Violence Against Medical Assistants By Colleagues At Teaching Hospitals And Its' Effects On Quality Of Education

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Abstract

Background: Violence against medical assistants (Resident) by colleagues is serious problem at educational hospitals that has not been sufficiently examined
in the literature. The present study was conducted to determine the prevalence, risk factors, and types of violence perpetrated by colleagues against medical residents.

**Methods:** In a cross-sectional study conducted at two large tertiary referral teaching hospitals, questionnaires were distributed among 480 healthcare professionals to investigate their experiences of violence.

**Results:** Of the 280 responders, 162 residents (57.9%) reported a history of being subjected to violence or aggression. Of these, nearly 50% had experienced pure psychological violence and 16.7% were physically abused. The prevalence of victimization was high in the residents of the neurosurgery, orthopedic, and obstetric departments (90%, 88%, and 85%, respectively).

**Conclusion:** The experience of harassment was more prevalent in the surgical residents than the internal medicine residents because of the former’s high level of work stress. Senior residents or fellowship residents were the main abusers. The loss of professional self-esteem, decreased job satisfaction, and dropout were the main negative consequences of violence experienced by the victims.

**Keywords:** Medical Residents, Violence, Hospital, Education

**Introduction**

Healthcare violence is a significant worldwide problem with negative consequences on both the safety and well-being of healthcare workers as well as
workplace activities [1]. As a general rule, all healthcare personnel are constantly at risk of becoming a victim of violence by the patients or their relatives. Healthcare professionals are highly vulnerable to becoming the victim of violence by patients, the patients’ relatives, and their own colleagues. The European Commission definition, which has been adopted by the ILO, ICN, WHO, PSI Joint Program on Workplace Violence in the Health Sector, defines workplace violence as ‘Incidents where staff are explicitly or implicitly abused, threatened or assaulted in circumstances related to their work, including commuting to and from work’ [6]. Workplace violence is a common problem in healthcare systems, and all healthcare workers are exposed to workplace violence [2-5]. Junior residents are at a higher risk as inexperienced healthcare providers [10]. The three broad types of workplace violence based on the California Occupational Safety and Health Administration (CAL-OSHA) definition are: Type I, where the assailant has no legitimate relationship to the workplace and the primary object of the attack is cash or some other valuable commodity. Type II, which involves some form of assault by a person who is either the recipient or the object of a service provided by the affected workplace or the victim. Type III, where an assault is perpetrated by another employee, a supervisor, or an acquaintance of the worker [7].

The most frequent perpetrators of workplace violence in healthcare environments are patients and peers (type II) [8, 9]. Although colleagues are not the primary
source of workplace violence, many studies have reported the existence of workplace violence among healthcare workers (type III) [4]. This study was designed to assess the prevalence of workplace violence by any of the medical staff against the residents and vice versa.

**Methods**

This cross-sectional study investigates interpersonal violence among the medical staff of two tertiary referral teaching hospitals, namely Firoozgar Hospital and Hazrat Rasoul Hospital, which had a total of 1006 clinical faculty members and 480 medical residents in 2018-19 in Tehran, Iran. All the residents were included in the study and were asked about their experiences of being subjected to violence or aggression by their colleagues using the adapted WHO/ILO questionnaire (Workplace Violence in the Health Sector Questionnaire), which was developed in 2003 by the International Labor Organization (ILO), International Council of Nurses (ICN), the WHO, and the Public Services International (PSI). The data collection sheet was tailored for this study and included demographic information not incorporated into the questionnaire, such as year of residency and specialty, while a few redundant queries about the line of work and workplace where excluded. The participating residents were also presented with a separate sheet containing 12 additional questions about violence perpetrated by the respondent against any other staff members. An additional data collection sheet was also
presented, which inquired about violence perpetrated by the respondents against any other medical staff.

Before the participants were asked to respond to the questions, they were briefed on the different types of workplace violence and their classification into the two major categories of psychological and physical violence. Psychological violence was described as “any intentional use of power, including the threat of physical force, against another person or group that can result in harm to physical, mental, spiritual, moral or social well-being, such as verbal abuse, bullying, and harassment.” Physical violence was described as “any use of physical force against another person that results in physical or psychological harm, such as beating, kicking, slapping, pushing, biting, and pinching”. Any form of physical sexual harassment was also considered physical violence. The goal of this study was clarified to the participants as merely assessing violence among medical staff. Therefore, they were specifically asked to exclude violence from any other sources, such as patients and their relatives.

All the residents of both hospitals were contacted in person by a physician to receive the questionnaire. In order to encourage the residents to participate in the survey, we guaranteed them that their data would remain confidential. Therefore, the participants were not asked to register any names or identification codes on the questionnaires. We divided the residents’ specialties into two categories: Surgical and non-surgical. The surgical residencies included Orthopedics,
General Surgery, Neurosurgery, Gynecology, Otolaryngology, and Ophthalmology. Any other programs were considered non-surgical. The variables examined included type of violence (psychological or physical), age, gender, marital status, specialty, and whether the respondent was a first-year resident.

Statistical analysis

IBM SPSS statistics software, version 25.0, was used for the analysis of the data. First, the study population was described using mean and standard deviations for the quantitative variables and frequency and percentage for the qualitative variables. Then, the respondents were divided into two groups, including a group of those who had been subjected to any kind of violence and another group who had not been the victim of violence in this context, and they were then compared with each other. The quantitative variables with a normal distribution were compared using the independent T-test, while the other quantitative variables were compared using Mann-Whitney’s U-test. The qualitative variables were compared using a Chi-square test. P-values less than 0.05 were considered statistically significant.

Ethical considerations

This study has been approved by the ethics committee of Iran University of Medical Sciences (IUMS) with ethics committee approval number: REC
All the participants were informed about the aim of the study and voluntarily agreed to fill out the questionnaire.

**Results**

Two hundred and eighty (280) out of a total of 480 medical residents in the surveyed hospitals answered the questionnaire (response rate: 58%). The mean age was 31.4 years (min:25 max:49). The mean years of experience as GP before the residency were 3.9 years (with a range of 0-20 years). The male to female gender ratios were almost equal (1/1). A total of 56.1% of the participants were married, as shown in Table [1].

Of the 280 responders, 162 cases (57.9%) had a history of being subjected to violence or aggression in the hospital area by their colleagues, including 140 (86.4%) cases of psychological violence and 47 (16.8%) cases of physical violence. Also, 235 of the 480 (83.9%) residents were worried about workplace violence by colleagues.

Of 162 participants, 81 residents (50%) were experienced psychological violence, 27 case (16.6%) undergone physical violence, and 54 cases (33.3%) gave history of both psychological and physical violence by colleague. A total of 140 of the 162 residents (86%) had undergone of more than one time of both psychological and physical violence by their colleagues (with a mean of 11.06 times).
Table [2] shows the distribution of the different types of psychological violence experienced by the residents. Of the 162 residents who had a positive history of being subjected to violence or aggression, the highest prevalence of violence had occurred among the surgery residents, especially in the neurosurgery, orthopedic, and obstetric departments (90%, 88%, and 85%, respectively). Figure [1] shows the relative frequency of violence in surgery assistants in comparison to internal residents (non-surgical assistants) in the recent 12 months.

**Discussion**

Healthcare professionals are especially vulnerable to assaults [21] and personal relationships constitute the culprit of most common instances of violence experienced in the hospital setting. Violence affects one in each two healthcare professionals around the world. The possibility of exposure to violence is higher in nurses than in medical residents [23]. In this study, 58% of the surveyed cases had a history of being subjected to violence by other colleagues. A systematic review showed that more than 90% of emergency medicine staff has been exposed to at least one type of workplace violence [11]. A cross-sectional study of 5874 healthcare workers in multiple teaching hospitals in 2011 in Iran showed a nearly 75% prevalence of psychological violence [5]. Another study in 2015 in Turkey conducted among physicians showed an 85% prevalence of violence over one year [12]. According to that study, residents had the highest rate of exposure to violence. Fifty-eight percent of the residents who participated in this study had
been exposed to at least one kind of workplace violence from their colleagues; half of them had experienced psychological violence and 70% had suffered from physical abuse. Many factors, such as hospital overcrowding, contribute to violence among healthcare workers. This phenomenon leads to a vicious cycle of violence between medical residents and has negative impacts on their overall quality of education.

Although there are numerous studies on workplace violence among healthcare staff, to these researchers’ knowledge, there is only one study about workplace violence among medical residents from different specialties, which has been conducted in Turkey [13]. There are also some smaller-scale studies on particular populations, such as emergency medicine residents [14-16]. The present study is the first study carried out on inter-personnel workplace violence among medical residents in Iran.

According to the present findings, medical residents experienced a high prevalence of inter-personnel violence. While there was no significant difference between the genders in terms of being subjected to psychological violence, the prevalence of physical violence was significantly higher in the male cases. Various other reports also support this finding [17-19]. Some specialties, such as orthopedic surgery, are male dominant, and the prevalence of inter-personnel physical violence is higher in these departments. It seems that the presence of female residents alleviates the problem of physical workplace violence in any
hospital department. Despite the presumption that older residents or medical staff have more experience in communication and tend to perpetrate less workplace violence than younger residents, neither age nor marital status proved to be a predictor of psychological or physical violence. There was no correlation between the length of employment in our cases as a GP (whether more or less than one year) and the rate of workplace violence.

Surgical residents experience a more stressful work environment, which causes more frequent inter-personnel tensions and seems to be the main reason for the higher prevalence of workplace violence among this group. Longer work shifts may be another reason for the higher prevalence of workplace violence in this specialty. In addition, some surgical residents presume that violence is a routine part of their work and therefore do not hesitate to use it.

Although some of the surveyed residents had formerly worked as GPs for ten years or more, many others had immediately entered the residency program from school with no prior work experience. The present study assessed the association between workplace violence (psychological or physical) and age, gender, marital status, specialty, workplace (hospital of service), and whether the respondent was a first-year resident. There was an association between specialty and both physical and psychological violence, but gender was associated only with physical violence. Other variables were associated with neither physical nor psychological violence.
In educational hospitals, there are strict, written and unwritten rules for the grading of residents. Residents of higher levels always superintend the work of lower-level residents. This hierarchy can increase the chance of abuse and other types of workplace violence from higher-level residents against lower-level residents. The most prevalent sources of violence among first-year residents were higher-level residents. Despite the general belief that workplace violence is more prevalent among first-year residents, the prevalence of workplace violence from colleagues was not different between the first-year and the more senior residents. Nonetheless, another study comparing junior residents (years 1-4) with senior residents (year 5 and above) showed a higher prevalence of workplace violence among junior residents [20]. It should be noted that most of the residency programs in Iran last four years. The decrease in workplace violence among senior residents may be related to the longer period of training in work skills, although further investigations are needed to find and explain the correlation between employment length and avoidance of workplace violence.

The high prevalence of violence among the residents and their colleagues shows that although patients and their relatives are the most common sources of workplace violence, inter-personnel workplace violence prevalence is not small and can affect the work atmosphere and have a long-lasting impact. In the cited Turkish study, about two-thirds of the residents had experienced at least one type of workplace violence during the last 12 months, with 36% of it being from the
academic staff and 21% from the other residents [13]. The prevalence of residents reporting violence committed by themselves against other staff members was 8.9%. It seems that residents were not willing to admit the violent nature of their acts and thought that some of their violent actions were a right of theirs in dealing with or overseeing their colleagues.

**Psychological violence**

The main sources of psychological violence were residents (42%), most of who worked in the same department as the victims (90%), and they also were mostly seniors to the victims (86%). Faculty members (nearly 20%) and nurses (7%) were the other sources of violence. Violence perpetrated by the respondents towards other medical staff was reported by 10% of the medical residents, and only one of them reported perpetrating physical violence. The most common violence perpetrators (60%) were fellowship residents.

Twenty-five residents (8.9%) declared that they had been violent toward a colleague at least one time in the last year. Most of the violence perpetrators (60%) were fellowship residents. Surprisingly, 23 of these violence perpetrators (more than 90%) had themselves been victims of violence, which shows the vicious cycle of chronic violence. The number of males and females who were violence perpetrators was equal. Increased stress levels in the residents with regard to the patients or relatives as well as the other residents, and clinic
overcrowding were the main factors involved in the increased incidence of violence between colleagues.

Hospital violence can have a negative impact on the residents’ performance [21]. It seems that the conflict between getting an education and treating patients is another cause of interpersonal workplace violence among healthcare workers in teaching hospitals. This workplace violence can in turn cause additional tension and problems among residents, which adversely affects their learning process and treatment of patients. The negative consequences of violence include the loss of professional self-esteem, loss of job satisfaction, trauma, disability, and increased litigation costs. In this study, 23% of the cases believed that threatening behavior targeting them decreased their ability to pursue scientific study and had a negative impact on their uptake of knowledge. In most of the cases, the newer medical residents (first year) had been bullied by their senior colleagues due to power imbalances. Creating an effective line of communication between the educational deputy and residents, promoting awareness, and providing further training on these subjects can be the main policies in teaching hospitals to help prevent harassment.

**Physical violence**

Of the 162 residents who had experienced violence, nearly 30% had experienced physical violence associated with psychological abuse from their colleagues.
Four residents had each been subjected to physical violence for as many as ten times. The mean frequency of exposure to physical violence was 3, and the median was 1.5 times. A total of 103 residents (37%) reported having witnessed physical violence from one colleague against another at least once, with a mean of 4.4 times. The incidence of physical violence was higher among the male residents (P=0.00). There was, however, no difference between the single and married residents, nor were there any differences in the prevalence of workplace violence between the day shift and night shift personnel. In fact, the prevalence of workplace violence in the early morning or late night shifts was similar to that in the day shifts.

The most prevalent sources of physical violence against the residents were other fellowship residents (n=22), especially the more senior fellows. The other sources included faculty members, nurses, and other healthcare workers. While just one resident reported a serious injury from violence, 36% of the medical residents reported that an instance of violence against them had stopped them from attending to their patients.

**Limitations**

A major limitation of this study was the low response rate of the residents. The lack of time to respond, considering workplace violence an insignificant problem (especially in surgical and similar departments), and the belief that these kinds of
studies are ineffective, may have been among the reasons for the poor response rate. The cross-sectional and self-reporting nature of the study was another limitation. Indeed, a workplace violence registry system should be deployed for more accurate studies on workplace violence. Another limitation was the higher response rate among the adversely-affected residents who were more sensitized to the topic; it seems that victims of violence are more interested in answering such a questionnaire.

**Conclusion**

Although the main perpetrators of workplace violence in hospitals and healthcare centers are shown to be patients and their relatives, the prevalence of inter-personnel workplace violence among residents and the rest of the medical staff are also strikingly high. This finding is partly due to the fact that medical staff spends much more time in the hospital or healthcare center and must maintain a closer relationship with each other than with the patients, most of whom have a much lower duration of stay in the hospital and their relationship with the staff is thus less intensive. Violence should be prevented by the hospital organization and by holding workshops on stress control for residents. Avoiding clinic and hospital overcrowding, enforcing visiting hours and adequate staff training in handling violent persons can contribute to the prevention of violence.

**Declaration**
All the authors declare that there are no conflicts of interest

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**References**


**Table 1**: Demographic and experience characteristics of the medical residents

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<td>&gt;30</td>
<td>17</td>
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**Table 2**: Types of psychological violence experienced by the medical residents (n=140)

<table>
<thead>
<tr>
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<th>Percentage</th>
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<tr>
<td>Threat</td>
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**Figure 1:** The relative frequency of violence against Surgical in comparison to non-surgical residents