

Workplace violence among municipal health care workers in Diamantina, Minas Gerais, Brazil, 2017

Violência no trabalho entre trabalhadores municipais do setor saúde de Diamantina, MG, 2017

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ABSTRACT | **Background:** Health care workers stand out in recent studies as a function of high rates of workplace violence. **Objective:** To calculate the prevalence of workplace violence involving health care workers and associated factors. **Methods:** Cross-sectional study with municipal health care workers in Diamantina, Minas Gerais, Brazil. Data were collected in interviews from December 2016 through March 2017. Variable workplace violence was considered as outcome on univariate and multivariate analysis. Descriptive and analytical statistical techniques were used (Poisson regression). **Results:** The study population comprised 203 municipal health care workers (79% response rate). The prevalence of workplace violence was 40.4–47.9% for women and 22.0% for men. Occupational factors associated with violence were job satisfaction, support at work and psychological demands. **Conclusion:** The prevalence rates we found and associated factors point to the relevance of health protection policies targeting this category of workers which may contribute to mitigate the negative effects of violence on the health of workers and consequently on the quality of care delivery. **Keywords** | working environment; health personnel; occupational health.

RESUMO | **Introdução:** Trabalhadores do setor saúde são destaques em estudos recentes pelas proporções significativas de vivência de violência no trabalho. **Objetivo:** Estimar a prevalência e os fatores associados à violência entre trabalhadores da saúde. **Método:** Estudo de corte transversal, realizado com trabalhadores municipais de saúde. A coleta de dados ocorreu de dezembro de 2016 a março de 2017, por meio de entrevistas a trabalhadores da saúde de Diamantina (MG). Para a análise, a variável violência no trabalho foi tratada como desfecho em análises bivariada e múltiplas. Foram utilizadas técnicas de estatística descritivas e analíticas (regressão de Poisson). **Resultados:** Participaram da pesquisa 203 trabalhadores municipais de saúde (taxa de resposta de 79%). A prevalência de violência no trabalho foi de 40,4% no total, sendo de 47,9% entre as mulheres e de 22,0% entre os homens. Os fatores do trabalho associados à violência foram a satisfação com o trabalho, o baixo apoio e a alta demanda psicológica no trabalho. **Conclusão:** A prevalência evidenciada e as associações sugeridas direcionam para a necessidade de reformular e criar políticas de proteção à saúde dos trabalhadores da saúde de modo que amenize os possíveis efeitos dessa experiência na saúde do trabalhador e na qualidade do serviço prestado. **Palavras-chave** | ambiente de trabalho; trabalhadores da saúde; saúde do trabalhador.

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DOI: 10.5327/Z1679443520200425

INTRODUCTION

The Brazilian Unified Health System (Sistema Único de Saúde–SUS)—under continuous expansion since the 1990s—embodies the shift of health care toward a universal and integrated approach. The current is a hierarchical system grounded on the notion of social determination of disease, which demands organizing services according to regional needs and integrating prevention and therapeutic actions¹. Such reorganization is driven by the goal to reduce morbidity and mortality nationwide. However, violence against health care workers (HCW)—especially those in the frontline—might hinder further advances. High rates of violence, including physical and mental abuse, against health care workers were described for different service settings².

Workplace violence is defined as any voluntary action, event or behavior that causes damage or harm resulting from threats or aggression during the performance of work or as a result of work activities³. It may manifest as physical or verbal abuse, homicide, intimidation, moral, sexual, racial or psychological harassment⁴. Several studies indicate that health, education, public safety, retail trade and judicial workers are at higher risk⁵, with HCW standing out as a function of particularly high rates of violence at work^{2,6}.

Among HCW, workplace violence is associated with job dissatisfaction, quitting the profession, absenteeism and illness, and has negative impact on the quality of care delivery⁷⁻⁹. While on the one hand violence does interfere with HCW's work, on the other it might result from user dissatisfaction with low-quality and/or poorly effective care. In any case, there are still gaps in the understanding of the determinants and effects of workplace violence in health services^{4,8}. The psychosocial, physical, emotional and psychological implications of workplace violence for workers, as well as its effects on the organization and efficiency of services and on the overall population still need to be more thoroughly investigated. However, this subject is scarcely addressed and reported, and thus remains invisible to society at large^{2,9}.

Few studies in Brazil contributed with concrete data on workplace violence¹⁰, partly as a function of the complexity of this phenomenon—which involved both the physical and psychological sides of human relations at work. In addition,

one should also consider differences in the organization of work processes and services, e.g. in primary care, hospitals, etc. The global prevalence of violence against HCW is over 50%, varying from 52.8% to 88.9% according to a recent review⁸.

As a function of the aforementioned considerations, the aim of the present study was to calculate the prevalence of and identify factors associated with workplace violence against municipal SUS HCW in primary and secondary care services.

METHODS

The present study is part of SUS Project, conducted by Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM) and the Municipal Secretariat of Health to investigate several occupational and health aspects relative to municipal HCW in Diamantina, Minas Gerais, Brazil.

Eligible subjects were all 257 HCW at the Municipal Secretariat of Health effectively at work in direct patient care, administration, or support services in primary or secondary care facilities at the time of data collection—December 2016 through March 2017. After signing an informed consent form, the participants underwent individual interviews with the due protection of privacy. Interviews were conducted by a trained investigator following a questionnaire with 59 items distributed across seven sections: sociodemographic data, lifestyle, state of health, work environment, workplace violence/victimization, psychosocial aspects of work, and work ability. These questions were formulated based on a literature review and the variables selected for analysis. Sociodemographic and occupational aspects were investigated through direct questions devised by the investigators. Items related to the work process were developed based on indicators of psychosocial aspects of work included in the Job Stress Scale (JSS)¹¹. The main outcome—personal experience of workplace violence—was investigated through the following question: “Have you suffered any kind of abuse in the past 12 months?” Participants were instructed to respond all items relating to violence/victimization in regard to episodes at work. Response options were yes/no.

Workplace violence was set as the dependent variable in univariate and multivariate analysis. Independent variables were: sociodemographic aspects (sex, age, ethnicity, marital status, educational level), job aspects (department, position, years in the job, working hours, employment relationship) and work process (job satisfaction, control over tasks, support, psychological demands, distress at work). Job satisfaction was investigated by means of the following question: “Is it hard for you to feel satisfied with your job tasks?” Response options were no (0)/yes (1) recategorized as dissatisfied/satisfied in analysis. Psychosocial aspects of work were investigated by means of JSS. Median scores were individually calculated for each domain—psychological demands, control over tasks and social support—recategorized for analysis as high/low. Distress at work was categorized based on the response (yes [0]/no [1]) to the question: “Does your job makes you feel distressed?”

Outcome workplace violence was subjected to descriptive statistics, followed by bivariate analysis to test associations with the independent variables. Associations with $p < 0.20$ were selected for multivariate analysis. We first fitted intermediate models with variables within a same section, then performed sequential elimination to keep in the final model only the variables with association with a significance level of 5% ($p < 0.05$). Poisson regression with robust variance and 95% confidence interval (95%CI) was used to establish strength of associations. This is recommended as the best approach, because it yields adjusted and reliable prevalence ratios (PR) when outcomes exhibit high prevalence rates, as is the case of workplace violence¹².

The present study was approved by UFVJM research ethics committee (CAAE: 56754616.3.0000.5108) ruling no. 1,739,249. All resources needed for the present study were provided by the Minas Gerais Research Support Foundation (FAPEMIG) through the First Project Program, CDS APQ 01099-14.

RESULTS

We interviewed 203 of 257 eligible subjects (response rate 79%) all of whom worked at municipal primary or secondary care facilities in Diamantina.

Most participants were female (70.9%) and aged 31 to 43 (40.9%). The largest proportion of participants were community health agents (CHA; 22.7%) followed by endemics combat agents (13.3%), nursing technicians or assistants (13.3%), nurses (6.4%), general services assistants (6.4%), administrative assistants (4.9%), physicians (4%) and drivers (3.5%). Occupations with rates below 3% were clustered together as “other” and corresponded to 25.6% of the sample. Given similarities in tasks, CHA and endemics combat agents were analyzed together (36%) as also were administrative and support services employees (27%), higher (18.7%) and medium- and lower level (18.2%) care providers. Occurrence of workplace violence according to the analyzed variables is described in Table 1.

Eighty-two participants (40.4%) reported having suffered some form of abuse in the past 12 months, 63 (76.8%) from patients, 35 (42.7%) from coworkers/supervisors and 16 (19.5%) from patients’ relatives or friends. Abuse was categorized as psychological in 90.2% of the cases.

On bivariate analysis, shown in Table 2, variables associated with workplace violence with a significance level of 20% were: sex, educational level, department, working hours, job satisfaction, support, control over tasks, psychological demands and distress at work. These variables were selected to fit intermediate models as described in section Methods.

The final results of multivariate analysis of factors associated with workplace violence with a significance level of $p \leq 0.05$ are described in Table 3.

DISCUSSION

In the present study we calculated the prevalence of and established factors associated with workplace violence among municipal HCW at SUS primary or secondary care facilities. The target municipality is located in the interior of the state of Minas Gerais, Brazil, and is considered a medium-sized city, with a population of about 50,000¹³.

The prevalence of workplace violence for the total sample was 40.3%, higher for women (47.9%) compared to men (22.0%). In a study performed in Serbia, 52.6%

Table 1. Workplace violence according to sociodemographic and occupational variables among municipal Unified Health System workers, Diamantina, Minas Gerais, Brazil, 2017 (n=203).

Variables	N	Abuse prevalence N (%)
Sociodemographic		
Sex		
Male	59	13 (22.0)
Female	144	69 (47.9)
Age		
20-29	55	23 (41.8)
30-39	66	29 (43.9)
40-49	42	14 (33.3)
≥50	40	16 (40.0)
Ethnicity		
White/brown	162	60 (37.0)
Asian/native	5	3 (60.0)
Black	36	19 (52.8)
Marital status		
Married/civil union	129	50 (38.8)
Single	56	26 (46.4)
Widowed/divorced	18	6 (33.3)
Educational level		
Elementary and secondary school	97	35 (36.8)
Higher education	106	47 (44.34)
Occupational		
Department		
Support/administration	36	9 (25.0)
Patient care	130	65 (50.0)
Surveillance	37	8 (21.6)
Position		
Higher level care provider	38	17 (44.7)
Medium level care provider	37	21 (56.5)
CHA/surveillance	73	23 (31.5)
Support/administration	55	20 (36.4)

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Table 1. Continuation.

Variables	N	Abuse prevalence N (%)
Years in the job		
<1	17	6 (35.3)
1-4.9	63	32 (50.8)
5-9.9	69	22 (31.9)
≥10	54	22 (40.7)
Weekly working hours		
<40	44	28 (63.6)
40	156	53 (34.0)
>40	3	1 (33.3)
Employment relationship		
Tenured	65	28 (43.0)
Non-tenured	138	54 (39.13)
Work process		
High demands		
Never	28	7 (25)
Seldom/sometimes	95	36 (37.9)
Often	80	39 (48.8)
Task satisfaction		
No difficulty	160	52 (32.5)
Difficulty	43	30 (69.8)
Support		
High	111	31 (27.9)
Low	92	51 (55.4)
Control		
High	82	28 (34.1)
Low	121	54 (44.6)
Psychological demands		
Low	111	31 (27.9)
High	92	51 (55.4)
Distress at work		
No	165	57 (34.5)
Yes	38	25 (65.8)

CHA: community health agent.

Table 2. Bivariate analysis of workplace violence and socio-economic and occupational variables relative to municipal Unified Health System workers, Diamantina, Minas Gerais, Brazil, 2017 (n=203).

Variables	PR	p
Sociodemographic		
Sex		
Male	-	
Female	2.17	0.003
Age		
20-29	-	
30-39	1.05	0.815
40-49	0.79	0.402
≥50	0.95	0.860
Ethnicity		
White/brown	-	
Asian/native	1.62	0.204
Black	1.42	0.060
Marital status		
Married/civil union	-	
Single	1.19	0.320
Widowed/divorced	0.86	0.668
Educational level		
Elementary and secondary school	-	
Higher education	1.19	0.087
Occupational		
Department		
Support/administration	-	
Patient care	2	0.022
Surveillance	0.86	0.734
Position		
Higher level care provider	-	
Medium level care provider	1.32	0.209
CHA/surveillance	0.70	0.161
Support/administration	0.81	0.415

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Table 2. Continuation.

Variables	PR	p
Years in the job		
<1	-	
1-4.9	1.44	0.301
5-9.9	0.90	0.786
≥10	1.15	0.697
Weekly working hours		
<40	-	
40	0.53	<0.001
>40	0.52	0.434
Employment relationship		
Tenured	-	
Non-tenured	0.90	0.590
Work process		
High demands		
Never	-	
Seldom/sometimes	1.55	0.240
Often	1.95	0.055
Task satisfaction		
No difficulties	-	
Difficulties	2.14	<0.001
Support		
High	-	
Low	1.98	<0.001
Control		
High	-	
Low	1.30	0.145
Psychological demands		
Low	-	
High	1.98	<0.001
Distress at work		
No	-	
Yes	1.90	<0.001

PR: prevalence ratio calculated by means of Poisson regression; CHA: community health agent.

of primary care workers reported abuse in the previous 12 months⁶. Among primary care workers in Brazil, prevalence rates are 44.9% for verbal abuse, 24.8% for threats and 2.3% for physical abuse⁶. In Salvador, Brazil, the prevalence of workplace violence was reported as 25.9% among administrative and care delivery health facilities⁷. In a recent review, the prevalence of workplace violence in hospitals varied from 58.2 to 88.9%⁸. While these findings relative to the primary care setting agree with ours, there are discrepancies in regard to HCW in management, hospitals and other facilities. In any case, workplace violence has been described as a phenomenon occurring in different health care settings and appears as a significant issue from the statistical point of view, in addition to being liable to cause illness and disability among workers and interfere with care delivery¹⁴.

Inefficiency of services, i.e. to meet actual demands, stands out among the factors related to violence at health care facilities². This factor leads to a vicious circle of abuse involving patients and care providers. In addition, job dissatisfaction, work overload and allocation

of responsibilities contribute to make HCW more intolerant. Fear of assault and feelings of personal and institutional co-responsibility for events makes workplace violence become a natural part of the job, with consequent increase of the psychological demands on workers⁸.

While statistically significant on bivariate analysis, the difference found in the prevalence of workplace violence according to sex lost significance on multivariate analysis. A possible explanation is that occupational variables behaved as stronger predictors of workplace violence than sex alone. This is to say, male and female HCW are equally exposed to abuse¹⁵. Differences according to sex or age were neither found among primary care workers who suffered workplace violence in Serbia⁶. In turn, exposure to violence was higher among women in Turkey¹⁶. This agrees with the results reported by other authors not only in regard to HCW, but also in the general population^{8,17}. Such unfavorable situation of women is considered in the Brazilian legal system through specific protective legislation¹⁸. Perhaps such legislation, together with embarrassment, contributed to underreporting among the female participants. While a complex matter, exposure to workplace violence according to sex has not been a specific subject of investigation⁴.

Patients and their relatives were the main perpetrators of abuse, 76.8 and 19.5% respectively. High levels of stress and tension at health care facilities, the current socioeconomic situation in Brazil, organizational factors, and insufficient services might explain the occurrence of workplace violence⁸. The authors of a study performed at a teaching hospital in China reported similar findings, i.e. patients and relatives as the main perpetrators of abuse against nurses¹⁹. According to them, work overload at health services was one of the reasons for violence against the staff.

Our results indicate that psychological abuse was more frequent than physical abuse (90.2%). Non-physical violence is a general phenomenon, with verbal abuse as its most common manifestation⁶. Verbal abuse leaves no external marks and is thus difficult to prosecute. Our findings have substantial corroboration. About 43.5% of primary care workers in Serbia reported having suffered verbal abuse and 5.7% moral harassment⁶. Psychological abuse accounted for 91.2% of violent events among

Table 3. Multivariate analysis of factors associated with workplace violence among municipal Unified Health System workers, Diamantina, Minas Gerais, Brazil, 2017 (n=203)*.

Variables	N	Prevalence (%)	PR (95%CI)**
Task satisfaction			
No difficulty	160	32.5	-
Difficulty	43	69.8	1.75 (1.28-2.39)
Support at work			
High	111	27.9	-
Low	92	55.4	1.68 (1.19-2.37)
Psychological demands			
Low	111	27.9	-
High	92	55.4	1.60 (1.12-2.28)

*Variables included in the model: sex, age, educational level, department, working hours, task satisfaction, support, control of tasks, psychological demands and distress at work; **Poisson regression with robust variance; PR: prevalence ratio; 95%CI: 95% confidence interval.

HCW in Saudi Arabia²⁰. Insults and threats have been reported by 44.9 and 29.5% of primary care workers in Brazil². Psychological abuse in the workplace is emerging as a major cause of concern, leading to a novel awareness and reassessment of the relevance of psychological factors at work¹⁵.

The prevalence of workplace violence was 1.68 times higher among the participants who reported poor support at work, and 1.6 times higher among those with high psychological demands. Several studies indicate that lack of support at work leads to underreporting events and promotes the development of personal coping strategies, resulting in a vicious circle^{6,16}. One may reasonably assume that a situation characterized by low support and personal coping strategies might at least partially account for increases in the psychological demands of work. Therefore, in addition to discouraging, lack of support and high demands together make workplaces increasingly susceptible to violence inasmuch as they favor underreporting and acceptance of abuse as if it were natural, since victims are persuaded that managers will not implement any corrective and/or protective action. Therefore the overall culture that impregnates the workplace should be taken into consideration in the analysis of the rates of violence¹⁵. According to several authors, a participatory environment, open dialogue and efficient communication may contribute to eliminate the risk of abuse.

Job dissatisfaction was another occupational aspect associated with workplace violence. Since the present is a cross-sectional study, we are unable to determine the direction of this relationship. Nevertheless, both possibilities—violence as cause of dissatisfaction and dissatisfaction as cause of violence—are plausible. HCW react in many different ways, but as a rule, abuse causes anger, hostility and detachment from coworkers and patients, with consequent impact on the work process. In addition, dissatisfaction arising from violence has implications for the workers' future as may lead them to quit the profession²⁰. In turn, poor-quality care is a cause of dissatisfaction among service users, a fact that increases the odds of future abuse⁸. Primary care providers are at the receiving end of users complaints against SUS services, as e.g. due to shortage of medications, difficulty to schedule diagnostics tests or visits to specialists,

among many other problems². Yet these workers have no decision-making power in this regard, and much less as concerns systemic and organizational issues, which is a cause of much frustration. This condition of becoming "the visible face of the entire system" favors conflict. Also other studies performed with HCW in Brazil, Bulgaria, Lebanon, Portugal, South Africa and Thailand identified failure to meet demands, overcrowding and neglect to punish perpetrators as factors which contribute to violence in health services¹⁵.

Our findings are even more relevant since most participants worked at primary care facilities, which represent the point of entry to SUS and are expected to ensure the continuity of care across the entire health care system. Violence at this level therefore interferes with the access to the entire system and threatens its sustainability².

According to several authors, workplace violence in the health care setting may be also assessed based on the physical and mental health of HCW^{8,15}. The consequences of violence for the health of HCW vary as a function of the intensity of abuse and the individual vulnerability of victims, and interfere with the quality of care delivery. The main effects of violence include feelings of powerlessness, limitation, discredit and blame, post-traumatic stress disorder, sleep disorders, anxiety, loss of self-esteem, stress, burnout, depression, weight loss or gain, and drug abuse⁸.

Its robust results notwithstanding, the present study has some limitations, to begin with the sample size. Although representative of the analyzed population, it is not large enough from the statistical perspective to detect association with low prevalence events, as is the case of some of the explanatory variables. Since we did not include workers on leave, we cannot rule out the healthy worker effect, with consequent underestimation of rates given that violence as such might be a reason for leave spells²¹. Finally, data collection depended on the participants' recollection, and having set a 12-month time frame might have behaved as a source of information bias, which should be systematically taken into account in studies with designs as that of the present one.

Yet, despite these limitations the prevalence rates and associations found—e.g. between workplace violence

and job dissatisfaction, low support and high demands—are essential for planning and implementing individual and collective prevention strategies.

CONCLUSION

The results of the present study point to the need to reformulate and devise specific policies to protect the health of HCW, including greater investment to reduce unmet demands, appropriate paths to reporting

violent events available to workers and ensure their safety, punishing perpetrators, room for discussion, and support to victims of abuse to minimize possible consequences for their health and the quality of care provision.

ACKNOWLEDGMENTS

To the National Council of Scientific and Technological Development (CNPq) and FAPEMIG.

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