8] In Taiwan, 19.6% reported physical violence.^[9] In Iran, the results of a systematic review study indicated that the prevalence of physical violence was between 9.1 and 71.6% and the most common types of physical violence were pushing or pitching, as experienced by 43% of participants.^[10] Rahmani *et al.* pointed out that the prevalence of physical violence against emergency medical workers in East Azerbaijan was 37.7%.^[11]

The outcomes of WPV include physical consequences such as increasing low back pain, symptoms of somatic and musculoskeletal disorders,^[12] and psychological consequences such as posttraumatic stress disorder, anxiety, fear, depression, substance abuse, and poor quality of patient care.^[13] Furthermore, health care workers suffer from job dissatisfaction,^[14] poor quality of life,^[15] and low self-esteem.^[16] Although several studies have been carried out regarding WPV in Iran,^[17-19] there is no overall feature about physical violence against health care workers. The aim of this study was to investigate the frequency of workplace physical violence among Iranian health care providers working in some teaching hospitals, their response to such violence, as well as the contributing factors to physical violence.

MATERIALS AND METHODS

This cross-sectional study was conducted in 2011 in some teaching hospitals across Iran. Study population comprised all health care workers including physicians, nurses, midwives, nurse aids, and paramedical personnel that numbered 57,000 according to the latest Ministry of Health and Medical Education statistics in 2011. Inclusion criteria included: (i) Working in a teaching hospital and (ii) having at least 1 year of experience. Exclusion criterion was participant's decision to discontinue from the study.

The participants were selected by multistage random sampling in three phases. In the first phase, all the provinces were included in this study (four provinces excluded due to administrative issues). Sample size of each province was calculated according to the proportion of health care professionals. In the second phase, hospitals were selected by cluster random sampling based on geographic areas. Thus, 135 teaching hospitals were selected. In the third phase, samples were selected by random sampling based on samples' size in each hospital. Sample size was estimated by the following formula and with a confidence interval of 1.96, power of 0.80, and $d = 0.01$:

$$m = (Z1 - \alpha/2/d)^2 (P)(1 - p) \quad m = (1.96/0.01)^2 (0.75)(0.25) = 7203$$

$$n = (M)(total)/M + total \quad n = (7203)(65,000)/7203 + 65,000 = 6485$$

Data were collected using the international questionnaire of "Workplace Violence in the Health Sector" developed by the International Labor Organization (ILO), the World Health Organization (WHO), the International Nurse Council (ICN), and the Public Services International (PSI). The questionnaire contains five sections: (a) 21 items about personal and workplace data; (b) 17 items about physical violence; (c) 37 items about psychological violence (emotional abuse), which involves verbal violence, bullying/mobbing, and sexual harassments; (d) 8 items about the health sector; and (e) 3 open-ended questions on participants' views on WPV.^[20] The questionnaire was translated from English to Persian by a bilingual person and then back-translated from Persian to English by another person who was also proficient in both languages. Then, after matching with the other existing Persian version,^[21] the content validity of the questionnaire items was assessed by a committee including 11 experts who were interested in the research topic. Finally, the items were modified according to the experts' opinions. Moreover, the reliability of the questionnaire was confirmed by test-retest ($r = 0.71$) through completion by 180 health care workers employed in one of the teaching hospitals of Tehran. In this paper, only relevant findings to workplace physical violence are presented because of the extensive amount of data involved. Data were analyzed by descriptive statistics using SPSS software version 13.

Ethical consideration

This study was approved by the Ethics Committee of University of Social Welfare and Rehabilitation Sciences (Ethics Committee Approval Number: 14/86). Moreover, all of the participants were informed regarding the study aim. Informed consent was obtained from the health workers who agreed to participate in this study.

RESULTS

The survey response rate was 90.36%. The mean age of the participants was 34 ± 8.5 years, and 78.5% of the participants were nurses. The mean work experience was 10.35 ± 7.4 years. The majority of participants (85.1%) indicated that they had not received training program for dealing with workplace physical violence. Other demographic and work characteristics of the participants are presented in Table 1.

Table 1: Demographic and work characteristics of the participants (N=5874)

Variable	Number*	Percentage
Gender		
Male	1001	17.3
Female	4790	82.7
Age (years)		
<30	1544	28
30-40	2414	44
41-50	1337	24.3
51-60	199	3.5
>60	9	0.2
Marital status		
Single	1574	27.3
Married	4212	72.7
Profession		
Nurse	4505	78.5
Physician	43	0.75
Midwife	239	4.15
Nurse aid	619	10.8
Paramedical	337	5.8
Work between 7 p.m. and 7 a.m.		
Yes	3269	58.5
No	2322	41.5
Work areas		
One area	1310	25
Multiple areas (in overtime)	3937	75
Professional experience in health care services (years)		
0-10	3215	58.8
11-20	1673	30.6
21-30	576	10.6
Employment status		
Full time	2344	42.9
Part time	680	12.5
Overtime	2433	44.6
Direct patient/client contact		
Yes	5471	97.6
No	132	2.4
Sex of the patients that health workers most frequently work with		
Male	599	10.8
Female	844	15.1
Male and female	4120	74.1
Presence of security guards in the wards		
Yes	2036	37
No	3462	63
Workplace has been highly dangerous		

Contd...

Table 1: Contd...

Variable	Number*	Percentage
Always	1855	32.7
Sometimes	2746	48.5
Never	1069	18.8
Presence of protocols for reporting workplace violence		
Yes	1653	39.4
No	2539	60.6
Presence of training programs related to the incident management		
Yes	660	14.9
No	3767	85.1

*The sum may be less than the total number of participants because of missing data

About 23.5% of the participants reported that they had been physically abused in the past year, and all of them happened without use of any weapons. Pushing (59.9%), kicking (36.2%), and punching (32.7%) were reported as the most frequent forms of workplace physical violence. Among the victims, 118 participants received serious injuries (8.8%). Moreover, 36.5% of physical violence occurred on the night shift. The majority of the physical incidents occurred inside the hospitals (90.1%), against female health workers (67.5%), and between the ages of 30 and 40 years (39.5%). Nurses were the main victim of physical violence (78%). Patients' families were the main perpetrators of physical violence (56%). Characteristics of physical violence and its forms are presented in Table 2.

The most common reaction of victims to physical violence was asking the aggressor to stop violence (45%). Six hundred and fifty-two participants (60.5%) did not report violence and the most common reason for not reporting physical violence was they considered reporting it useless (52%) [Table 3]. Lack of people's knowledge of employees' tasks (49.2%) was the most common contributing factor to physical violence [Table 4].

DISCUSSION

This study was performed in different cities of Iran in order to determine the frequency of physical WPV toward health professionals. The results showed that the health workers' exposure to physical violence was 23.5%. The result of a study in Jordan showed that 22.5% of hospital nurses were exposed to physical WPV.^[22] Hasani *et al.*^[23] reported that 15.93% of emergency staff were exposed to physical violence during the past 3 months. The incidence of physical violence in another study was 21%,^[24] which is similar to the frequency obtained in the present study. But in some other studies,^[12,25] between 46 and 70% of participants were

Table 2: Frequency of physical violence (N=1333)

Variable	n*	Percentage
Exposure to violent incidents in the past 12 months		
Yes	1333	23.5
No	4344	76.5
Type of physical violence		
Punching	389	32.7
Kicking	431	36.2
Pushing	715	59.9
Pinching	164	13.8
Wounding with sharp objects	176	14.8
Slapping	172	14.5
Injuries as a result of the physical violence		
Yes	118	8.8
No	1215	91.2
Responsible persons for violent incidents		
Patient	513	42.7
Relatives of patients/clients	674	56
Staff members	9	0.8
Management/supervisor	6	0.5
Place of violence occurrence		
Inside hospital	1134	90.1
At patient's home	11	0.9
Outside (on the way to work)	113	9
Time of violent incident occurrence		
07.00 a.m.-03.00 p.m.	436	36.1
03.00 p.m.-11.00 p.m.	331	27.4
11.00 p.m.-07.00 a.m.	442	36.5
Based on demographic and work characteristics		
Gender		
Male	437	32.5
Female	896	67.5
Age (years)		
<30	485	36.5
30-40	527	39.5
41-50	236	17.5
51-60	25	2
>60	60	4.5
Marital status		
Single	329	25
Married	993	75
Direct patient/client contact		
Yes	1279	98.5
No	19	1.5
Profession		
Nurse	1040	78
Physician	19	1.5
Midwife	43	3

Contd...

Table 2: Contd...

Variable	n*	Percentage
Nurse aid	209	16
Paramedical	18	1.5

*The sum may be less than total participants because of the missing data

exposed to physical violence, which exceeds the results of the present study. This may be due to cultural differences between countries or underreporting.

In the present study, pushing was the most frequent form of violence. Rahmani *et al.* indicated that the frequency of pushing and punching was 71.4% and 20.4%, respectively.^[11] Erkol *et al.* noted that hitting, kicking, and scratching were the most frequent types of physical violence.^[26] Talas *et al.* pointed out that hitting, pushing, or shoving was reported by 73.9% of victims,^[27] which is consistent with the result of the present study.

The main source of violence was patient's family, which is consistent with the findings of other studies.^[27,28] However, Merez *et al.* showed that above 64% of psychiatric nurses and more than 16% of other nurses had frequently been subjected to patients' physical violence.^[29] In another study, patients were the main cause of physical violence and threats to attack.^[14] The difference could be attributed to cultural differences, and the constant presence of patient's family during hospitalization and coming into contact with medical staff and nurses in Iran.

The results showed that female health workers, especially between 30 and 40 years of age, were exposed to physical violence more than other workers, which is consistent with many reviewed studies.^[9,30,31] In all these studies, WPV against female workers, who were often younger, was more than that of others. So, managers and health personnel, especially nurses, should identify these risk factors in order to prevent and manage such violence. Moreover, in the current study, nurses were the main victims of physical violence. Pich *et al.*^[32] reported that nurses are at the highest risk of patient-related violence. This is thought to be due to their close contact with patients and/or their families.

The present study results also reveal that more than half of the participants did not report exposure to violence, and considered reporting useless. Furthermore, more than 60% of participants stated that there was no guideline for reporting violence in their workplace, and more than half of them said that no action has yet been taken to pursue the incidence of violence. AbuAlRub *et al.* reported that there was no procedure for reporting WPV in Iraq. Moreover, the most participants indicated that no specific policy had been thought up for dealing with violence.^[33] This is congruent with the findings of another study which showed that only 23.6% of participants reported the physical violence.^[24]

Table 3: Reactions of health personnel to physical violence (N=1333)

Variable	n*	Percentage
Reactions of participants toward violence		
Took no action	210	15.7
Tried to pretend it never happened	168	12
Told the person to stop	598	45
Tried to defend themselves	218	16.5
Told friends/family	72	5.4
Told a colleague	317	23.8
Sought counseling	43	3.2
Sought help from the union	185	14
Completed incident/accident form	92	7
Completed a compensation claim	9	0.6
Reporting the incident		
Yes	426	39.5
No	652	60.5
Reasons for not reporting the incident		
It was no important	125	19.1
Felt ashamed	37	5.6
Felt guilty	9	1.3
Afraid of negative consequences	48	7.3
Useless	339	52
Did not know whom to report to	45	6.9
Action taken with regard to the incident that occurred		
Yes	305	23.1
No	780	59.2
Don't know	232	17.6
Source for taking the action		
Head nurse	78	28.6
Management	122	44.9
Police	72	26.5
Satisfaction with the manner in which the incident was handled		
Very dissatisfied	616	63
Dissatisfied	125	12.8
Moderately satisfied	169	17.3
Satisfied	63	6.5
Very satisfied	4	0.4

*The sum may be less than the total number of participants because of the missing data

The most important reasons for not reporting included considering reporting useless and fear of being stigmatized as a troublesome and incompetent person. In other studies, almost all of the participants stated that no guidelines existed in their workplace for preventing and control of violence.^[34,35] These findings indicate lack of proper staff training programs for preventing and managing violence, and also, lack of appropriate legislation and policy for pursuing received reports and managing violence in health care settings.

Table 4: Contributing factors to physical violence (N=1333)

Variable	n	Percentage
Drug or alcohol use by patients	284	21.3
Staff shortage in the ward	371	27.8
Patient's judicial and legal Issues	124	9.3
Lack of security facilities	594	44.5
Patient's death	196	14.7
Lack of people's knowledge of employees' tasks	657	49.2
Delays in aid	170	12.7
Lack of training program for preventing violence	262	19.6
Prolonged stay of the patients in the ward after discharge	70	5.2
Interval from hospital admission to diagnosis of the patient's disease	77	5.7
Having no visitors	172	12.9
Gathering of high-risk patients in one room	124	9.3

However, results of a study in Australia showed that nearly 70% of health workers were satisfied with WPV control policies and reporting mechanisms,^[36] which is inconsistent with the finding of the present study. It may be due to existence of transparent policies, appropriate legislation, and reporting mechanisms in developed countries.

In the present study, more than half of the participants believed that "lack of people's knowledge about staff tasks" was among factors associated with violence, which is in agreement with the results obtained by Rahmani *et al.*^[11] So, lack of awareness can cause the patients and/or their relatives to have unrealistic expectations of health professionals and, consequently, unmet expectations lead to violence.

There are some limitations to the present study. First, the data were collected retrospectively, which might lead to recall bias. Second, due to the large sample size and self-reported method for data collection, missing data for each item was relatively significant. Finally, regarding the cultural sensitivities or the related stigma of violence victims, it is probable that participants might not have expressed all their experiences.

CONCLUSION

The results showed that physical violence was a major concern. Many participants were concerned about incidence of violence in their workplace and most disinclined to report violence due to lack of appropriate support and follow-up mechanisms by managers. Provision of appropriate training programs to prevent and manage violence, development of a documenting and reporting system, and identifying and supporting workers-at-risk

can lead to minimizing the violence. Moreover, increase of people' awareness about the responsibilities of health care workers should be considered.

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Conflicts of interest

There are no conflicts of interest.

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