ORIGINAL PAPER

doi: 10.5455/medarh.2019.73.6-10
MED ARCH. 2019 FEB; 73(1): 6-10
RECEIVED: JAN 15, 2018 | ACCEPTED: FEB 18, 2019

Frequency and Forms of Workplace Violence in Primary Health Care

Zaim Jatic[1,2], Hasiba Erkocevic[1,2], Natasa Trifunovic[1,2], Elvedin Tatarevic[2], Amela Keco[2], Lutvo Sporisevic[2], Elvira Hasanovic[2]

[1]Faculty of Medicine, University of Sarajevo, Sarajevo, Bosnia and Herzegovina
[2]Public Institution Health Center of Sarajevo Canton, Sarajevo, Bosnia and Herzegovina

Corresponding author: Ass. prof. Zaim Jatic, MD, PhD. Address: Grbavicka 85, 71000 Sarajevo. E-mail: jaticzaim@gmail.com. ORCID ID: https://orcid.org/0000-0002-5288-7745.

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

© 2019 Zaim Jatic, Hasiba Erkocevic, Natasa Trifunovic, Elvedin Tatarevic, Amela Keco, Lutvo Sporisevic, Elvira Hasanovic

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (http://creativecommons.org/licenses/by-nc/4.0/) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

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.

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.		

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

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
Slamming 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 2. Forms and frequency of WPV

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 a statistically significant difference between these two groups of respondents with respect to age (p =0.000), but not to the years of work experience (p = 0.257). More than half of participants (62 %) worked in the urban area.

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	0.246	-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 3. Socio-demographic and work-related characteristics and association with WPV occurred at least once in professional career

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)	0.107
Indirect physical violence	134 (73.6)	48 (26.4)	283 (75.3)	93 (24.7)	1.09 (0.73, 1.63)	0.676
Stalking	49 (26.9)	133 (73.1)	119 (31.6)	257 (68.4)	1.26 (0.85, 1.86)	0.254
Assault with objects, tools and weapons	16 (8.8)	166 (91.2)	20 (5.3)	356 (94.7)	0.58 (0.29, 1.15)	0.121
Sexual harassment	10 (5.5)	172 (94.5)	14 (3.7)	362 (96.3)	0.67 (0.29, 1.53)	0.337
Physical injury	4 (2.2)	178 (97.8)	7 (1.9)	369 (98.1)	0.84 (0.24, 2.92)	0.789

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

Table 1 reports distribution by socio-demographic and work-related characteristics of the participants.

Overall, 90.3 % of respondents reported some form of WPV during their professional life. The most responders (43.5%) were subject in two forms of WPV. Just over a quarter responders experienced three forms of violence. Verbal violence was the most frequently reported form of WPV. The frequency and forms of violence are shown in Table 2.

Gender had a significant and age, work experience, profession and office setting did not have a significant association with WPV occurring at least once in the entire career. More WPVs were reported by women (OR = 2.3, p = 0.016), medical doctors (OR = 1.82, p = 0.145), professionals working in urban offices (OR = 1.47, p = 0.289), professionals in age group 35 – 50 years (OR = 1.82, p = 0.155) , and in working experience group of 20 – 30 years (OR = 1.03, p = 0.939). As the WPV was extremely common, we use a penalized maximum likelihood logistic regression (Firth logistic regression) (Table 3).

Binary logistic regression analysis was conducted to reveal association among independent variables (gender, age, work experience, profession, and setting) with reported forms of WPW. Two independent variables had a significant association with some forms of WPV. Gender (female) was significantly associated with verbal violence [OR= 1.91, 95% CI (1.06, 1.47), p = 0.033] and stalking [OR= 2.06, 95% CI (1.04, 4.08), p = 0.039]. Work place setting (urban) was significantly associated with indirect physical violence [OR= 1.59, 95% CI (1.03, 2.47), p = 0.038]. There was no significant difference between doctors and nurses in reporting of any form of WPV (Table 4).

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, 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 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 relatively 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.

REFERENCES

1. Chappell D, Di Martino V. Violence at work: Workplace violence in the health sector. International Labour Organization; 2006.
2. Speroni KG, Fitch T, Dawson E, Dugan L, Atherton M. Incidence and Cost of Nurse Workplace Violence Perpetrated by Hospital Patients or Patient Visitors. JEN: Journal of Emergency Nursing. 2014; 40(3): 218-228.
3. Smith TA. What every healthcare facility should do now to reduce the potential for workplace violence. Journal of healthcare protection management: publication of the International Association for Hospital Security. 2016; 32(1): 41-47.
4. Phillips JP. Workplace Violence against Health Care Workers in the United States. New England Journal of Medicine. 2016; 374(17): 1661-1669.
5. Administration USOSaH. Guidelines for Preventing Workplace Violence for Health-Care and Social-Service Workers. [Washington, D.C.]: U.S. Dept. of Labor; 2003.
6. Gillespie GL, Gates DM, Miller M, Howard PK. Workplace violence in healthcare settings: risk factors and protective strategies. Rehabilitation nursing: the official journal of the Association of Rehabilitation Nurses. 2010; 35(5): 177-1784.
7. Occupational Safety and Health Administration. Guidelines for preventing workplace violence for healthcare and social service workers (OSHA, 3148-04R). Washington, DC: OSHA, 2015.
8. Security Industry Association and International Association of Healthcare Security and Safety Foundation. Mitigating the risk of workplace violence in health care settings. Silver Spring, MD: Security Industry Association, August, 2017.
9. Harrell E. Workplace violence, 1993-2009. Washington, DC: Department of Justice, Bureau of Justice Statistics, National Crime Victimization Survey, 2011.
10. Arnetz JE, et al. Underreporting of workplace violence comparison of self-report and actual documentation of hospital incidents. Workplace Health & Safety. 2015; 63(5): 200-210.
11. Privitera M, et al. Violence toward mental health staff and safety in the work environment. Occupational Medicine (London). 2005; 55(6): 480-486.
12. Speroni KG, et al. Incidence and cost of nurse workplace violence perpetrated by hospital patients or patient visitors. Journal of Emergency Nursing. 2014; 40(3): 218-228.
13. Behnam M, et al. Violence in the emergency department: A national survey of emergency medicine residents and attending physicians. Journal of Emergency Medicine. 2011;

40(5): 565-579.
14. Cheung T, Lee PH, Yip PSF. Workplace violence toward physicians and nurses: Prevalence and correlates in Macau. Int J Environ Res Public Health. 2017; 14: 879.
15. Shi J, Wang S, Zhou P, et al. The Frequency of Patient-Initiated Violence and Its Psychological Impact on Physicians in China: A Cross-Sectional Study. PLoS ONE. 2015; 10: e0128394. doi: 10.1371/journal.pone.0128394.
16. Kwok R, Li K, Ng YC et al. Prevalence of workplace violence against nurses in Hong Kong. Hong Kong Med. J. 2006; 12: 6-9.
17. Speroni KG, Fitch T, Dawson E, et al. Incidence and cost of nurse workplace violence perpetrated by hospital patients or patient visitors. J Emerg Nurs. 2012; 40: 218-228. doi: 10.1016/j.jen.2013.05.014.
18. Whittington R, Shuttleworth S, Hill L. Violence to staff in a general hospital setting. J Adv Nurs. 1996; 24: 326-333. doi: 10.1046/j.1365-2648.1996.18114.x.
19. Schablon A, Zeh A, Wendeler D, et al. Frequency and consequences of violence and aggression towards employees in the German healthcare and welfare system: a cross-sectional study. BMJ Open. 2012; 2(5): e001420. doi:10.1136/bmjopen-2012-001420.
20. Miedema B, Hamilton R, Lambert-Lanning A, et al. Prevalence of abusive encounters in the workplace of family physicians: A minor, major, or severe problem? Canadian Family Physician. 2010; 56(3): e101-e108.
21. The National Observatory of Aggressions to Physicians (ONAM) Workgroup Garrote-Díaz J. M.Becerra-Becerra A.Bendaña-JácomeJ, et al. National report on aggressions to physicians in Spain 2010-2015: violence in the workplace-ecological study. BMC Research Notes. 2018; 11: 347. doi:10.1186/s13104-018-3393-7.
22. Cheung T, Yip P. Workplace violence towards nurses in Hong Kong: Prevalence and correlates. BMC Public Health. 2017; 17: 196. doi: 10.1186/s12889-017-4112-3.
23. Goos LM, Silverman I. Sex related factors in the perception of threatening facial expressions. Journal of Nonverbal Behavior. 2004; 26: 27-41.
24. McClure EB, Monk CS, Nelson EE, et al. A developmental examination of gender differences in brain engagement during evaluation of threat. Biological Psychiatry. 2004; 55: 1047-1055.
25. Fisekovic MB, Trajkovic GZ, Bjegovic-Mikanovic VM, et al. Doesworkplace violence exist in primary health care? Evidence from Serbia. Eur J Public Health. 2015 Aug; 25(4): 693-698. doi: 10.1093/eurpub/cku247.
26. Estryn-Behar M, van der Heijden B, Camerino D, et al. Violence risks in nursing results from the European NEXT Study. Occup Med. 2008; 58: 107-114.