The occurrence and consequences of violence against healthcare workers in Turkey: before and during the COVID-19 pandemic

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Background: Before and throughout the COVID-19 pandemic, healthcare workers (HCWs) were victims of workplace violence (WPV). There are no reliable statistics on the occurrence and consequences of WPV against HCWs in Turkey throughout the pandemic period.

Objective: We investigated the rates of WPV against HCWs in Turkey in the pre-pandemic and pandemic periods, variables associated with WPV, and the relationship between these variables and job satisfaction and burnout.

Methods: A structured online questionnaire was disseminated through social media channels to HCWs in various healthcare settings. All the respondents also completed the Maslach Burnout Inventory (MBI) and Job Satisfaction Scale. Based on the data obtained, we determined the frequency, causes, and consequences of WPV against HCWs before and during the pandemic.

Results: There were 701 completed questionnaires. 68.2% of participants were female, and 65.6% of them were doctors. The rate of WPV was 54.1% and 24.3% before and during the pandemic, respectively. Verbal abuse was the most common kind of WPV. Female HCWs were more likely to be physically assaulted than their male counterparts, especially those working in COVID-19 units. The majority of HCWs who were exposed to the violence at least once did not report WPV. HCWs exposed to WPV during the pandemic reported more emotional exhaustion and depersonalization and a lower perceived level of personal achievement.

Conclusion: HCWs were exposed to significant levels of violence both before and during the pandemic. Preventing WPV against HCWs and removing barriers to reporting abuse is crucial.

Key words: bullying, burnout, harassment, healthcare worker, workplace violence

Background

Violence in the healthcare setting is a major problem, which continues to increase. Violence against healthcare workers (HCWs) poses a severe threat to workplace safety. The World Health Organization (WHO) defines workplace violence (WPV) as an act of being abused, threatened, or attacked in the workplace, explicit or implicit defiance of a person’s safety, well-being, or health. Based on its definition, WPV encompasses physical attacks, murder, verbal abuse, bullying, sexual harassment, and threats.

HCWs are exposed to violence more frequently than those working in other sectors. According to the studies in Turkey, the rate of violence against HCWs varies from 49% to 87%. In China, the overall prevalence of WPV against HCWs was reported to be 62.4%, with physical violence, psychological violence, verbal abuse, threatening behaviours, and sexual harassment rates of 13.7%, 50.8%, 61.2%, 39.4%, and 6.3%, respectively, according to a meta-analysis study. According to a meta-analysis, worldwide, one in every five HCWs is subjected to physical violence by patients or visitors coming to the hospitals every year. A survey found that 39.6% of nurses were subjected to WPV. Physical and verbal abuse of HCWs increased during the COVID-19 pandemic, with patients and their families the primary perpetrators. Sleep disorders, fear, stress, anxiety, depression, burnout, and post-traumatic stress disorder linked to WPV also increased among HCWs during the pandemic. The prevalence of WPV is likely much higher than the evidence indicates. The difficulties in identifying the actual frequency may be due to substantial occurrences, such as bodily injuries, characterized as violence. Furthermore, the majority of HCWs do not report WPV. Some victims may not consider this when co-workers and superiors are the perpetrators, much as they may not consider violence against a health professional. No studies have investigated the impact of WPV against HCWs on burnout and job satisfaction during the pandemic versus the pre-pandemic period. In this study, we investigated the frequency, types, causes, and consequences of violence and aggression experienced by HCWs in Turkey during their interactions with patients, patients’ relatives, colleagues, and supervisors before and during the pandemic period and the relationship between these variables and occupational burnout and job satisfaction.
Key messages

- One of the essential psychosocial risk factors is workplace violence.
- During the pandemic, one in four healthcare workers was subjected to violence.
- The most common type of violence was verbal violence.
- More than half of healthcare workers did not report violence.
- A special effort is needed to minimize violence against healthcare workers.

Methods

Study design

This was a cross-sectional, descriptive, online e-survey study of HCWs conducted between 7 June 2021 and 28 July 2021. With the support of healthcare facilities, the snowball technique was employed to disseminate the survey through social networks. All healthcare institutions and HCWs who agreed to participate and satisfied the inclusion criteria, regardless of the type of institution (private or public) and place of work (i.e. COVID-19- or non-COVID-19-related), were included in the study. Participants who clicked on a link at the beginning of the survey potential participants were asked if they agreed to take part in the study and were given an informed consent and withdrawal form that outlined the study’s objective. The participants were assured of data security and anonymity.

Sample

The sample comprised individuals employed in the Turkish healthcare system who fulfilled the following requirements: (1) worked as an HCW in a healthcare facility and (2) signed the informed consent form. According to G*Power, version 3.1.9.7 software, a sample size of 220 participants was required to obtain statistical power of 0.95, with a medium effect size (0.5) and a significance level of 0.05. In total, 701 questionnaires were completed. The final sample included physicians, nurses, pharmacists, nutritionists, psychologists, laboratory technicians, medical secretaries, other allied health professionals, and healthcare assistants as shown in Table 1.

Variables

The questions on demographics in the e-survey were adapted from the WHO’s ‘Workplace Violence in the Health Sector’ survey. The e-survey included questions on the type of healthcare facility (e.g. COVID-19-related, public or private), workload, patient population, burnout, and job satisfaction. Other questions inquired about violence type and violence frequency in the pandemic versus pre-pandemic periods and the perpetrator of the violence.

Maslach Burnout Inventory (MBI)

All the participants completed the MBI, developed by Maslach and Jackson, which comprises 22 items. Three dimensions of the scale evaluate burnout: ‘Emotional Exhaustion (EE)’ (9 items), ‘Depersonalization (DP)’ (5 items), and ‘Personal Achievement (PA)’ (8 items). High scores on the ‘EE’ and ‘DP’ sub-scales of the scale and low scores on the ‘PA’ sub-scale indicate a high degree of burnout. We used the Turkish version of the scale adopted by Ergin, which includes the three sub-scales from the original version.

Job Satisfaction Scale

All the participants also completed the Job Satisfaction Scale, developed by Hackman and Oldham and adapted by Silah, for use in the Turkish population. According to the results of Tasdan and Tiryaki, Cronbach’s alpha, a measure of the internal consistency of the scale, is 0.95. A score of 53–70 on the scale indicates high job satisfaction, 33–52 indicates moderate job satisfaction, and 14–32 indicates low job satisfaction.

Statistical analyses

Quantitative and categorical variables were compared using the Mann–Whitney U test and Kruskal–Wallis test, and descriptive statistics were presented. Chi-square and Fisher’s exact tests were used for categorical data. For more than two groups in the chi-square analysis, Bonferroni correction was applied. Correlations between job satisfaction and burnout were explored using Spearman’s coefficients. For each outcome, binary logistic regression was utilized. A P-value <0.05 is considered statistically significant in all the analyses.

Results

There were 478 women (68.2%) in the total number of 701 respondents. Participants were 38.69 ± 8.4 years old on average. 75.4% of the 701 participants were married, and 551 (78.6%) graduated from 6-year university. Four hundred sixty (65.5%) participants were doctors. Two hundred forty-one participants (34.4%) were other HCWs. The institution where the participant’s work was evaluated was divided into seven groups: family health centre (14.3%), state hospital (25.1%), university/research hospital (40.5%), private hospital (4.3%), private clinic (2.4%), pharmacy (1.9%), and other centres (11.6%). The clinics worked internally (34%), and other departments (30%) were marked the most. Four hundred fifty-seven (65.2%) participants worked in COVID-related services/polyclinics.

Three hundred seventy-nine HCWs said that they had experienced at least one violent case in their working lives leading up to the survey (54.1%). Approximately 129 of the 223 male HCWs (57.8%) stated that they had been victims of some assault. Female HCWs, on the other hand, were exposed to violence at a higher rate: 310 out of 478 (64.9%). The difference in exposure to violence between male and female HCWs was not significant using the chi-square test ($\chi^2 = 3.18, P = 0.074$).

Verbal abuse was reported by over one-third (36.6%) of the HCWs who took part in the survey, making it the most common form of violence. Physical violence was reported by around 8.4% of HCWs. In terms of the period when the violence occurred in the institution you worked, 60.6% of HCWs exposed to violence reported it happened when they...
were working in a polyclinic (Table 2). It was determined that most of the HCWs who were exposed to violence worked in state hospitals (24.1%) and university/training research hospitals (41.2%). This was statistically significant ($P = 0.003$).

Despite the fact that a considerable majority of HCWs (54.6%) indicated they had been subjected to violence, only 12.1% reported it to the hospital administration, and 19.1% reported it to the authorities. A number of reasons contributed to this. The top three reasons cited were that the staff was used to violence, it would be unnecessary reporting, and the staff was terrified of the outcomes, with 9.3%, 14.4%, and 15%, respectively. Table 2 shows the reasons for not reporting violence.

We determined a statistically significant difference between ‘PA’ and being a doctor and exposure to violence during pandemic ($P < 0.001; P = 0.002$). As seen from Table 3, a significantly low correlation was found between age and Job Satisfaction Scale. As the age increased, the scores of this scale increased, which was interpreted in favour of job satisfaction.

We found a statistically significant association between ‘EE’ and gender ($P = 0.044$) education status ($P = 0.024$). Women had a higher mean of EE scores than men. Four-year university and faculty graduates had higher scores from EE. Total Maslach, EE, DP, and job satisfaction scores of HCWs exposed to violence during and before the pandemic were higher, but only PA and total scores had significant differences from doctors ($P < 0.001$).

Working hours, the unit of work, being a physician and the institution served, age, gender, years of employment were all independent variables. Before the pandemic, the EE ($P = 0.149$) and DP ($P = 0.134$) mean scores of the participants who were exposed to violence were higher, although not statistically significant, and the mean PA ($P = 0.959$) was slightly lower. These results showed us that those exposed to violence were higher burnout levels. However, this situation became statistically significant during the pandemic period, and burnout levels increased even more in HCWs who were exposed to violence [EE ($P < 0.001$); DP ($P < 0.001$); PA ($P = 0.002$)]. Night workers’ job satisfaction ($P = 0.006$) scores were significantly lower than the other two groups when the data were analysed according to the variable of working hours. However, when we analysed the data according to the point of view of violence, no statistical relationship was found between working hours and exposure to violence before and during the pandemic ($\chi^2 = 0.998, P = 0.487; \chi^2 = 0.141, P = 0.897$) as was seen in Table 4.
Faculty graduates, physicians working in family health centres, and doctors working in internal medicine wards were found to be significantly more exposed to violence than other school graduates, non-physicians, and HCWs in other departments during their time working in the health sector ($P = 0.002, P < 0.001, P = 0.003, P < 0.001$, respectively). Also, we analysed that the rate of being exposed to violence in the departments that care for COVID-19 patients and who worked in the family health centre was significantly higher than those who did not ($P = 0.009, P < 0.01$).

Exposure to violence was found to have a relation with being a physician ($\beta = 1.066, P < 0.001$), being married ($\beta = 0.398, P = 0.035$), and being woman ($\beta = 0.498, P = 0.005$). These variables explained 65% of the variance in HCWs for being exposed to violence (Table 5).

**Discussion**

WPV continues to be a significant problem in medical settings. In our study population, 54.1% of HCWs reported exposure to violence before the pandemic. The reported rates of exposure to WPV vary by country, with previous research reporting rates of 45%, 48%, 61%, 62%, 75%, and 75% among HCWs in Italy,20 Saudi Arabia,21 Bulgaria,22 and India,23 respectively. Geographic and cultural factors, WPV severity, differences in definitions/perceptions of WPV practice settings, study locations, work schedules, occupations, and methodological differences in research studies may all contribute to different frequencies of reporting WPV in studies.

A key finding of our study was that WPV was less common (24.3%) during the pandemic than before the pandemic (54.1%). Throughout the pandemic, HCWs in Turkey worked tirelessly. The decrease in WPV during the pandemic may be a sign of citizens’ appreciation for the work of the healthcare staff. It might also be due to fewer visits to health facilities and fewer hospitalizations.

In contrast to our findings, attacks on HCWs increased significantly in some countries, including the United States, India, and Pakistan, during the COVID-19 pandemic.24 According to this report, negative feelings towards the doctor, perceived as potential sources of virus contagion to others, was an important factor that increased WPV. In Turkey, although fewer HCWs reported WPV during the pandemic, one in every four healthcare professionals in our study reported being a victim of violence at some time. Another remarkable finding of our study was that HCWs providing direct services to COVID-19 patients were exposed to more incidents of WPV than HCWs working in non-COVID-19-related settings.
Verbal abuse is frequently not included in studies on WPV. However, it is important to consider this form of abuse, as it can be a precursor to physical violence. In our study, verbal abuse was the most common form of violence both before and during the pandemic (65.4% and 68%, respectively), which is consistent with the literature. Compared to the pre-pandemic period, the percentage of people subjected to physical violence declined, while the number of those subjected to mobbing increased. Various factors, such as stressful working conditions, increased workloads, changes in working conditions, and working in areas outside established specialties, may have contributed to increased mobbing.

In our study, female HCWs were more likely than their male counterparts to experience WPV, a finding consistent with most prior research studies. In a previous study, doctors were more likely than other healthcare professionals to be subjected to violence (89.5% vs. 77.1%), which is consistent with the literature. Compared to the pre-pandemic period, the percentage of people subjected to physical violence declined, while the number of those subjected to mobbing increased. Various factors, such as stressful working conditions, increased workloads, changes in working conditions, and working in areas outside established specialties, may have contributed to increased mobbing.

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punishment from offenders, and the belief that reporting was meaningless because the report would be ignored (i.e., no action would be taken at the management level). In addition, feelings of guilt and humiliation contributed to underreporting of WPV. Other reasons cited for not reporting WPV were a feeling that reporting WPV was unnecessary and normalized violence. Furthermore, a significant number of victims of WPV said they were unsure of WPV reporting protocols. This finding is in accordance with that of previous studies.11,34–36

Protocols need to be put in place to enable HCWs to report WPV.

Limitations of the study

The study’s primary limitation was its cross-sectional design, which precluded us from establishing a cause–effect relationship. Another limitation was the tool (e-survey) used to reach the intended population, which was health professionals working in different sectors and different types of healthcare facilities. Since the distribution of the reached audience could not be controlled, equal people could not be obtained from all sectors. As doctors comprised the majority of the respondents, burnout and WPV were compared between only two groups: physicians and other health professionals. Participant bias may be another limitation, with those who responded to the online questionnaire vulnerable to WPV already in a heightened state of stress.

Conclusions

Our data corroborate the notion that WPV against HCWs is associated with EE, DP, and perceptions of PA. Although the HCWs in our study were exposed to high rates of violence both before and during the pandemic, as in other countries, most cases of violence were not reported.

Assessing violence against HCWs might serve as a starting point for developing recommendations and preventative actions to address WPV and its effects. All HCWs deserve respect and support. They should be provided with an environment where they can perform their duties without fear of violence in a safe workplace. Health service managers should

### Table 5. Logistic regression results of the factors affecting the state of being exposed to violence and not being exposed to workplace violence of healthcare workers who participated in the study conducted in June–July 2021.

| Predictor                                           | β     | SE    | 95% CI lower | 95% CI upper | P     |
|-----------------------------------------------------|-------|-------|--------------|--------------|-------|
| **Step 1**                                          |       |       |              |              |       |
| Gender                                              | 0.451 | 0.182 | 1.098        | 2.245        | 0.013 |
| Marital status                                      | 0.424 | 0.192 | 1.049        | 2.228        | 0.027 |
| 6-year university                                   |       |       |              |              | 0.300 |
| High school                                         | -0.165| 0.465 | 0.341        | 2.109        | 0.722 |
| 2-year university                                   | -0.078| 0.417 | 0.409        | 2.096        | 0.852 |
| 4-year university                                   | 0.470 | 0.296 | 0.896        | 2.856        | 0.112 |
| Doctor or not                                       | 1.193 | 0.230 | 2.102        | 5.169        | <0.001|
| Shifting                                            |       |       |              |              | 0.423 |
| Only mornings                                       | -0.199| 0.183 | 0.573        | 1.173        | 0.277 |
| Only nights                                         | 0.763 | 1.198 | 0.205        | 22.464       | 0.524 |
| Working in units serving COVID-19 patients          | 0.175 | 0.182 | 0.834        | 1.701        | 0.337 |
| Constant                                            | -0.911| 0.339 | 1.098        | 2.245        | 0.007 |
| **Step 2**                                          |       |       |              |              |       |
| Female                                              | 0.426 | 0.180 | 1.077        | 2.178        | 0.018 |
| Married                                             | 0.413 | 0.192 | 1.038        | 2.200        | 0.031 |
| 6-year university                                   |       |       |              |              | 0.255 |
| High school                                         | -0.144| 0.461 | 0.351        | 2.135        | 0.754 |
| 2-year university                                   | -0.080| 0.416 | 0.409        | 2.088        | 0.849 |
| 4-year university                                   | 0.498 | 0.293 | 0.926        | 2.923        | 0.089 |
| Doctor or not                                       | 1.193 | 0.228 | 2.111        | 5.155        | <0.001|
| Working in units serving COVID-19 patients          | 0.249 | 0.171 | 0.917        | 1.794        | 0.146 |
| Constant                                            | -1.058| 0.308 |              |              | 0.001 |
| **Step 3**                                          |       |       |              |              |       |
| Female                                              | 0.484 | 0.177 | 1.148        | 2.295        | 0.006 |
| Married                                             | 0.429 | 0.191 | 1.057        | 2.232        | 0.024 |
| Doctor or not                                       | 1.048 | 0.169 | 2.047        | 3.974        | <0.001|
| Working in units serving COVID-19 patients          | 0.266 | 0.170 | 0.935        | 1.822        | 0.118 |
| Constant                                            | -0.967| 0.277 |              |              | <0.001|
| **Step 4**                                          |       |       |              |              |       |
| Female                                              | 0.498 | 0.176 | 1.165        | 2.324        | 0.005 |
| Married                                             | 0.398 | 0.189 | 1.029        | 2.156        | 0.035 |
| Doctor or not                                       | 1.066 | 0.169 | 2.086        | 4.041        | <0.001|
| Constant                                            | -0.792| 0.252 |              |              | 0.002 |

Logistic regression beta coefficients (together with 95% CI) are reported. 95% CI, 95% confidence interval; SE, standard error. The bold type denotes statistical significance.
consider WPV as an important psychosocial risk factor in the workplace and develop effective preventative measures. Healthcare providers should be educated and encouraged to eliminate obstacles to reporting violence. As suggested previously, workplace health promotion programmes are needed in all healthcare settings worldwide to combat WPV against HCWs. To be effective, such programmes must be well planned and include effective preventive strategies. Lawmakers and governments also have a role to play in combatting WPV against HCWs. To eliminate all types of WPV, there must be strong deterrence laws and safer working environments.

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Ethical approval
Ethical approval was granted by the institution review board of the Medical Research Ethics Committee (MREC) from Isparta Suleyman Demirel University Medical School (dated 01.04.2021, no: 9/162).

Conflict of interest
None declared.

Data availability
The datasets generated during and/or analysed during the current study are not publicly available due to containing protected health information.

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