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Workplace violence against physicians and medical students in west part of Iran

Abdorrahim Afkhamzadeh, Amjad Mohamadi Bolbanabad, Bayan Moloudi, Hossein Safari and Bakhtiar Piroozi

Abstract

Purpose – *The purpose of this paper is to survey the prevalence of exposure to workplace violence (WPV) including physical violence, verbal abuse, bullying as well as its related factors among physicians and medical students attending teaching hospitals of Kurdistan University of Medical Sciences (KUMS).*

Design/methodology/approach – *This is a descriptive analytic as well as a cross-sectional study which was carried out on all physicians (general and specialists) and medical students attending teaching hospitals of KUMS in 2014. Overall, 400 participated in this study and data were gathered using a standard questionnaire. Then, data were analyzed using SPSS 20, χ^2 and Fisher's exact tests as well as univariate and adjusted logistic regression.*

Findings – *The prevalence of physical violence, verbal abuse and bullying among medical students was reported 4.5, 59 and 0.8 percent, respectively. In addition, the prevalence of these violence among general practitioners was 6.9, 72.4 and 0 percent, respectively. Moreover, 11.5, 42.3 and 3.8 percent of specialists had experienced physical violence, verbal abuse and bullying, respectively. Patients and their relatives were the main sources of the violence. Based on the results of multivariate logistic regression, male sex (AOR = 2.60, CI: 1.56–4.32) and having shift work (AOR = 3.13, CI: 1.67–5.84) were the most significant risk factors for total WPV.*

Originality/value – *The WPV experienced by physicians and medical students attending teaching hospitals of MUK is high. Health sector authorities should develop and implement proper strategies and interventions aiming at reducing or preventing from incidence of WPV.*

Keywords *Iran, Hospital, Physician, Medical students, Workplace violence*

Paper type *Research paper*

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Introduction

Workplace violence (WPV) is a global issue and a sever challenge for public health (Acquadro Maran *et al.*, 2018; Forrest *et al.*, 2011; Hills *et al.*, 2012). WPV is the main source and root of inequality, discrimination, alienation and dispute in workplace, and is increasingly turning into an important and challenging human rights issue (Al-Shiyab and Ababneh, 2018; WHO, 2002). WPV can be a serious threat for organizational efficiency and success and may result in socio-economic damages (Fang *et al.*, 2018; Yang *et al.*, 2018; Yao *et al.*, 2014). It is defined as "incidents where employees are abused, threatened, assaulted or subjected to other violent behaviors in conditions related to their work." World Health Organization (WHO) divides violence into two groups: physical and psychological violence. The former includes pushing, kicking, slapping, trying to commit physical violence and throwing objects. The latter involves verbal abuse, bullying (mobbing), sexual and racial harassment (WHO, 2002).

Health sector personnel, especially physicians, are at high risk of experiencing WPV due to the nature of their profession (Acquadro Maran *et al.*, 2018; Fang *et al.*, 2018; Maguire *et al.*, 2018). WPV is one of the important factors in decreasing the physicians' quality of life and job satisfaction and may even threaten the quality of delivered health care services to patients, workplace security and efficiency and efficacy of health centers such as hospitals (Chen *et al.*, 2008; Maguire *et al.*, 2018). Furthermore, medical and nursing students may experience

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even more sever WPV due to being inexperienced and lacking clinical skills. Increased violence in hospitals is a public issue and reflects the increased violence in the society (WHO, 2002; Pinar *et al.*, 2017). Studies carried out in transient and developing countries indicate that more than half of the medical personnel had experienced physical or psychological violence at least once in the past year. Majority of such violence have been committed by patients or their relatives (Di Martino, 2002; WHO, 2002; Steinman, 2003).

Although Iranian culture stresses on respecting doctors and medical profession, this culture is currently changing and patient–doctor relation is going to face a big and challenging trouble (Yousefi *et al.*, 2010). Thus, doing a study on WPV experienced by physicians and medical students will inform health sector authorities and policy makers on frequency and types of such violence and will help them take proper actions and implement preventive interventions accordingly. Moreover, there have been a few national studies on WPV experienced by physicians and only two studies in Lorestan (Kazemi, 2011) and Markazi (Yousefi *et al.*, 2010) have been carried out in this regard so far. Therefore, considering the importance of this issue, this study was carried out in order to investigate the physical and psychological violence experienced by physicians and medical students attending teaching hospitals of Kurdistan University of Medical Sciences (KUMS) within the last 12 months.

Methods

This is an analytic descriptive as well as a cross-sectional study which was conducted in 2014. Statistical community included all physicians and medical students who were attending teaching hospitals of KUMS and had at least one year of work experience. In total, 400 participants were entered the study. With a population of 1,600,000, Kurdistan province is located in west part of Iran. KUMS is responsible for delivering the health care services to this population. A standard questionnaire developed and certified by WHO, International Labour Office, Public Services International, and International Council of Nurses was used for data gathering. The reliability and validity of the questionnaire have been checked in previous studies (International Council of Nurses, ILO and WHO, 2003; Yousefi *et al.*, 2010). The questionnaire included three parts: questions related to demographic and job information including age, sex, marital status, work experience, type of hospital ward, shift work and occupational status; questions related to physical violence, and questions related to psychological violence such as verbal abuse, mobbing (bullying), sexual and racial harassment. This study was approved by ethics committee of KUMS. Before we distributed the questionnaires between participants, we provided them with an information sheet, clarified the study for them, and obtained their verbal consent, while reassuring them about the anonymity and confidentiality of the data. It is worth knowing that in one case of violent encounter, we may observe several types of violence which may happen simultaneously.

Data were analyzed using descriptive and analytical statistics. The relationship between independent variables with verbal violence, physical violence and total WPV was assessed by χ^2 and Fisher's exact tests. Also, factors associated with total WVP was assessed by calculating the odds ratio using univariate logistic regression. When p-value < 0.2 in univariate logistic, the variables were entered into the adjusted logistic model and their adjusted odds ratio (AOR) was calculated. Statistical significance level was p-value < 0.05 and all analyses were performed in SPSS 20.

Findings

Out of 400 available participants, 321 accepted to take part in the study (response rate of 80 percent). In total, 82.9 percent of the participants were medical students ($n = 288$) and 9 percent ($n = 29$) were general practitioners. In total, 68.2 percent ($n = 219$) of the participants aged 20–29 years. In total, 55.5 percent ($n = 178$) were single and 55.5 percent ($n = 175$) were females. Also, 66.7 percent ($n = 214$) of the participants had less than five years of work experience.

In total, 58.9 percent of the participants had experienced WPV within the last year. Among the participants, 0.9 percent had experienced mobbing (bullying), 5.3 percent with experience of physical violence and 58.9 percent reported verbal abuse. There was no report of sexual and racial harassment. In total, 59.8 percent of the participants reported that patients and their

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relatives were the main source of the violence. Moreover, 85.1 percent of the participants stated that they had experienced violence two to five times within the last year (Table I).

In response to the question "what was your reaction against violence?" In total, 47.6, 24.9 and 2.1 percent reported "no reaction," "pretended nothing had happened" and "prosecuted the person," respectively. Furthermore, the most important reasons for not reporting the violence as well as the percentage of participants who got irritated from these types of violence have been outlined in Table II.

As pointed out in Table IV, the results of χ^2 test revealed that men had experienced more violence than women (p-value < 0.05) and this was more prevalent among men with more shift work than those without any shift work (p-value $= 0.006$). No significant relationship is seen between marital status, professional group, work experience and age group of participants with various types of violence (p-value > 0.05) (Table III).

According to the results of multivariate logistic regression, male sex (AOR = 2.60, CI: 1.56–4.32) and having shift work (AOR = 3.13, CI: 1.67–5.84) were the most significant risk factors for total WPV (Table IV).

Discussion

Results of the present study showed that WPV was very prevalent among physicians and medical students and can be a serious occupational hazard for them. In total, 58.9, 0.9 and 5.3 percent of the participants reported the experience of verbal abuse, bullying and physical violence, respectively. Verbal abuse was the most common violence experienced by the studied participants. In a national study carried out by Kazemi *et al.*, 82.6 percent of the physicians had experienced verbal abuse and 19.8 percent of them reported physical violence (Kazemi, 2011). Findings of another study revealed that 53 and 39 percent of the physicians and medical students had experienced verbal abuse and physical violence in the hospitals, respectively (Yousefi *et al.*, 2010). Overall, WPV is very common among Iranian physicians. The differences between the prevalence rate of WPV in two previous national studies with the results of our study may lie in timing of the studies. In other words, those

Table I Workplace violence experience in studied participants during the past year

Variables	*ST[a] n (%)*	*GP[b] n (%)*	*SP[c] n (%)*	*Total n (%)*
Experience of WPV[d]				
Yes	157 (59.0)	21 (72.4)	11 (42.3)	189 (58.9)
No	109 (41.0)	8 (27.6)	15 (57.7)	132 (41.1)
Experience of physical WPV				
Yes	12 (4.5)	2 (6.9)	3 (11.5)	17 (5.3)
No	253 (95.5)	27 (93.1)	23 (88.8)	303 (94.7)
Experience of verbal WPV				
Yes	157 (59.0)	21 (72.4)	11 (42.3)	189 (58.9)
No	109 (41.0)	8 (27.6)	15 (57.7)	132 (41.1)
Experience of bullying WPV				
Yes	2 (0.8)	0 (0.0)	1 (3.8)	3 (0.9)
No	264 (99.2)	29 (100.0)	25 (96.2)	317 (99.1)
Source of WPV				
Patients and patient's family members	81 (51.6)	21 (100)	11 (100)	113 (59.8)
Nurse	19 (12.1)	0 (0.0)	0 (0.0)	19 (10.1)
Other staff	53 (32.5)	0 (0.0)	0 (0.0)	53 (28.1)
Specialist	4 (2.5)	0 (0.0)	0 (0.0)	4 (2.1)
Frequency of experience of WPV				
1	28 (10.9)	5 (20)	5 (19.2)	38 (12.3)
2–5	223 (86.4)	19 (76)	21 (80.8)	263 (85.1)
> 5	7 (2.7)	1 (4.0)	0 (0.0)	8 (2.6)

Notes: $n = 321$. [a]ST, student; [b]general physician; [c]SP, specialist; [d]workplace violence

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Table II Reaction to workplace violence experience in participants of study

Variables	*n (%)*
Reaction after violence experienced (n = 189)	
No reaction	90 (47.6)
Tried to pretend it never happened	47 (24.9)
Asked the person to calm down	36 (19.0)
Told a colleague	9 (4.8)
Reported it to the manager	4 (2.1)
Left the place	8 (4.2)
Pursued prosecution	4 (2.1)
Tried to defend myself physically	3 (1.6)
Reason for not reporting violence (n = 185)	
Violence experience was not important	84 (45.1)
I felt embarrassed	2 (1.1)
I was afraid of its negative consequences	28 (15.3)
I found reporting useless	73 (39.5)
I did not know whom I should report to	79 (42.7)
Since the experience of violence, how much have you been disturbed in terms of the following items? (n = 183)	
1. Thoughts, memories, uncomfortable impressions	
Most	13 (7.1)
Moderate	71 (38.8)
Little	99 (54.1)
2. Avoid talking about violence	
Most	13 (7.1)
Moderate	22 (12)
Little	148 (80.9)
3. Worried about a repeat of workplace violence	
Most	35 (19.1)
Moderate	82 (44.8)
Little	66 (36.1)

Note: $n = 189$

studies had focused more on the experience of WPV during the professional life of the participants; however, our study had studied the WPV within the last 12 months.

Furthermore, results of a study on physicians in Macau indicated that 38.3, 3.7 and 3.7 percent of them had experienced verbal abuse, bullying and physical violence within the last 12 months, respectively (Cheung *et al.*, 2017). In the Netherlands, 80 percent of the doctors, who were working in inpatient wards of the hospitals, were the victims of verbal abuse and 50 percent of them had experienced physical violence during their professional life (Jankowiak *et al.*, 2007). Moreover, findings of another study in China showed that 63.2 percent of the studied physicians had complained about physical violence in the previous 12 months (Kazemi, 2011). In addition, 74.9 and 28.1 percent of the physicians had, respectively, suffered from verbal abuse and physical violence in the USA within the previous 12 months (Kowalenko *et al.*, 2005). Results of a study by Pinar *et al.* (2017) in Turkey showed that 56.9, 3.6 and 10.5 percent of medical doctors had, respectively, experienced verbal abuse, bullying and physical violence in the previous 12 months, and 70.2 percent of the studied physicians reported the experience of WPV at least once in their professional life. Other studies, which used the same research instruments as our study, have reported the prevalence rate of physical violence, verbal abuse and bullying, respectively, as follows: 6, 39 and 15 percent in Brazil; 7, 32 and 31 percent in Bulgaria; 6, 41 and 22 percent in Lebanon; 17, 52 and 21 percent in South Africa; and 10, 48 and 11 percent in Thailand (Di Martino, 2002; Sripichyakan *et al.*, 2003; Steinman, 2003). WPV in health sector was very high in all of the reviewed studies.

Considering the professional category of the participants, 59 percent of medical students, 72.4 percent of GPs and 42.3 percent of the medical specialists reported the experience of WPV at least once in their professional life in the previous 12 months. Verbal abuse was the most prevalent

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Table III Relationship between the experience of various forms of WPV with demographic and selected variables

Variable	Physical violence Yes	Physical violence No	p-value[a]	Verbal violence Yes	Verbal violence No	p-value	Total WPV (experienced at least one form of workplace violence) Yes	Total WPV (experienced at least one form of workplace violence) No	p-value
Profession									
Student	12 (4.5)	253 (95.5)	0.291	157 (59)	109 (41)	0.076	157 (59.0)	109 (41)	0.076
GP[c]	2 (6.9)	27 (93.1)		21 (72.4)	8 (27.6)		21 (72.4)	8 (27.6)	
Specialist	3 (11.5)	23 (85.5)		11 (42.3)	15 (57.7)		11 (42.3)	15 (57.7)	
Sex									
Male	12 (8.2)	134 (91.8)	0.034	99 (67.8)	47 (32.2)	0.003	99 (67.8)	47 (32.2)	0.003
Female	5 (2.9)	169 (97.1)		90 (51.4)	85 (48.6)		90 (51.4)	85 (48.6)	
Marital status									
Single	7 (4)	170 (96)	0.228	110 (61.8)	68 (38.2)	0.236	110 (61.8)	68 (38.2)	0.236
Married	10 (7)	133 (93)		79 (55.2)	64 (48.8)		79 (55.2)	64 (48.8)	
Work experience (years)									
< 5	10 (4.7)	204 (95.3)	0.469	133 (62.1)	81 (37.9)	0.092	133 (62.1)	81 (37.9)	0.092
> 5	7 (6.6)	99 (93.4)		56 (52.3)	51 (47.7)		56 (52.3)	51 (47.7)	
Shift work									
Yes	14 (5.5)	262 (94.5)	0.548[b]	161 (62.6)	96 (37.4)	0.006	161 (62.6)	96 (37.4)	0.006
No	3 (4.7)	61 (95.3)		28 (43.8)	36 (56.2)		28 (43.8)	36 (56.2)	
Age group (years)									
20–29	10 (4.6)	208 (95.4)		136 (62.1)	83 (37.9)		136 (62.1)	83 (37.9)	
30–39	5 (7.0)	66 (93.0)	0.694	40 (56.3)	31 (43.7)	0.091	40 (56.3)	31 (43.7)	0.091
40+	2 (6.5)	29 (93.5)		13 (41.9)	18 (41.1)		13 (41.9)	18 (41.1)	

Notes: [a]Result from χ^2 test; [b]result from Fisher's exact test; [c]general physician

Table IV Factors associated with total workplace violence (WVP) among participants

Variable	Unadjusted analysis OR (95% CI)[a]	p-value	Adjusted analysis AOR[b] (95% CI)	p-value
Profession				
Student	1.96 (0.86–4.44)	0.105	0.86 (0.21–3.589)	0.868
GP[c]	3.58 (1.16–11.04)	0.026	2.42 (0.52–11.17)	0.256
Specialist	1		1	
Sex				
Male	1.98 (1.26–3.14)	0.003	2.60 (1.56–4.32)	0.001
Female	1		1	
Marital status				
Single	1.31 (0.83–2.05)	0.236		
Married	1			
Work experience (years)				
< 5	1.49 (0.93–2.39)	0.093	1.81 (0.36–8.99)	0.465
> 5	1		1	
Shift work				
Yes	2.15 (1.23–3.75)		3.13 (1.67–5.84)	0.001
No	1		1	
Age group (years)				
20–29	2.69 (1.05–4.87)	0.036	3.38 (0.44–25.87)	0.241
30–39	1.78 (0.76–4.19)	0.183	2.04 (0.54–7.62)	0.288
40+	1		1	

Notes: [a]OR, odd ratio; CI, confidence interval; [b]AOR, adjusted odd ratio; [c]general physician

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type of violence in all three groups. Moreover, a national study showed that the experience of WPV during professional life was 55.1 percent among medical students, 77.8 percent among GPs, and 92.5 percent for medical specialists. Similar to our study, the results of the preceding study also revealed that verbal abuse was the most common type of violence experienced by the participants (Yousefi *et al.*, 2010). In addition, a study in Germany indicated that 73 percent of the studied physicians were the victims of WPV within the last 12 months (Vorderwülbecke *et al.*, 2015). In addition, verbal abuse among medical doctors was reported to be 70.6 percent in Australia (Mayhew and Chappell, 2003); however, 68 and 29.8 percent of all health care personnel in the UK and Japan had, respectively, experienced this violence. Moreover, verbal abuse was the most common violence reported by Saeki *et al.* (2011) in Japan, too.

Results of our study showed that specialists had mostly suffered from physical violence and bullying; however, verbal abuse was the most frequent type of violence experienced by GPs. A national study revealed that the prevalence of physical violence and verbal abuse was 34 and 55.1 percent among medical students; 77.8 and 77.8 percent among GPs; and 47.9 and 92.5 percent for medical specialists, respectively. In comparison to our study, results of preceding study indicated that all three groups had experienced more physical violence. Moreover, they pointed out that GPs were more exposed to physical violence while specialists had experienced verbal abuse (Yousefi *et al.*, 2010). These findings are not in consistent with the results of our study; this may root in differences in time as well as the place of study. Furthermore, Kowalenko *et al.* (2005) reported that 74.9 percent of medical doctors in the USA had experienced verbal abuse within the last 12 months.

The prevalence of physical violence (6 percent) and verbal abuse (58 percent) among Australian GPs in the previous 12 months were less than our study's results (Forrest *et al.*, 2011). Moreover, the prevalence rate of physical violence (2.1 percent) and verbal abuse (24.1 percent) in Arimatsu's study was also less than our study's results (Arimatsu *et al.*, 2008). Saeki *et al.* (2011) also reported that the prevalence of verbal abuse among medical specialists was 11.7 percent in the previous 12 months. In other similar studies using the same research instruments, the prevalence rate of bullying among health care personnel was 15 percent in Brazil, 31 percent in Bulgaria, 22 percent in Lebanon, 21 percent in South Africa and 11 percent in Thailand. Frequency of violence looks quite high in all studied countries compared to the results of our study (Martino, 2002; WHO, 2002). The reason behind such difference may lie in the fact that these studies have focused mainly on all health care personnel and not particularly on physicians or medical students. On the other hand, research environment as well as the sample size can be the other reasons for this inconsistency.

Results of our study demonstrated that the perpetrators of violent behaviors against physicians and medical students were mostly patients and their relatives. These results have also been mentioned by other studies (Cheung *et al.*, 2017; Fujita *et al.*, 2012; Kazemi, 2011; Kowalenko *et al.*, 2005; Yousefi *et al.*, 2010). Most of the studied participants reported taking no reaction against these types of violence. The most important reasons for not reporting the violence were "I found reporting useless (39.5%)" and "I did not know whom I should report to (42.7%)." In a study in Iran, the most common reactions of physicians to verbal abuse and physical violence were "told the patient to stop (60.9%)," and "pursued prosecution (46.2%)." In another national study, the most prevalent reactions of physicians to violence were "asked the patient to calm down (29.9%)" and "reported it to the security guard (25.2%)" (Yousefi *et al.*, 2010).

Results of our study showed that male sex and having shift work were the most significant risk factors for total WPV. This finding is also in consistent with the results of some other studies (Hills *et al.*, 2012; Saeki *et al.*, 2011; Yao *et al.*, 2014; Cheung *et al.*, 2017; Saeki *et al.*, 2011).

Limitations of the study

This study has only investigated the prevalence of violence in teaching hospitals of KUMS; therefore, its results may not be generalizable to the whole province of Kurdistan or even other provinces. Therefore, it is recommended to carry out some similar studies at national level and on some various types of hospitals around the country in order to show a general picture of violence against physicians and medical students.

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Conclusion

WPV is an organizational challenge, may turn into a serious threat for physical and psychological health of health care personnel, and may even affect the efficiency and quality of health care services. According to the findings of the present study, physicians and medical students are at high risk of WPV, therefore, proper actions should be taken in order to prevent from such violence. Most of the victims do not report the assault due to reasons such as "useless of reporting," "not knowing whom to report," and "fear of its negative consequences." Thus, it seems necessary to hold workshops on violence management for health care workers, especially doctors, pass some laws in favor of preventing from such events, create and enhance the culture of reporting the violence, take rapid and serious actions against any violence, and use national media to educate people in this regard.

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