The Relationship Between Violent Behavior in Healthcare Settings and Communication Skills: An Empirical Study on Provincial Hospitals in Ankara

ABSTRACT

Objective: Violence in the health care is a multifaceted and complex social phenomenon that attracts the attention of researchers and policymakers in many countries around the world. Violence against healthcare workers has several factors, but there are limited data on the association between violence against healthcare workers and the communication skills of healthcare workers. In this study, we examine the relationship between healthcare professionals' communication skills and violent incidents experienced or witnessed by healthcare workers.

Methods: The sociodemographic and professional data of 296 healthcare professionals were obtained. All participants were assessed using a communication skills inventory. The total and categorical scores of the communication skills inventories were compared between participants who had been exposed to violence and those who had not.

Results: It was found that the emotional score of individuals who had suffered more than one physical attack was lower than that of others ($P = .037$). In addition, nurses were found to have more verbal violent behavior experience than their counterparts. Other comparisons were found to be insignificant.

Discussion: Healthcare professionals should not only evaluate complex problems such as violence in the health care but also emphasize the role of patients and their relatives. Violence against healthcare professionals cannot be based on a simple factor. We believe that there are many factors that lead to violence. The causes of violence in the health care should be examined by future studies.

Keywords: Violence, health personnel, communication

Introduction

Violence in healthcare is a complex, multifaceted social phenomenon that attracts the attention of researchers and policymakers in many countries around the world. Violence in healthcare refers to abusive, threatening, or assaulting incidents that involve an overt or implicit challenge to healthcare workers' safety and health in the workplace, including when traveling to or from the workplace. Violence is a general term that includes all kinds of abusive behaviors that are threatening, degrading, or insulting to one's well-being, dignity, or values.

The issue of violence in healthcare has been investigated in several studies so far. Long waiting periods, unmet treatment demands, a lack of actual hospitals, easy access to weapons, and alcohol or drug abuse have come to the fore as the primary causes of violence in the healthcare sector. However, interpersonal communication is also a critical factor behind the violence in the health care.

Communication is a very important tool to understand others and gain insight into their thoughts and feelings by identifying with them, leading to more sympathetic awareness.

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Communication skills play an essential role in many occupational groups, but they become more important in occupational groups, such as health care, in which interpersonal interactions play a crucial role. A certain skill set is necessary in all helpful relationships: one-on-one personal contact and attention, an open invitation to communicate, minimal encroachment, and reflection of emotions as a summarized description.7

Most studies examine the causes of violence and ways to protect against it. However, the studies in Turkey in this field have only been conducted on a limited scale by examining the level of violence that can be observed.8–10 The relationship between communication skills and violence in the healthcare sector has not been fully elucidated.

In this study, we aim to examine the relationship between healthcare professionals’ communication skills and the violent incidents experienced or witnessed by healthcare workers.

Methods

Design and Setting

This study was carried out between June 1, 2019 and August 31, 2019 across several locations: Ankara Doctor Sami Ulus Obstetrics, Pediatric Health and Diseases Training and Research Hospital Emergency Department, Ankara Dışkapı Yıldırım Beyazıt Training and Research Hospital Emergency Department, Ankara 29 Mayıs State Hospital Emergency Department, Ankara Gazi Mustafa Kemal State Hospital Emergency Department, and Ankara Yıldırım Beyazıt University Yenimahalle Training and Research Hospital Emergency Department. This cross-sectional study was performed through face-to-face interviews with healthcare workers currently working in these hospitals. However, this study was also conducted at Ankara Sami Ulus Maternity, Child Health and Diseases Training and Research Hospital between June 1, 2019 and August 31, 2019 because of difficulties to reach medical staff in other centers mentioned earlier. Ankara Sami Ulus Children’s Hospital employed 803 healthcare workers during the study period. At least 258 participants were required to achieve a 5% confidence interval and a 95% confidence level. The study targeted 284 people, adding a 10% loss share, so a questionnaire was sent to 296 people. Those who had completed < 90% of the questionnaire as well as those who did not agree to participate in the study were excluded. In addition, subjects who had completed < 90% of the questionnaire as well as those who did not agree to participate in the study were excluded. In total, 296 subjects were selected; all of the data belonging to the subjects were put into the statistical package program. The subjects were then categorized according to the department in which they worked.

Measures

Subjects were asked to self-report demographic data. These data included age, sex, how many years they had been employed in the healthcare sector, job title, unit in which they worked, whether they had received communication training or not, and their opinions about the contribution of communication to their profession. The prepared questionnaire was sent to subjects’ e-mail addresses, and subjects signed written informed consent forms before answering the questionnaire. Those who gave their consent were included in the study. The questionnaire took approximately 20 minutes to complete.

The Communication Skills Inventory (CSI) is a Likert-type inventory developed by Ersanlı and Balc11 that consists of 45 items and 3 categories. These categories are defined by their content: cognitive (mental), affective (emotional), and behavioral. There are 15 items within each category. Questions in the mental category are 1, 3, 6, 12, 15, 17, 18, 20, 24, 28, 30, 33, 37, 43, and 45. Questions in the emotional category are 5, 9, 11, 26, 27, 29, 31, 34, 35, 36, 38, 39, 40, 42, and 44. Questions in the behavioral category are 2, 4, 7, 8, 10, 13, 14, 16, 19, 21, 22, 23, 25, 32, and 41. Participants were also asked whether they had been subjected to physical or verbal violence, whether they were witnesses to violence or not, and their thoughts on the reasons behind violence in the healthcare sector.

Statistical Analysis

The data were transferred to the Statistical Package for the Social Sciences (SPSS) version 20 (IBM Corp.; Armonk, NY, USA), and any data that were suitable for normal distribution were tested with Shapiro-Wilk test. A Chi-square test was used to compare categorical data. In comparing means, a t-test and analysis of variance were used for normal distributions, and Mann-Whitney U and Kruskal-Wallis tests were used for parameters that were unsuitable for normal distribution. P < .05 was considered to be significant.

Results

A total of 296 participants were included, and 67 of them were male. The mean (SD) age of the participants was 34.79 (SD = 9.30) years, and the mean (SD) duration of service was 11.43 (SD = 8.94) years. Regarding communication, 63.9% of the participants were educated in communication, and 96.6% of the participants believed that effective communication will contribute to improving the profession. A total of 203 (68.6%) respondents said that they had been subjected to at least one verbal or physical attack, and 75.9% of the attackers were reportedly male. The percentage of those who had been exposed to physical violence was 15.2%, and 26.7% had been exposed to > 1 instance of violence. The percentage of healthcare workers who were subjected to patient complaints was 21%. Of these, the percentage of those who had > 1 patient complain about them was 29%, and 18 participants (6.1%) had been taken to court by patients (Table 1).

The average scores in the CSI were 152.41 (SD = 11.04) for the entire inventory, 53.24 (SD = 4.74) for the mental dimension, 45.76 (SD = 5.51) for the emotional dimension, and 53.42 (SD = 4.95) for the behavioral dimension. In terms of how much communication education participants had received, there was no statistically significant difference in CSI scores (Table 2 and 3). It was found that the emotional scores of individuals who had suffered > 1 physical attack were significantly lower than the scores of others (P = .037, Table 4).
The total and categorical scores of the CSI were compared on the basis of gender. In women, the total scores, mental scores, emotional scores, and behavioral scores were 153.32 (SD = 21.03), 51.84 (SD = 6.72), 52.78 (SD = 8.77), and 51.12 (SD = 9.13), respectively. In men, the total scores, mental scores, emotional scores, and behavioral scores were 149.22 (SD = 19.16), 49.66 (SD = 8.18), 50.89 (SD = 9.17), and 49.89 (SD = 8.76), respectively. This shows that both men and women were similar in terms of their total and categorical CSI scores (P = .27, P = .16, P = .23, and P = .43, respectively). The rate of women participants who were exposed to verbal violent behavior was 58.57%, and this rate in men was 61.40%. There was not any significance between groups according to gender. The exposure to physical violent behavior was also found to be similar between genders (P > .05).

CSI scores were also compared according to participants’ duties. The participants were categorized as physicians, nurses, and other health care workers. In the physician group (n = 89), the total scores, mental scores, emotional scores, and behavioral scores were 152.11 (SD = 12.21), 50.66 (SD = 11.24), 53.99 (SD = 8.18), and 49.77 (SD = 5.99), respectively. In the nurse group (n = 114), the total scores, mental scores, emotional scores, and behavioral scores were 149.11 (SD = 813), 49.34 (SD = 6.73), 48.13 (SD = 7.16), and 43.63 (SD = 4.91), respectively. These scores were found to be similar between the physician and other healthcare workers groups (P > .05). The percentage of nurses exposed to verbal violence was 88.59% (n = 101), whereas in physicians, it was 56.17% (n = 50), and in other healthcare workers, it was 56.98% (n = 53). So, the percentage of nurses exposed to verbal violence was significantly higher than those of the other groups (P < .001). The percentages of those exposed to physical violence were similar between all the three groups (P > .05).

Table 1. Descriptive Data of Study (N = 296)

| Category                                      | n (%)          |
|-----------------------------------------------|----------------|
| Gender                                        |                |
| Female                                        | 229 (77.4)     |
| Male                                          | 67 (22.6)      |
| Age, years, mean (SD)                         | 34.79 (9.30)   |
| Time of duty, years, mean (SD)                | 11.43 (8.94)   |
| Working place                                 |                |
| Health services                               | 267 (90.2)     |
| Official                                      | 29 (9.8)       |
| Status of communication skills education      |                |
| No                                            | 107 (36.1)     |
| Yes                                           | 286 (96.6)     |

Table 2. Comparison of Violent-Related Issues According to Receiving Communication Skills Education

| Receiving communication skills education      | Yes (n = 189) | No (n = 107) |
|-----------------------------------------------|---------------|--------------|
| Gender                                        |               |              |
| Female                                        | 141 (74.6)    | 88 (82.2)    | .172         |
| Male                                          | 48 (25.4)     | 19 (17.8)    |
| Experienced physical violence                 |               |              |
| No                                            | 158 (83.6)    | 93 (86.9)    | .357         |
| Yes                                           | 21 (11.1)     | 12 (11.2)    |
| More than one time                            | 10 (5.3)      | 2 (1.9)      |
| Experienced verbal violence                   |               |              |
| No                                            | 55 (29.1)     | 37 (34.6)    | .549         |
| Yes                                           | 70 (37.0)     | 34 (34.8)    |
| More than one time                            | 64 (33.9)     | 36 (33.6)    |
| Being witness to physical violence            |               |              |
| No                                            | 79 (41.8)     | 54 (50.5)    | .066         |
| Yes                                           | 69 (36.5)     | 25 (23.4)    |
| More than one time                            | 41 (21.7)     | 28 (26.2)    |
| Being witness to verbal violence              |               |              |
| No                                            | 29 (15.3)     | 22 (20.6)    | .298         |
| Yes                                           | 83 (43.9)     | 38 (35.5)    |
| More than one time                            | 77 (40.7)     | 47 (43.9)    |
| Application of complaints by the patients     |               |              |
| No                                            | 155 (82.0)    | 79 (73.8)    | .139         |
| Yes                                           | 26 (13.8)     | 18 (16.8)    |
| More than one time                            | 8 (4.2)       | 10 (9.3)     |
| Admission to the court                        |               |              |
| No                                            | 179 (94.7)    | 99 (92.5)    | .615         |
| Yes                                           | 10 (5.3)      | 8 (7.5)      |              |
Participants were grouped in terms of verbal violence exposure, and it was found that the categorical scores on the communication scale (mental, emotional, and behavioral) were similar between each group (Table 5).

Participants were questioned about what they thought the reasons behind the violence in health care. Whereas 73.4% of the participants perceived that communication problems were the cause of violence in health care, 24% reported that violence could be caused by insufficient knowledge of healthcare personnel.

**Discussion**

In this study, we investigated the relationship between exposure to violence and healthcare workers' communication skills. It was found that exposure to any kind of violence at least once was quite frequent, but no significant relationship was found between communication skills and violence except for lower emotional scores in participants who had experienced a violent behavior at least once. The results showed that 15.2% of the participants had been exposed to physical violence at least once, and 68.9% had been exposed to verbal violence at least once. In addition, 203 (68.6%) of the participants stated that they had been exposed to at least one verbal or physical attack.

Violence is defined as the use of force, physical restraint, or threats toward a person, group, or community for the purpose of causing death, physical or mental injury, or a developmental disorder. It is examined under two main headings: physical violence, including physical, sexual, or psychological violence to another person or community, and psychological violence, including verbal violence, defamation, mobbing, threats, and harassment. Violence in healthcare facilities is defined as physical or sexual assault or any threatening behavior that healthcare workers are exposed to by patients, patients' relatives, or any individual.

| Table 3. Comparison of CSI Scores According to Receiving Communication Skills Education |
|-----------------------------------------------|
| Receiving education | n  | Mean (SD) | Median | Min. | Max. | P* |
|---------------------|----|-----------|--------|------|------|----|
| Age (years)         |    |           |        |      |      |    |
| Yes                 | 189| 34.93 (9.26) | 35     | 9    | 65   | .595 |
| No                  | 107| 34.55 (9.41) | 33     | 19   | 60   |    |
| Duration of duty (years) |    |           |        |      |      |    |
| Yes                 | 189| 11.83 (8.79) | 10     | 10   | 42   | .176 |
| No                  | 107| 10.73 (9.20) | 8      | 0    | 37   |    |
| Mental dimension    |    |           |        |      |      |    |
| Yes                 | 189| 53.57 (4.92) | 53     | 41   | 68   | .131 |
| No                  | 107| 52.66 (4.37) | 53     | 37   | 66   |    |
| Emotional dimension |    |           |        |      |      |    |
| Yes                 | 189| 46.01 (5.60) | 45     | 32   | 63   | .420 |
| No                  | 107| 45.31 (5.33) | 45     | 35   | 69   |    |
| Behavioral dimension|    |           |        |      |      |    |
| Yes                 | 189| 53.66 (4.97) | 54     | 40   | 69   | .240 |
| No                  | 107| 52.98 (4.90) | 52     | 44   | 75   |    |
| Total score         |    |           |        |      |      |    |
| Yes                 | 189| 153.24 (11.20) | 153    | 130  | 191  | .081 |
| No                  | 107| 150.95 (10.64) | 150   | 128  | 210  |    |

Abbreviations: CSI, Communication Skills Inventory; SD, standard deviation; Min., minimum; Max., maximum.

| Table 4. Comparison of CSI Scores According to Experiencing Physical Violence |
|-----------------------------------------------|
| Age (years)         |    | Mean (SD) | Median | Min. | Max. | P* |
| No                  | 251| 34.78 (9.48) | 34     | 9    | 65   | .578 |
| Yes                 | 33 | 35.67 (8.33) | 35     | 24   | 51   |    |
| More than one time  | 12 | 32.58 (8.34) | 22     | 22   | 42   |    |
| Duration of duty (years) |    |           |        |      |      |    |
| No                  | 33 | 12.80 (9.38) | 10     | 0    | 32   | .432 |
| More than one time  | 12 | 13.17 (9.25) | 16     | 2    | 25   |    |
| Mental dimension    |    |           |        |      |      |    |
| No                  | 251| 53.47 (4.67) | 53     | 41   | 68   | .330 |
| Yes                 | 33 | 53.06 (4.14) | 53     | 45   | 65   |    |
| More than one time  | 12 | 48.92 (6.05) | 49     | 37   | 58   |    |
| Emotional dimension |    |           |        |      |      |    |
| No                  | 251| 45.96 (5.61) | 45     | 32   | 69   | .037 |
| Yes                 | 33 | 43.85 (4.51) | 43     | 33   | 61   |    |
| More than one time  | 12 | 46.67 (5.00) | 47     | 40   | 56   |    |
| Behavioral dimension|    |           |        |      |      |    |
| No                  | 251| 53.51 (5.03) | 53     | 40   | 75   | .672 |
| Yes                 | 33 | 52.64 (4.47) | 52     | 46   | 63   |    |
| More than one time  | 12 | 53.58 (4.48) | 53     | 49   | 65   |    |
| Total score         |    |           |        |      |      |    |
| No                  | 251| 152.94 (11.26) | 152    | 128  | 210  | .290 |
| Yes                 | 33 | 149.55 (9.55) | 151    | 130  | 167  |    |
| More than one time  | 12 | 149.17 (8.83) | 149.5  | 134  | 164  |    |

Abbreviations: CSI, Communication Skills Inventory; SD, standard deviation; Min., minimum; Max., maximum.
Grouped by occupation, violence is most frequently experienced by nurses, followed by general practitioners and other healthcare workers. In addition, it is known that the reporting rate of violent incidents in healthcare institutions is very low; only serious incidents, such as those that cause injuries, are perceived as violent, and other incidents are not reported.

It has been found that men cause violence more than women. In a study conducted by Çamcı and Kutlu in similar groups in 2011, it was concluded that physical violence (12.2%), verbal violence (59.7%), bullying/psychological abuse (12.8%), and sexual abuse (3.6%) were investigated mostly by men.

Although there is an inverse relationship between nurses’ education levels and violent incidents no significant relationship has been found between exposure to violence and health care workers’ education status. In a study conducted in Europe, it was found that nurses with low levels of education were more likely to be subjected to violence. The fact that violence is seen more frequently in graduates of associate degree programs and vocational schools may be due to a lack of communication skills, low educational status, and a lack of professional knowledge, skill, and maturity, which are not highly developed so shortly after graduation.

In a joint report on the severity of global healthcare violence, published by the World Health Organization, International Labour Organization, and International Council of Nurses in 2002, 27-67% of healthcare workers were found to have been exposed to verbal violence, 10-23% to psychological violence, 3-17% to physical violence, 0.7% to sexual violence, and 0.8-2.7% to ethnic violence. In a multicenter study conducted in Turkey, 51.5% of the healthcare employees who participated in the study had been exposed to violence from patients or patients’ relatives, and 60.4% of those who had been subjected to violence were women. The rate of verbal violence was 72.4%, and the rate of physical violence was 11.7%. In the same study, it was seen that most practitioners had been exposed to violence, and the violence had mostly been experienced in public hospitals, especially in the emergency department. In another recent study, more than one third of healthcare workers reported experiencing some kind of violent behavior. Verbal violence was the most commonly reported.

In a study conducted in Europe, it was found that nurses accepted that violence was a major issue for them and had a considerable personal impact. Violent behavior were determined to be working in remote health care areas, under-staffing, the mental or emotional stress of patients and visitors, insufficient security, and a lack of preventative measures. On the basis of the results of this study, we can say that our research is in line with previous literature in terms of the prevalence of violent behavior, with the highest rate of verbal violence and the higher prevalence of violent behavior being toward nurses than toward other healthcare professions.

Many healthcare professionals suggest and evidence has shown that improving communication between patients and healthcare workers is not an effective strategy to deal with health care violence. It is difficult to obtain evidence supporting the notion that violence in health care only results from poor training or skills in health care personnel. In the study, healthcare workers were asked to examine the causes of

| Table 5. Comparison of CSI Scores According to Experiencing Verbal Violence |
|-----------------------------|---|---|---|---|---|
| Age (years)                 | n  | Mean (SD) | Median | Min. | Max. | P* |
| Yes                         | 92 | 33.58 (10.38) | 33 | 19 | 60 | .054 |
| No                          | 104 | 36.07 (9.38) | 35.5 | 9 | 65 | |
| More than one time          | 100 | 34.59 (8.01) | 34 | 22 | 54 | |
| Duration of duty (years)    | n  | Mean (SD) | Median | Min. | Max. | P* |
| Yes                         | 92 | 10.13 (9.72) | 8 | 0 | 42 | .033 |
| No                          | 104 | 12.07 (8.72) | 10.5 | 0 | 41 | |
| More than one time          | 100 | 11.97 (8.34) | 9.75 | 1 | 35 | |
| Mental dimension            | n  | Mean (SD) | Median | Min. | Max. | P* |
| Yes                         | 92 | 53.15 (5.42) | 54 | 37 | 66 | .415 |
| No                          | 104 | 53.69 (4.35) | 54 | 44 | 66 | |
| More than one time          | 100 | 52.85 (4.46) | 53 | 41 | 68 | |
| Emotional dimension         | n  | Mean (SD) | Median | Min. | Max. | P* |
| Yes                         | 92 | 45.77 (5.36) | 45.5 | 35 | 61 | .391 |
| No                          | 104 | 46.36 (5.72) | 45 | 32 | 69 | |
| More than one time          | 100 | 45.12 (5.39) | 44.5 | 33 | 63 | |
| Behavioral dimension        | n  | Mean (SD) | Median | Min. | Max. | P* |
| Yes                         | 92 | 53.38 (4.71) | 53 | 45 | 63 | .753 |
| No                          | 104 | 53.80 (5.29) | 53 | 44 | 75 | |
| More than one time          | 100 | 53.05 (4.81) | 53 | 40 | 68 | |
| Total score                 | n  | Mean (SD) | Median | Min. | Max. | P* |
| Yes                         | 92 | 152.30 (10.82) | 151 | 131 | 186 | .220 |
| No                          | 104 | 153.85 (11.89) | 153 | 130 | 210 | |
| More than one time          | 100 | 151.02 (10.22) | 150 | 128 | 191 | |

Abbreviations: CSI, Communication Skills Inventory; SD, standard deviation; Min., minimum; Max., maximum. Kruskal-Wallis Test.
Informed consent was obtained from the individuals who participated in this study.

The limitations of this study are that it was conducted in a single center, it contained only one main outcome, and the measurements were based solely on participants' statements and not validated by forensic or hospital records.

Healthcare professionals should not only evaluate the complex problem of violence in health care but also emphasize the role of patients and patients' relatives. Violence against healthcare professionals cannot be based on a single factor, rather there are many factors behind the violence. The causes of violence in health care should be examined by future studies.

**Ethics Committee Approval:** Ethics committee approval was received for this study from the Ethics Committee of Health Sciences University Ankara Dr. Sami Ulus Training and Research Hospital (Approval Date: May 15, 2018; Approval Number: 4922).

**Informed Consent:** Informed consent was obtained from the individuals who participated in this study.

**Peer-review:** Externally peer-reviewed.

**Author Contributions:** Concept - A.G.; Design - A.G.; Supervision - A.G.; Data Collection and/or Processing - A.G., M.S.; Analysis and/or Interpretation - A.G., M.S.; Literature Search - M.G.; Writing - A.G., M.S.; Critical Review - M.S.

**Conflict of Interest:** The authors have no conflict of interest to declare.

**Financial Disclosure:** The authors declared that this study has received no financial support.

**References**

1. Azodo CC, Ezeja EB, Ehikhamenor EE. Occupational violence against dental professionals in southern Nigeria. Afr Health Sci. 2011;11(3):486-492.
2. Chappell D, Di Martino V. Violence at Work. Geneva: International Labour Organisation; 1998.
3. Gacki-Smith J, Juarez AM, Boyett L, Homeyer C, Robinson L, MacLean SL. Violence against nurses working in US emergency departments. J Healthc Prot Manage. 2009;39(7-8):340-349. [Crossref]
4. Hahn S, Müller M, Needham I, Dassen T, Kok G, Halfens RJ. Factors associated with patient and visitor violence experienced by nurses in general hospitals in Switzerland: a cross-sectional survey. J Clin Nurs. 2010;19(23-24):3535-3546. [Crossref]
5. Jiao M, Ning N, Li Y, et al. Workplace violence against nurses in Chinese hospitals: a cross-sectional survey. BMJ Open. 2015;5(3):e006719. [Crossref]
6. Joa TS, Morken T. Violence towards personnel in out-of-hours primary care: a cross-sectional study. Scond J Prim Health Care. 2012;30(1):55-60. [Crossref]
7. Boafo IM. “... they think we are conversing, so we don’t care about them…” Examining the causes of workplace violence against nurses in Ghana. BMC Nurs. 2016;15:68. [Crossref]
8. Cai W, Deng L, Liu M, Yu M. Antecedents of medical workplace violence in South China. J Interpers Violence. 2011;26(2):312-327. [Crossref]
9. Statopoulos H, Stathopoulou HG. Violence and aggression towards health care professionals. Health Science Journal. 2007;1:19-25.
10. Martino VD. Workplace violence in the health sector. Country case studies Brazil, Bulgaria, Lebanon, Portugal, South Africa, Thailand and an additional Australian study. Geneva: ILO/ICN/WHO/PSI Joint Programme on Workplace Violence in Health Sector; 2002.
11. Ersanli K, Barci S. Developing a communication skills inventory: its validity and reliability. Türk Psikolojik Danışma ve Rehberlik Derg. 2016;2(10):7-12.
12. Mercy JA, Krug EG, Dahlberg LL, Zwi AB. Violence and health: the United States in a global perspective. Am J Public Health. 2003;93(2):256-261. [Crossref]
13. Saines J. Violence and aggression in A & E: recommendations for action. Accid Emerg Nurs. 1999;7(1):8-12. [Crossref]
14. Winstanley S, Whittington R. Aggression towards healthcare staff in a UK general hospital: variation among professions and departments. J Clin Nurs. 2004;13(1):3-10. [Crossref]
15. Ab B, Zengin S, Deryal Y, Gökcen C, Yılmaz DA, Yıldırım Ç. Increased violence towards healthcare staff. The Journal of Academic Emergency Medicine. 2012;8:115-125.
16. Büyükbayram A, Okçay H. The socio-cultural factors that affect violence in health care personnel. J Psychiatr Nurs. 2013;4(1):46-53. [Crossref]
17. Çamcı O, Kutlu Y. Determination of workplace violence toward health workers in Kocaeli. J Psychiatr Nurs. 2011;2(1):9-16.
18. Volavka J. The neurobiology of violence: an up-date. J Neuropsychiatr Clin Neurosci. 1999;11(3):307-314. [Crossref]
19. Carmi-Iluz T, Peleg R, Freund T, Shvartzman P. Verbal and physical violence towards hospital and community-based physicians in the Negev: an observational study. BMC Health Serv Res. 2005;15(5):54. [Crossref]
20. Chen WC, Hwu HG, Kung SM, Chiu JJ, Wang JD. Prevalence and determinants of workplace violence of healthcare workers in a psychiatric hospital in Taiwan. J Occup Health. 2008;50(3):288-293. [Crossref]
21. Ayranci U, Yenilmez C, Barci Y, Kaptanoglu C. Identification of violence in Turkish healthcare settings. J Interpers Violence. 2006;21(2):276-296. [Crossref]
22. Shaikh S, Baig LA, Hashmi I, et al. The magnitude and determinants of violence against healthcare workers in Pakistan. BMJ Glob Health. 2020;5(4):e002112. [Crossref]
23. Baig LA, Shaikh S, Polkowska M, et al. Violence against health care providers: a mixed-methods study from Karachi, Pakistan. J Emerg Med. 2018;54(4):558-566. [Crossref]
24. Spletten E, Thomas B, O'Meara P, van Vuuren J, McGillion A. Violence against emergency department nurses; can we identify the perpetrators? PLoS One. 2020;15(4):e0230793. [Crossref]
25. Viottini E, Poltano G, Fornero G, et al. Determinants of aggression against all health care workers in a large-sized university hospital. BMC Health Serv Res. 2020;20(1):215. [Crossref]
26. Terzic-Supic ZJ, Fisekovic-Kremer MB, Todorovic J, Santric-Milicevic MM, Nesic DM, Trajkovic GZ. Violence against primary health care workers in Serbia and measures for ensuring safe work environment. Iran J Public Health. 2019;48(12):2304-2305. [Crossref]
27. Tian Y, Yue Y, Wang J, Luo T, Li Y, Zhou J. Workplace violence against hospital healthcare workers in China: a national WeChat-based survey. BMC Public Health. 2020;20(1):582. [Crossref]

28. Hamzaoglu N, Türk B. Prevalence of physical and verbal violence against health care workers in Turkey. Int J Health Serv. 2019;49(4):844-861. [Crossref]

29. Nowrouzi-Kia B, Chai E, Usuba K, Nowrouzi-Kia B, Casole J. Prevalence of Type II and Type III workplace violence against physicians: a systematic review and meta-analysis. Int J Occup Environ Med. 2019;10(3):99-110. [Crossref]

30. Li Z, Yan CM, Shi L, et al. Workplace violence against medical staff of Chinese children’s hospitals: a cross-sectional study. PLoS One. 2017;12(6):e0179373. [Crossref]