

## Original Article

## Workplace violence against medical students- A Turkish perspective

Alperen Ince<sup>1</sup>, Perihan Torun<sup>1</sup>, Saad Ahmed Ali Jadoo<sup>1\*</sup>**Abstract**

**Background:** Workplace violence against healthcare providers including the medical students being an important issue all over the World. The aim of this study is to survey the medical students about exposure to workplace violence (WPV) while they are doing their medical training in private tertiary hospitals.

**Methods:** This was a cross-sectional study carried out among all medical students (4th, 5th, and 6th class) attending a teaching hospital at Bezmialem Vakif University (BVU), Istanbul, Turkey. A total of 150 students in the 2017-2018 academic year were recruited in this study. Data were collected using a modified questionnaire through a face to face interview. Data were analyzed using SPSS 16.

**Results:** About one-third of the surveyed students (54, 36.0%) exposed to violence and 71.3% of them witnessed incidents of violence against healthcare providers at the workplace. The prevalence of physical violence and verbal abuse among medical students was reported at 5.5% and 92.6% respectively. About 81.5% were females compared to 18.5% of their counterparts. Patients (38.9%) and their relatives (61.1%) were the main sources of the violence respectively. More than half (57.0%) of students exposed to violence at outpatient services and 25.9% at the emergency room and 16.7% at inpatient wards. Few of them (22, 14.7%) thought that they will get support if they make a complaint.

**Conclusion:** Being a medical student and has direct contact with patients and their relative is not always safe practice. Our results suggested a high prevalence of verbal and physical abuse against medical students. Health sector authorities should adopt a restrictive and clear strategy to protect medical students and other healthcare providers.

**Keywords:** Workplace, Violence, Student, Medical, Private, Hospital, BVU, Istanbul, Turkey

**Background**

Violence continues to manifest itself in the field of health as well as in every field of society. Incidents of abuse against the health personnel emerged as a severe public problem that taking part in everyday health practice [1,2]. Many cases of violence in health reduce the motivation of the health personnel, prevent the provision of quality health services to the patient, and sometimes cause mental and physical injuries or end up with death [2,3]. More than half of the employees exposed to violence stated that they felt high levels of “anxiety and restlessness after the event” [4]. Whatever the source of violence, motives are often similar among different societies most common factors contributing to the stimulation of aggression were the death of patients, the lack of educational background among the patient's relatives and the weakness of the health organization's security facilities [5,6 Although, health

workers, especially physicians and nurses, are at high risk of being exposed to workplace violence [1-4], however, the possibility to face violence increases when the intern students meet patients frequently. At the level of the intern, medical students need to be actively involved in health presentation.

Lack of experience and the skills of communication with patients, relatives, and other health personnel may raise the likelihood of unintentional professional errors among intern students. Xie et al. [6] reported that insufficient communication was behind about 27.2% of the incidence of violence among medical students of West China [6]. The author also reported that mental abuse was the highest percent (20.3%) followed by 14.6% offensive threat (14.6%), sexual harassment (9.9%) and physical violence (8.9%) respectively [6]. In their studies about Iranian medical students, Sahraian et al. [7] indicated that medical students exposed to various forms of violence including the verbal (85.5%), physical (24.9%), and sexual harassment (26.1%). Most of the works of literature examining workplace violence in health were about the healthcare personnel [1]. However, minimal literature that explores the violence against

\*Correspondence: [drsaadalezzi@gmail.com](mailto:drsaadalezzi@gmail.com)<sup>1</sup>Department of Public Health, Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey

Full list of author information is available at the end of the article



the medical students when they are undergoing a regular training programme in hospital. Exposure to or witnessing the violence at the workplace negatively reflected on medical students' choices for their future career. Sood et al. [8] reported that about 60.8% of the medical students ranked certain specialties as riskier such as surgical branches. The author also referred to a high awareness (96.0%) developed among medical students toward the increased prevalence of violence against the medical staff [8]. Al-Samarrarie and Ali Jadoo [9] concluded that violence and work-related variables contributed significantly to the consolidation of the idea of migration among medical students. Moreover, medical students may expose to abuse and mistreatment in the form of verbal, power, physical, ethnic and sexual harassment. Chung et al. [10] found that 63.0% of medical students involved in focus group discussion declared that they experienced mistreatment at least once during the clerkships. The author also reported that the source of mistreatment included residents, attendings, nurses and the faculty [10]. In this study, the authors tried to draw public attention to the seriousness of workplace violence against healthcare providers by focusing on future doctors (medical students). This study aimed (1) to assess the prevalence of workplace violence against the medical students who are attending clinical training in a busiest tertiary private hospital, (2) to assess their knowledge on how to report the incident of violence, (3) to evaluate their attitude toward the possible support that they will have when they encounter the incident of violence, (4) to evaluate their opinion toward the role of media in preventing the violence, and (5) to assess the expectation of medical students about the possibility to expose to different types of violence for the first ten years of their professional life or not.

**Methods**

A cross-sectional descriptive study was conducted to explore the workplace violence against medical students at a private tertiary hospital. A universal sampling technique was recruited to survey all medical students in 4th, 5th and 6th classes who were attending clinical training at the teaching hospital, Bezmialem Vakif University, Istanbul, Turkey. Data was collected over the period (months and year) in the academic year of 2017-2018 using a modified questionnaire through a face to face interview. Table 1 presents the main inclusion and exclusion criteria.

**Table 1** Inclusion and exclusion criteria

No.	The Main Criteria	Inclusion & Exclusion
1.	Being a medical student of 4th,5th,6th classes.	+
2.	Attending medical training regularly.	+
3.	Willing to participate.	+
4.	Available at time of data collection.	+
5.	Being student of 1st, 2nd and 3rd classes.	-
6.	Being students from other faculties or healthcare professional.	-
7.	Not willing to participate.	-
8.	Being student of 1st, 2nd and 3rd classes.	-
9.	Absent at time of data collection.	-

(+) Inclusion criteria, (-) Exclusion criteria

**Patient Sample size determination**

The sample size was determined using Fisher's formula for estimating single proportions [1] considering a 30% frequency, 80% power at 95% confidence level with 7% error.

$$(n = Z^2(pq)/d^2)$$

$$n = (1.96)^2 \times ((0.30) \times (1-0.30)) / (0.07)^2$$

$$n = 164.6 + 10\% (16.5), n = 181$$

**Statistical analysis**

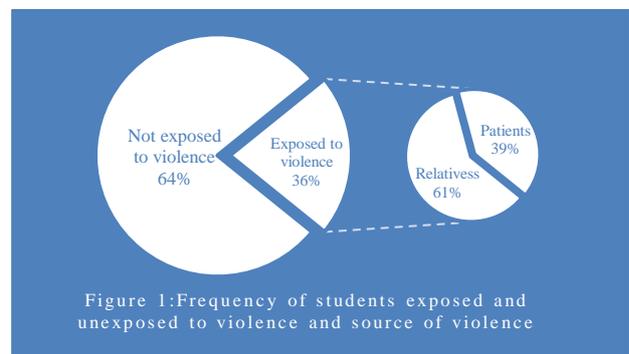
Data was analyzed using SPSS 16.0 for Windows (SPSS Inc., Chicago IL, USA). All descriptive statistics were presented in percentages, mean and standard deviation. The significance limit in all tests will be assumed to be less than 0.05.

**Results**

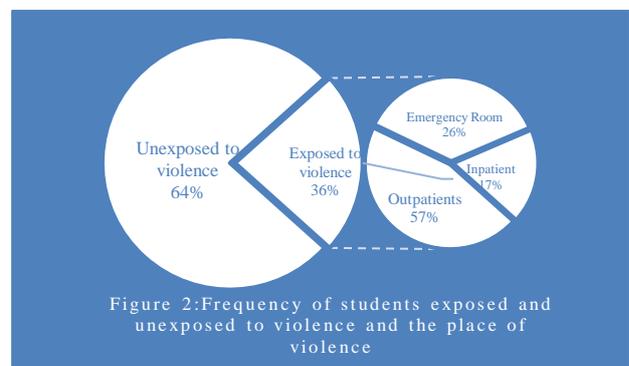
**Descriptive analyses (univariate analysis)**

Because of the inclusion and exclusion criteria, the total number of participants was 150 (response rate 82.9%). Most of our sample were females (109, 72.7%) compared to (41, 27.3%) males. The highest percent (77, 51.3%) were from 5th class, then (53, 35.3%) from 4th class and the lowest percent (20, 13.3%) were from 6th class.

About one third of surveyed students (54, 36.0%) exposed to workplace violence, however, the vast majority (107, 71.3%) of them witnessed accident of violence against healthcare providers at workplace. Patients were the source of violence in about 38.9% of cases, compare to 61.1% were from the patient's relatives (Figure 1).



More than half (57%) of students exposed to violence at outpatient services and, 25.9% at the emergency room and, 16.7% of violence happened at inpatient wards (Figure 2).



Among the 54 students who were exposed to violence, about 50, 94 % of violence was verbal compare to 4, 6% was physical violence (Figure 3).

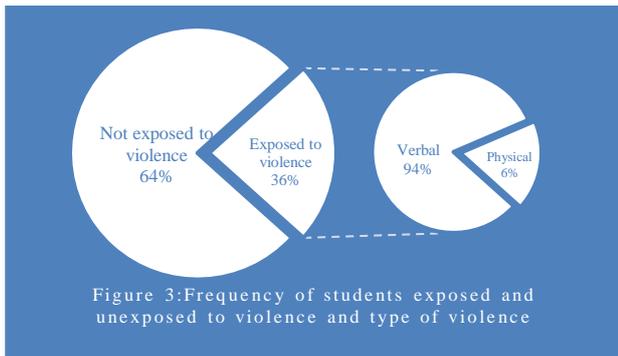


Figure 3: Frequency of students exposed and unexposed to violence and type of violence

Moreover, only 6, 11,1% decided to make complaint compare to 48, 88,9% who were not satisfied to make complaint (Figure 4).

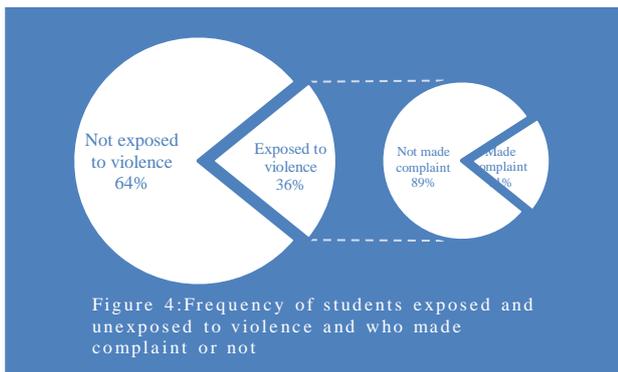


Figure 4: Frequency of students exposed and unexposed to violence and who made complaint or not

The surveyed students were asked about their knowledge regarding the white Code (1111): The number allocated for urgent communication in the event of violence against employees in hospitals of Turkey. About 65, 43.35% of them described their knowledge as "quite insufficient", and only one third (38, 38.0%) of students were able to recognize the right Code: "1111". Moreover, very few students (22, 14.7%) thought that they will get enough support when they made a complaint (Table 1). Most of the surveyed students (106, 70.7%) disagreed with idea of frequent news of violence in the news will often contribute to a reduction in violence by raising awareness in society. Moreover, most of them (140, 93.3%) expected that they will expose to verbal violence in the next ten years compare to 56, 37.3% expected to face physical violence. Furthermore, about two third (103, 68.7%) expected that the incidence of violence against health workers will increase in the next 10 years (Table 2).

## Discussion

In this research, the prevalence of workplace violence incidents against medical students was 36.0% which inconsistent with the results of previous research in China [6] and Iran [7]. Moreover, the medical students witnessed [71.3%] incidents of violence against medical personnel more than they have suffered. Such findings reinforce previous research findings indicating a significant increase in the rate of violence against health personnel in Turkey [5,12]. In 2015, Both Karakas et al. [5] and Bayram et al. [12] reported a prevalence of workplace violence incidents of 74.4% and 78.1% against Turkish nurses and physicians, respectively. Previous studies have discussed the causes of violence against healthcare givers [13-15]. The patient

and his relatives are the primary sources of violence against health personnel, followed by other colleagues and supervisors. As in the current study, Karakas et al. [5] found that the patient's relatives contributed to more violence than their patients [5]. The severity and rate of violence vary depending on the severity of the cases and the efficiency of the service provided, therefore, the prevalence of workplace violence increases in the less qualified emergency departments (ED), the busiest outpatient clinics and where the intensive, recovery or lifesaving services are needed. Unlike previous studies [7,12,16] where the WPV more reported in the emergency rooms and inpatient services, most of the medical students (57.5%) experienced WPV at the OP services. The reason is that the hospital of BVU is one of the oldest and busiest private OP clinics in the heart of the European side of Istanbul city. However, the BVU also provides emergency services free of charge for twenty-four hours. Like previous studies [6,7] the highest percent (50.94%) of violent incidents was verbal compared to 4.6% incidents of physical violence. Most of the medical students who exposed to violence were hesitated to make a complaint (figure 2). Indeed, students found a difficulty to decide because either they lack knowledge about how to make the complaint in the right way, or they had doubts about obtaining adequate support when filing a complaint. Results of this study showed that 38.0% of students had enough knowledge enabled them to recognize the right code (1111) allocated to use in case of violence incident against healthcare personnel in Turkey. Ayrancı et al. [4] found that most of the victims could not get help during the incident; however, the inexperienced young age group working in the emergency services tend to report violence more than their colleagues. Chung et al. [10] indicated that medical students refrain from reporting the incident of violence because they thought it is not vital and may lead to damage the student-supervisor relationship and often sympathize with the source of the violence at the expense of the student. The author also attributed the factors preventing medical students from reporting incidents of violence or mistreatment to various and deeply embedded factors in the culture of medicine, as well as the negative connotations associated with reporting" [10]. Most of the students dissatisfied with the role of media in the subject of violence against healthcare providers. Students did not accept the frequent presentation of incidents of violence in the media. This trend was reflected in the students' expectations as they would be exposed to workplace violence during the first ten years of their profession with a suspected high prevalence rate of violent incidents to occur in the future. The students believe that raising people's awareness about the seriousness of the violence is not only done through the media. Whenever the news about violence against healthcare givers is repeated without a radical solution, the more likely it is to accept the idea than to reject it altogether.

Although this study shed light on the violent incidents against medical students who were under clinical training in a private tertiary hospital of medical college, however, because of the cross-sectional design the causal relationship was not possible. Moreover, the results cannot be generalized because of the sample collection was from one center. Further research among students from a public hospital is recommended.

**Table 1** Knowledge of students about the white Code (n=150)

No.	Variable	Category	n	%
1	How would you define your level of knowledge about white code implementation?	Quite enough	6	4.0
		Partially adequate	58	38.7
		Quite insufficient	65	43.3
		No idea	21	14.0
2	Which of the following numbers (White Code) will be used by the health institution administrator to notify about victims of violence or when the event occurred?	111	48	32.0
		113	38	25.3
		1111	57	38.0
		3333	7	4.7
3	Do you think you will see enough support when you encounter this situation and report it?	Yes	22	14.7
		No	68	45.3
		No idea	60	40.0

**Table 2** Perception of students about violence (n=150)

No.	Variable	Category	n	%
1	Do you agree with the fact when violence news is frequently on the agenda will contribute to a decrease in violence by raising awareness in the society?	Agree	34	22.7
		disagree	106	70.7
		No idea	10	6.6
2	Do you think you will be exposed to verbal violence in the first 10 years of your professional life?	Yes	140	93.3
		No	6	4.0
		No idea	4	2.7
3	Do you think you will be exposed to physical violence in the first 10 years of your professional life?	Yes	56	37.4
		No	35	23.3
		No idea	59	39.3
4	What do you think will be the incidence of violence against health workers in the next 10 years?	Increase	103	68.7
		No change	31	20.7
		Decreases	4	2.6
		No idea	12	8.0

## Conclusion

In conclusion, this study showed that the prevalence of violence incidents (36.0%) is high among medical students. About seventy percent of the students were witnesses to workplace violence incidents against other health personnel. There is an apparent ignorance of how to deal with violent incidents. Most of the surveyed students do not know the correct number allocated to call and ask for support when the abuse occurs. However, few of them believed in the usefulness of requesting support. The majority of students had a pessimistic view of the future of the medical profession and believed that the abuse would increase in the future. Students have not accepted the role of media on how to present the problem. The need for awareness and training programs to counteract workplace violence has become more necessary than ever and may be more useful if it was in the curriculum.

## Abbreviations

WPV: Workplace Violence BVU: Bezmialem Vakif University

## Declarations

### Acknowledgement

We render our special thanks to all medical students for their patience and help during the study.

## Funding

The author (s) received no financial support for the research, authorship, and/or publication of this article.

## Availability of data and materials

Data will be available by emailing drsaadalezzi@gmail.com

## Authors' contributions

SAAJ is the principal investigator of the study who designed the study and coordinated all aspects of the research including all steps of the manuscript preparation. He is responsible for the

study concept, design, writing, reviewing, editing and approving the manuscript in its final form. AI and PT contributed in the study design, analysis and interpretation of data, drafting the work, writing the manuscript and reviewed and approved the manuscript. All authors read and approved the final manuscript.

### Ethics approval and consent to participate

We conducted the research following the Declaration of Helsinki, and the protocol was approved by the Ethic Committee of Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey (Ref: 54022451-050.05.04/27.03.2018). Moreover, written informed consent was obtained from each included student who were willing to participate after explanation of the study objectives and guarantee of secrecy.

### Consent for publication

Not applicable

### Competing interest

The authors declare that they have no competing interests.

### Open Access

This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated

### Author details

<sup>1</sup>Department of Public Health, Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey.

### Article Info

Received: 02 April 2019

Accepted: 05 June 2019

Published: 09 June 2019

### References

- Pinar T, Acikel C, Pinar G, Karabulut E, Saygun M, Bariskin E. et al. Workplace violence in the health sector in Turkey: a national study. *J Interpers Violence*. 2017; 32(15): 2345-2365. <https://doi.org/10.1177/0886260515591976>.
- Ali Jadoo SA, Torun P, Dastan I, Al-Samarrai M. Impact of conflict related and workplace related violence on job satisfaction among physicians from Iraq - a descriptive cross-sectional multi centre study. *Journal of Ideas in Health* 2018;1(1):14-2.
- Turan S, Elçin M, Odabaşı O, Demir M, Örnek Büken N. Medical students encounter with victims of violence: a simulation program. *Journal of Education Culture and Society* 2017;8(2):156-162. <https://doi.org/10.15503/jecs20172.156.162>.
- Ayranci U, Yenilmez C, Balci Y, Kaptanoglu C: Identification of violence in Turkish health care settings. *J Interpers Violence*. 2006, 21: 276-296. <https://doi.org/10.1177/0886260505282565>.
- Karakas SA, Kucükoglu S, Çelebioglu A. Violence experienced by Turkish nurses and their emotions and behaviors. *Studies on Ethno-Medicine* 2015; 9(3): 297-304. <https://doi.org/10.1080/09735070.2015.11905447>.
- Xie Z, Li J, Chen Y, Cui K. The effects of patients-initiated aggression on Chinese medical students' career planning. *BMC Health Serv Res*. 2017;17(1): 849. <https://doi.org/10.1186/s12913-017-2810-2>.
- Sahraian A, Hemyari C, Ayatollahi M, Zomorodian K. Workplace violence against medical students in Shiraz, Iran. *Shiraz E-Med J*. 2016;17(4-5): 35754. <https://doi.org/10.17795/semj35754>.
- Sood R, Singh G, Arora P. To study medical students' perspective on rising violence against doctors. Do they consider obstetrics and gynecology a risky branch? *Int J Reprod Contracept Obstet Gynecol*. 2017; 6(8): 3314-3318, <https://doi.org/10.18203/2320-1770.ijrcog20173193>.
- Al-Samarraie MA, Ali Jadoo SA. Iraqi medical students are still planning to leave after graduation. *Journal of Ideas in Health* 2018;1(1):23-8.
- Chung MP, Thang CK, Vermillion M, Fried JM, Uijtdehaage S, Sebastian U. Exploring medical students' barriers to reporting mistreatment during clerkships: a qualitative study. *Med Educ Online*. 2018;23(1):1478170. <http://dx.doi.org/10.1080/10872981.2018.1478170>.
- Naing L, Winn T, Rusli BN. Practical issues in calculating the sample size for prevalence studies. *Arch Orofac Sci*. 2006; 1:9-14.
- Bayram B, Çetin M, Oray NC, Can IO. Workplace violence against physicians in Turkey's emergency departments: a cross sectional survey. *BMJ Open*. 2017;7: e013568, <http://dx.doi.org/10.1136/bmjopen-2016-013568>.
- Roakes DK. Workplace Violence: Emergency Department versus Medical Surgical Nurses. Gardner-Webb University. Nursing Theses and Capstone Projects. 2012.
- Alsaleem SA, Alsabaani A, Alamri RS, Hadi RA, Alkhayri MH, Badawi KK, et al. Violence towards healthcare workers: A study conducted in Abha City, Saudi Arabia. *Journal of Family & Community Medicine* 2018; 25(3): 188-193. [https://doi.org/10.4103/jfcm.JFCM\\_170\\_17](https://doi.org/10.4103/jfcm.JFCM_170_17).
- Gillespie GL, Gates DM, Miller M, Howard PK. Workplace violence in healthcare settings: Risk factors and protective strategies. *Rehabil Nurs*. 2010; 35:177-84. <https://doi.org/10.1002/j.2048-7940.2010.tb00045.x>.
- Hahn S, Hantikainen V, Needham I, Kok G, Dassen T, Halfens RJ. Patient and visitor violence in the general hospital, occurrence, staff interventions and consequences: a cross-sectional survey. *J Adv Nurs*. 2012; 68(12): 2685-2699. <https://doi.org/10.1111/j.1365-2648.2012.05967.x>.