**Frequency and Forms of Workplace Violence in Primary Health Care**

**Zaim Jatic**, **Hasiba Erkocevic**, **Natasa Trifunovic**, **Elvedin Tatarевич**, **Amela Keco**, **Lutvo Sporisevic**, **Elvira Hasanovic**

**ABSTRACT**

Introduction: Violence at work has become an alarming problem worldwide. The real size of the problem is unknown because of underreporting. The aim of the survey was to estimate the prevalence of workplace violence (WPV) among primary health care professionals in the Public Institution Health Center of Sarajevo Canton (HCSC), Bosnia and Herzegovina, and determine possible association with demographic and work-related characteristics of participants. **Aim:** The aim of the survey was to estimate the prevalence of workplace violence (WPV) among Primary health care professionals in the Public Institution Health Center of Sarajevo Canton (HCSC), Bosnia and Herzegovina, and determine possible association with demographic and work-related characteristics of participants. **Methods:** A cross-sectional study was conducted between March and May 2017. The sample consisted of medical professionals employed at HCSC. The data were collected by a questionnaire with 42 questions divided into 7 blocks of topic. Descriptive statistics were used to describe the sample. Binary logistic regression analysis was used to test the association between the occurrence of violence and independent variables (gender, age, years of work experience and office setting). **Results:** A total of 558 out of 983 health professionals employed in Primary health care were involved in this survey. The overall prevalence of WPV was 90.3%, with 498 (89.2%) exposed to verbal violence and 417 (74.7%) exposed to indirect physical violence. Binary logistic regression analysis indicated that the following demographic and work-related characteristics were positively significantly associated with WPV: women were associated with verbal violence (Odd ratio (OR) 1.91, 95% confidence interval (CI) 1.06, 1.47) and stalking (OR= 2.06, 95% CI (1.04, 4.08)). Office setting (urban) was significantly positively associated with indirect physical violence (OR= 1.59, 95% CI (1.03, 2.47)). **Conclusion:** Almost all health professionals in Sarajevo primary health care were subjected to different types of WPV. There is a need for intervention to provide safer workplace environment. Professional, administrative, legal support and protection of health professionals by the health authorities and institution management is urgently required. **Keywords:** workplace violence, exposure to violence, Primary health care.

1. **INTRODUCTION**

Violence at work has become an alarming problem worldwide. The real size of the problem is unknown because of the underreporting. Violence is present in all work environments, however, health personnel are particularly exposed. Since this workforce is in its large majority female, the gender dimension of the problem is very evident. The consequences of violence at work have a significant impact on the efficiency and effectiveness of health systems at large. The equal access to Primary health care is threatened if the scarce human resources, the health workers, feel under threat, e.g. in certain geographical and social environments, situations of general conflict, work situations where transport to work, shift work and other health sector specific conditions which make their work more difficult (1).

Workplace violence has been increasing for many years, but it is affecting the healthcare professions the hardest. A crime survey conducted in 2014 by the International Association for Healthcare Security and Safety found that violent crimes in the U.S. healthcare system increased by 25 percent from 2012 to 2013 (2, 3). Nearly 24,000 physical assaults in the work environment occur every year, with almost 75 percent affecting healthcare providers (4, 5).

Episodes of workplace violence of all categories are grossly underreported. Health care workers are sometimes uncertain what constitutes violence, because they often believe that their assailants are not responsible for their actions due to conditions affecting their mental state (6, 7, 8). Only 30
percent of nurses report incidents of workplace violence, while among emergency department physicians, the reporting rate is 26 percent (9, 10).

Violence appears as physical or as psychological violence in different forms, which may often overlap. Workplace violence (WPV) is an important occupational hazard for health care workers (HCWs), particularly in outpatient clinics, where it is a complex problem primarily due to the geographical seclusion and therefore the staff easily becomes the target of the abusers.

2. AIM

Our study was conducted to estimate the prevalence of workplace violence among Primary health care professionals in the Public Institution Health Canter of Sarajevo Canton, Bosnia and Herzegovina, and to determine a possible association with demographic and occupational characteristics of participants.

3. METHODS

This cross-sectional retrospective survey was conducted between January and May 2017 in the Public Institution Health Center of Sarajevo Canton (HCSC). This institution had 323 medical doctors and 660 nurses in Primary health care services. Family Medicine, School Medicine, Pediatrics, Mental Health Center, Community Rehabilitation Center, Pulmonology, X-ray and Ultrasound Diagnostics, and Laboratories are part of Primary health care based on the Law on Health Care of the Federation of Bosnia and Herzegovina.

Data was collected using a questionnaire containing 42 questions in 7 blocks of topics: 1) socio-demographic information (age, gender) and professional characteristics (profession, specialization, professional experience, medical office setting), 2) type of violence and frequency (verbal abuse, intimidation, rude behavior, sexual verbal abuse, indirect harassment and threats by phone/mail, slander, slamming doors, throwing objects, banging on the table, property damage, theft, physical injuries, stalking, weapon attack, and sexual physical abuse), 3) consequences of violence (stress, insomnia, diminished morale, concentration difficulties, fear, pique, imposing thoughts on violent experience, avoiding some patients, loss of job satisfaction, loss of dignity, short sick leave, long sick leave, thinking of leaving the job), 4) possible disorders associated with WPV (PTSD, burnout syndrome, anxiety-depressive disorder), 5) reaction to the violent behavior of the patient, 6) the trend of the WPV in PHC frequency, and 7) education about WPV.

The study protocol was approved by the Health Center’s Ethics Committee and the questionnaires, together with a cover letter were distributed and returned by the official delivery system in the Health Center.

Data were analyzed using the Stata/IC-15. Descriptive statistics were used to describe the sample. Binary logistic regression analysis was used to test the association between the occurrence of violence and independent variables (gender, age, years of work experience and office setting). A p value of less than 0.05 was considered statistically significant.

4. RESULTS

A total of 558 out of 983 health professionals employed (RR = 56.7 %) in the Primary health care were involved in this research (32.6% physicians and 67.4% nurses). Most of the respondents were female (84.4%) and there was no statistically significant difference between nurses and doctors by gender. The mean age was 45.03 (SD: 10.23). The average work experience for nurses was 19.1 years (SD: 9.70) and 20.2 (SD: 10.74) for physicians. There was no statistically significant difference between these two groups of respondents with respect to age (p = 0.0000), but not to the years of work experience (p = 0.257). More than half of participants (62 %) worked in the urban area.

Table 2. Forms and frequency of WPV

| Form of WPV | N   | %    |
|------------|-----|------|
| Verbal violence (at least in a year) | 498 | 89.2 |
| Rude behavior | 485 | 86.9 |
| Verbal abuse | 312 | 55.9 |
| Slander | 262 | 47.0 |
| Indirect physical violence (at least in a year) | 417 | 74.7 |
| Slaming doors, throwing objects, banging on the table | 414 | 74.2 |
| Property damage, theft | 74 | 13.3 |
| Stalking | 168 | 30.1 |
| Assault with objects, tools and weapons (at least once in a career) | 36 | 6.5 |
| Assault with objects and tools | 30 | 5.4 |
| Assault with deadly weapons | 10 | 1.8 |
| Sexual harassment (at least once in a career) | 24 | 4.3 |
| Verbal harassment of a sexual nature | 23 | 4.1 |
| Unwanted touching or physical contact | 6 | 1.1 |
| Physical injury (at least once in a career) | 11 | 2.0 |

Table 1. Demography and work-related characteristics of Primary health care professionals (n = 558).

| Characteristics | Number | % |
|----------------|--------|---|
| Gender         |        |   |
| Females        | 471    | 84.4 |
| Males          | 87     | 15.6 |
| Age (M, ±SD)   | 49.35 (±10.59) |
| Age group*     |        |   |
| <35            | 100    | 18.9 |
| 35-50          | 232    | 43.9 |
| >50            | 197    | 37.2 |
| Work experience* (M, ±SD) | 29.46 (±10.05) |
| <10            | 132    | 24.4 |
| 10-20          | 168    | 31.0 |
| >20            | 242    | 44.6 |
| Profession     |        |   |
| Medical doctors | 182 | 32.6 |
| Nurses         | 376    | 67.4 |
| Office settings* |      |   |
| Suburban       | 170    | 32.9 |
| Urban          | 347    | 67.1 |

*Discrepancies in the totals are due to missing values.
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Table 3. Socio-demographic and work-related characteristics and association with WPV occurred at least once in professional career

| Variable          | Coef. | Std. Err. | z    | P>|z| | (95% CI) |
|-------------------|-------|-----------|-----|-----|---------|
| Gender            | 0.847 | 0.344     | 2.46| 0.014| 0.173   |
|                   |       |           |     |     | 1.522   |
| Profession        | 0.403 | 0.371     | 1.09| 0.277| -0.323  |
|                   |       |           |     |     | 1.129   |
| Age               | -0.385| 0.332     | -1.16| 0.264| -1.036  |
|                   |       |           |     |     | 0.266   |
| Work experience   | 0.456 | 0.307     | 1.48| 0.138| -0.147  |
|                   |       |           |     |     | 1.058   |
| Office setting    | 0.356 | 0.320     | 1.11| 0.266| -0.271  |
|                   |       |           |     |     | 0.983   |
| Constant          | -2.852| 0.786     | -3.63| 0   | -4.393  |
|                   |       |           |     |     | -1.311  |

Number of obs = 510
Wald chi2(5) = 11.07
Penalized log likelihood = -150.19962, \( p = 0.0500 \)

Table 4. Medical professions in Primary health care and distribution of WPV forms

| Form of WPV, n(%) | Medical doctor | Nurse | OR (95%CI) | p value |
|-------------------|----------------|-------|------------|---------|
|                   | WPV Without WPV | WPV Without WPV |          |         |
| Verbal violence   | 168 (92.3) 14 (7.7) | 330 (87.8) 46 (12.2) | 0.60 | (0.32, 1.12) |
| Indirect physical violence | 134 (73.6) 48 (26.4) | 283 (75.3) 93 (24.7) | 1.09 | (0.73, 1.63) |
| Stalking          | 49 (26.9) 133 (73.1) | 119 (31.6) 257 (68.4) | 1.26 | (0.85, 1.86) |
| Assault with objects, tools and weapons | 16 (8.8) 166 (91.2) | 20 (5.3) 356 (94.7) | 0.58 | (0.29, 1.15) |
| Sexual harassment | 10 (5.5) 172 (94.5) | 14 (3.7) 362 (96.3) | 0.67 | (0.29, 1.53) |
| Physical injury   | 4 (2.2) 178 (97.8) | 7 (1.9) 369 (98.1) | 0.84 | (0.24, 2.92) |

5. DISCUSSION

The prevalence rate of all forms of WPV for medical professionals was 90.3% (highest prevalence for: verbal abuse 82%, indirect physical violence 74%, and stalking 31%), which was much higher than in a recent cross-sectional study in Hong Kong which revealed an overall prevalence rate of WPV of 57.2% (16.1% for physical violence, 53.4% for verbal abuse and 4.6% for sexual harassment)(11). A cross-sectional online survey study in China which was conducted among 1740 doctors at all three levels of health care, showed a rate of 7.8% for sexual harassment (12).

Another study in China showed a higher rate of exposure to verbal abuse (92.75%) and physical assaults (81.04%), and verbal form was the most common form (89.3%) (13).

Literature and existing occupational injury data review by Pompeii L et al. in 2013 revealed a prevalence range of verbal abuse (22% - 90%), physical threats (12% - 64%) and assaults (2% - 32%) (14).

Our results confirmed the findings of other studies that the verbal abuse was the most common form of WPV (15, 16, 17), although in our research a form of verbal violence, which is a rude, vulgar behavior had the highest prevalence of 87.5%.

In our research, as well as in other similar studies, most participants were women with the percentage of 87%, except in the research on this topic conducted among employees of family medicine departments in Canada where the percentage of female participants was 56.5% and in Spain where it stood at 49.2% (18, 19, 20). In the study carried out in 2012 by Bernaldo-De-Quiruos at al, the majority of the subjects in the sample (64.6%) were male, with mean age 45 (21).

This gender issue is very important because some studies have suggested gender differences in processing and reporting of potential threat or threat-related stimuli as violence at workplace, where women were more sensitive to threatening stimuli which could result in overestimation of the threat (22, 23, 24). With this in mind, reporting of violence may be higher among women due to their sensitivity to threatening stimuli.
to an overestimation of the threat compared to the men who, on the contrary, may underestimate the threat-risk which could lead to violence escalation from verbal to physical, and even life-threatening attacks.

This study has shown that medical doctors in HCSC were not significantly more frequently subjected than nurses to all forms of WPV except in the case of indirect physical violence. These results were quite opposite to the results in the neighboring country of Serbia (25) or other countries like France, the United Kingdom, Germany, the Netherlands and Norway (26). We could speculate that physicians were more openly reporting WPV or that they were equally accessible to patients in PHC as were nurses. Another possibility could be that the doctors had a different perception and attitude towards the workplace violence than nurses.

The important result of the study was the relative low prevalence of sexual harassment, although even these low rates of incidence could be alarming given that reason might be under-reporting and some type of bias. Slightly higher prevalence of sexual harassment (emotional and physical) was found in other similar studies carried out worldwide (11, 22, 25).

Our study as a cross-sectional study possibly could have been liable to self-selection bias in two ways: respondents who had been subjected to WPV were more likely to answer the survey, or on the contrary, that the victims of WPV were more likely to refuse to participate because of their negative experiences.

Although the questionnaire that was developed in this study was used in the largest primary health institution in the Sarajevo Canton, it would require a greater standardization to be suitable for application at other levels of health care system. The questionnaire that was used for data collection relied on the memory of the health professionals during a long span of time and because of this may have increased the bias.

6. CONCLUSIONS

Our findings indicate that 1 of 10 participants reported that they had suffered some type of WPV. The relatively low prevalence of sexual harassment might be due to under-reporting and bias, although even these low rates of incidence are alarming. The most common experienced form of physical violence was banging doors and throwing objects. There was no statistically significant difference in reported WPV regardless of the form between physicians and nurses. There is a need for a new study with an aim to explore attitudes and perception of medical doctors and nurses toward WPV.

This study also demonstrated that some of the demographic and work-related characteristics of participants, like age and office setting, were closely associated with some types of WPV.

Based on the revealed results, WPV is a major health and safety issue in our institution, and considering that, there is a need for intervention to provide safer workplace environment. Professional, administrative, legal support and protection of health professionals by the health authorities and institution management is urgently required.

- Acknowledgments: We would like to thank the Public Institution Health Center of Sarajevo Canton and the medical professionals for devoting their time to complete the questionnaires.
- Authors’ contributions: Conception and design: ZJ, HE, NT. Acquisition, analysis and interpretation of data: ZJ, HE, NT, AK, LS, ET, EH. Drafting the article: ZJ, NT. Critical revision of the article: HE, AK. Approved final version of the manuscript: ZJ, HE, NT, AK, LS, ET, EH.
- Conflicts of interest: There are no conflicts of interest.
- Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms.
- Financial support and sponsorship: None.

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