

Workplace Violence Against Primary Care Physicians in Chengdu, China: A Cross-sectional Survey

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Abstract

Background: The purpose of this study is to examine workplace violence (WPV) toward primary care physicians (PCPs), including prevalence, associated factors, impacts, and response to WPV in Chengdu, China. **Methods:** We used an online cross-sectional design to collect data from October to November 2022 with a structured self-administered questionnaire from a purposive sample of 568 PCPs in Chengdu city. **Results:** Among the 490 valid questionnaires, 44.3% of respondents reported at least encountered 1 type of WPV in the preceding year, with 38.0% experiencing emotional abuse, 24.5% threats, 9.8% experiencing physical assault, 5.5% verbal sexual harassment, and 1.6% sexual abuse. The common perpetrators of WPV were patients (81.6%) and their relatives (44.2%). A multilevel analysis showed that PCPs without night shift had lower odds of experiencing WPV (odds ratios [OR]=0.461, 95% confidence interval [CI]=0.299-0.700, $P=.0004$), while higher education levels were associated with increased odds (OR=1.835, 95% CI=1.126-3.005, $P=.015$). The common reasons of causing WPV perceived by PCPs were “rejected unreasonable demands” (81.6%), “unmet the expectations” (51.2%), and “waiting too long” (47.9%). In response to WPV, 80.6% of PCPs had communicated positively with patients, 61.8% informed superiors, and 23.5% called security guards/police officers, but still 10.6% took no action. Most respondents (82.9%) did not receive training on how to deal with WPV. After experiencing WPV, PCPs reported low work efficiency (56.2%), decreased patient trust (32.7%), and anxious feelings (32.7%). **Conclusions:** This study revealed a moderate prevalence of violence against PCPs in primary care settings. Most PCPs lack coping strategies to handle WPV and suffer many negative effects. It is imperative that PCPs receive formal training in WPV management, and our study provides evidence to support such training programs.

Keywords

workplace violence, primary care physicians, cross-sectional, general practice

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Introduction

Workplace violence (WPV) has become a global problem and a significant concern for public health.¹ WPV includes physical assault, emotional abuse, threats, verbal sexual harassment, and sexual abuse.² Previous research has demonstrated that healthcare employees are more likely than other workers to be victims of violence.^{3,4} WPV impacts healthcare workers' physical and mental health,^{5,6} leading to disturbed sleep, decreased job satisfaction, high employee turnover rates, and burnout.⁷⁻¹⁰ Hence, researching and addressing WPV prevention is essential for delivering healthcare services.

Primary care physicians (PCPs), also known as health gatekeepers, are the backbone of the primary healthcare

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system.¹¹ PCPs are primarily responsible for comprehensive healthcare services, including preventive care, diagnosis and treatment of prevalent diseases, rehabilitation, management of chronic diseases, and health management.¹² A meta-analysis study showed that the pooled prevalence of any type of WPV, non-physical, and physical violence against PCPs was 63.1%, 33.8%, and 8.5%, respectively.¹³ If the WPV continues expanding against PCPs, it could imperil social harmony, the stability of primary healthcare human resources, the quality of services, and the overall efficacy of the healthcare system. Therefore, preventing and dealing with WPV infecting PCPs is a vital public health priority.

However, the majority of cross-sectional studies have only examined the prevalence, types, and associated factors of WPV in general practice,^{13,14} few studies identifying the causes, impact, or coping strategies of PCPs who experience WPV which is essential for design the training program on prevention or handling WPV. According to a study conducted in Turkey,¹⁵ the most prevalent causes of WPV in general practice are “refusal of unreasonable demands” and “unfavorable behaviors.” In contrast, 66.1% of PCPs responded verbally, 15.2% did nothing, and only 8.9% notified their superiors. Xing (2015) study indicated 20.1% of victims (106) reported the incident to senior staff, while 7.5% pursued legal action and filed a claim for compensation in China.¹⁶ The reporting rate of WPV in China is much lower than Turkey and western countries. One of the reason for low reporting rate maybe due to lack of knowledge of WPV.

Hence, there is a critical need for targeted training programs that address the WPV reporting, specific causes, impacts, and coping strategies related to WPV among PCPs. Such training would equip PCPs with the necessary skills to manage patient interactions and reporting WPV more effectively, respond appropriately to incidents of violence, and reduce the adverse effects of WPV on their professional and personal well-being. Additionally, integrating new insights into WPV into these training programs would allow for a more proactive and informed approach to managing this pervasive issue in primary care settings.

Therefore, our intended research would serve multiple purposes: (1) Determine the prevalence and risk factors of WPV experienced by PCPs in Chengdu; (2) Explore PCPs’ perceptions of WPV’s causes and consequences; (3) Examine PCPs’ coping strategies against WPV; and (4) Obtain PCPs’ prior WPV training experience and training willingness.

Methods

Design and Setting

This cross-sectional study investigates WPV experienced by PCPs in primary health institutions (community health

centers and township health centers) in Chengdu during October to November 2022, and access was negotiated through directors in primary health institutions. We asked the directors of each primary health institution to send the questionnaire to respondents through the WeChat working group (the most popular social media in China) for 3 consecutive days. PCPs who were willing to participate in the survey completed the questionnaires without any payment.

Participants

We used a purposive sample in the study to increase the numbers and representativeness of the investigated sample. According to geographical location, population, and economic levels, Chengdu city was divided into 3 circles (inner, middle, and outer), including 6 to 8 counties. Because of time and resource limitations, we purposely selected 2 or 3 counties in every circle and primary health institutions in each county. The inclusive criteria of subjects were defined as primary care physicians (PCPs) who had been working in a primary care setting for more than 1 year. This includes PCPs working night shifts, particularly those in community health centers providing 24-h services for emergencies and after-hours care. These shifts are common in urban and rural community health institutions in China to meet the needs of patients seeking care outside regular working hours.

Variables

Measurement

An anonymous, 27-item, self-administered survey was used. It includes 3 sections:

1. Demographic and workplace data: age, gender, marital status, level of education, years of experience, night shift, previous experiences with WPV training and willingness to undergo WPV training.
2. Workplace violence scale: The frequency of WPV against PCPs in the previous 12 months was measured using the Chinese version of the Workplace Violence Scale, a scale with proven good reliability (Cronbach’s coefficient was .92) and validity among healthcare workers in China.¹⁷ The scale was composed of 5 dimensions, including physical assault, emotional abuse, threat, verbal sexual harassment, and sexual abuse. The score for each item ranged from 0 to 3, reflecting the frequency of the respondents’ exposure to WPV (0=zero times, 1=1 time, 2=2 or 3 times, and 3=more than 3 times) in the past year.
3. Type of perpetrators, perceived causes of WPV, PCPs’ response to WPV, the impact of WPV on PCPs.

Study Size

Based on the population size of PCP in China is 537 000, 95% confidence level (CI), and including 30% attrition rate, the sample size was estimated to be 497.

Data Analyses

The response to the question of whether the respondents suffered any WPV was coded as a dichotomous response (yes/no) in this study. The distribution of demographic and occupational data and the rates of 5 types of WPV were reported as numbers and percentages. Where appropriate, bivariate analyses using chi-square tests and Fisher's test were used to compare the distribution of demographic and practice-related factors in violence exposure. To account for the clustering effect of physicians within different counties (regions), a multilevel model (also known as hierarchical or mixed-effects model) was applied, with the county/region as a random effect. The data analysis was performed using BM SPSS Statistics 22.0 and R software, specifically the lme4 package. A *P*-value of less than .05 was considered statistically significant.

Ethical Approval and Consent to Participate

The Research Ethics Committee of Chengdu Fifth People's Hospital granted ethical approval prior to data collection, and permission was obtained from all participating primary health institutions. The study was conducted in accordance with the ethical standards of the Declaration of Helsinki. Each participant provided informed consent to participate through the online survey platform. At the beginning of the survey, participants were presented with an introductory statement explaining the study's purpose, procedures, and the intended use of their data for research purposes. Participants were informed of their right to decline participation or withdraw at any time. Consent was documented by participants' agreement to the first question, which explicitly asked for their permission to use their responses for research and publication. Responses from individuals who did not provide consent were excluded from analysis. All data were kept confidential and were used solely for research purposes in accordance with ethical standards.

Results

Our sample included 24 primary care settings in 8 counties (approximately 5% of 519 primary care settings in Chengdu), with 6 in the inner circle, 9 in the middle circle, and 9 in the outer circle, respectively. A total of 568 PCPs were approached and only 490 valid questionnaires were collected, and the effective response rate was 86.2%.

Characteristics of the Participants

The most typical respondents were female (57.8%), married (86.1%), aged over 40 years old (46.1%), held a bachelor's degree or above (69.8%), and night shift work (53.1%). More than 60% of respondents stated that they had worked 10 more years in their current occupation. Majority (82.9%) reported that they did not participate in anti-violence training and 90.6% of participants were willing to participate in anti-violence training (Table 1).

The Prevalence and Characteristics of WPV

Table 1 also showed that 44.3% of the respondents reported having experienced WPV, with 38.0% experiencing emotional abuse, 24.5% threats, 9.8% physical assault, 5.5% verbal sexual harassment, and 1.6% sexual abuse. Statistically significant differences in the experience of WPV were found across age groups ($P=.003$), educational levels ($P<.001$), and working experience categories ($P=.002$). Physicians working night shifts were more likely to report WPV compared to those not working night shifts ($P<.001$).

A multilevel logistic regression model was used to further examine the independent contributions of variables associated with workplace violence, while accounting for the clustering of physicians within different regions. Physicians without night shifts had a lower odds of experiencing WPV compared to those who had (odds ratios [OR]=0.461, 95% CI=0.299-0.700, $P<.001$). Education level was also a significant predictor, with physicians having higher education levels being more likely to experience WPV (OR=1.835, 95% CI=1.126-3.005, $P=.015$). The random effect for region (variance=.108, standard deviation=0.329) indicated that there was some variation in WPV rates across regions, but the overall impact of regional differences was relatively small (Table 2).

Perpetrators, Perceived Causes, and Impacts of WPV by PCPs

PCPs who had experienced WPV reported that the main perpetrator was the patients (81.6%), followed by patients' relatives (44.2%). PCPs reported there were many causes for WPV, such as rejecting unreasonable demands from patients and their families (81.6%), did not meet the expectations of the patient and his families (51.2%), waiting too long time (47.9%), problems of hospital system or equipment (29.0%), patients with psychological problems (26.3%), and unclear and complicated treatment process (25.3%). Regarding impact, 56.2% PCPs reported low work efficiency, 46.1% had decreased patient trust, 32.7% reported feeling anxious, and 21.7% admitted insomnia. More than 10% of investigated PCPs were physically

Table 1. The Distribution of WPV by Demographic and Occupational Characteristics.

Demographic variables	n=490 (N%)	Experience WPV		χ^2	P value
		Yes (n=217) n (%)	No (n=273) n (%)		
Gender				2.352	.141
Male	207 (42.2)	100 (48.3)	107 (51.7)		
Female	283 (57.8)	117 (41.3)	166 (58.7)		
Age group, year				11.439	.003
<30	71 (14.5)	24 (33.8)	47 (66.2)		
30-39	193 (39.4)	103 (53.4)	90 (46.6)		
≥40	226 (46.1)	90 (39.8)	136 (60.2)		
Marital status				0.815	.846
Married	422 (86.1)	189 (44.8)	233 (55.2)		
Single/divorced/separated	68 (13.9)	28 (41.2)	40 (58.8)		
Educational level				14.985	<.001
Associate's degree or below	148 (30.2)	46 (31.1)	102 (68.9)		
Bachelor's degree or above	342 (69.8)	171 (50.0)	171 (50.0)		
Working experience, year				12.291	.002
≤10	171 (34.9)	72 (42.1)	99 (57.9)		
11-20	187 (38.2)	100 (53.5)	87 (46.5)		
≥21	132 (26.9)	45 (34.1)	87 (65.9)		
Night shift				14.447	<.001
Yes	260 (53.1)	136 (52.3)	124 (47.7)		
No	230 (46.9)	81 (35.2)	149 (64.8)		
Past anti-violence training				1.575	.229
Yes	84 (17.1)	32 (38.1)	52 (61.9)		
No	406 (82.9)	185 (45.6)	221 (54.4)		
Willingness to attend anti-violence training				2.805	.118
Yes	444 (90.6)	202 (45.5)	242 (54.5)		
No	46 (9.4)	15 (32.6)	31 (67.4)		

Table 2. Multilevel Logistic Regression Analysis of Risk Factors for WPV.

Variables	β	SE	OR	95% CI	P
Gender					
Male			1		
Female	-0.336	0.203	0.714	0.479-1.061	.097
Age group, year					
<30			1		
30-39	0.635	0.379	1.887	0.904-4.022	.094
≥40	0.286	0.469	1.331	0.532-3.359	.542
Educational level					
Associate's degree or below			1		
Bachelor's degree or above	0.607	0.250	1.835	1.126-3.005	.015
Working experience, year					
≤10			1		
11-20	0.456	0.294	1.577	0.889-2.823	.122
≥21	0.117	0.412	1.124	0.504-2.533	.777
Night shift					
Yes			1		
No	-0.774	0.217	0.461	0.299-0.700	.0004

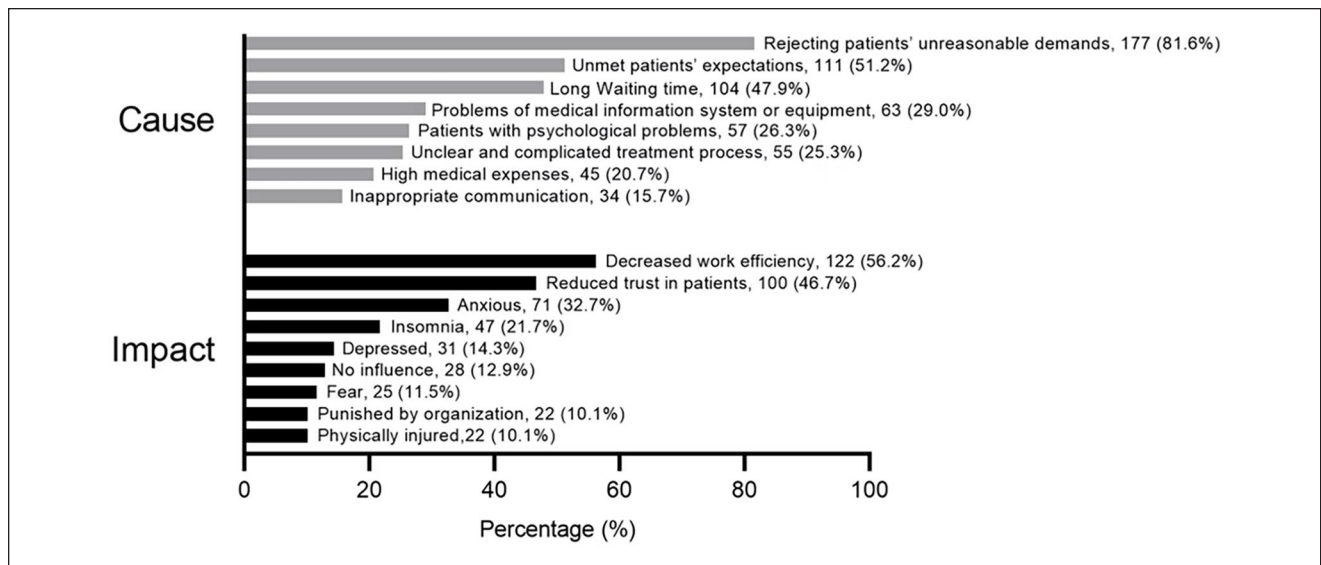


Figure 1. Perceived causes and impacts of WPV by PCPs (Multiple responses; n=217). Data are presented as n (%).

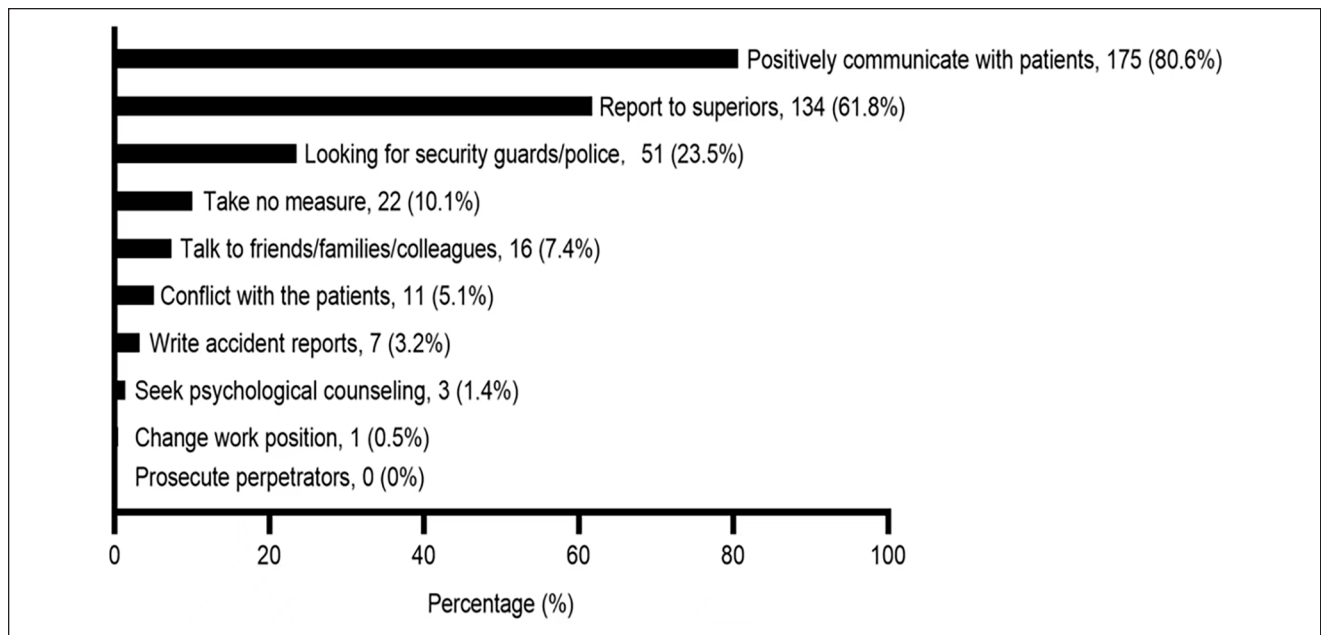


Figure 2. PCPs' response to WPV (Multiple choice; n=217). Data are presented as n (%).

injured by perpetrators during the WPV and punished by organization. These are illustrated in Figure 1.

Methods and Responses of PCPs in Handling WPV

In response to the method of handling WPV, 80.6% of PCPs had clam down the aggressor through communication,

61.8% had informed superiors, 23.5% had sought out security guards and/or police officers for assistance, and 10.6% had taken no action. Few PCPs shared the information with friends/families/colleagues (7.4%), had a conflict with the patient (5.1%), wrote an accident report (3.2%), sought psychological counseling (1.4%), or changed departments (0.5%). No one prosecuted perpetrators. These are illustrated in Figure 2.

Discussion

The present study identified a relatively lower prevalence of WPV among PCPs in Chengdu city (44.3%) compared to the national survey across different levels of healthcare institutions (ie, primary level of community health care setting, secondary level of hospital in country sides, and tertiary level of hospital in city) of PCP in China, which reported a prevalence of 56.4%.¹⁸ This discrepancy may be attributable to the higher WPV rates commonly observed in hospital settings, where interactions with patients and their relatives are more frequent and intense. Additionally, this national study has shown that working in hospitals is a significant risk factor associated with WPV, which supports the findings of our study.¹⁹ Furthermore, the prevalence observed in our study is also lower than the 63.1% reported in a meta-analysis of 15 observational surveys of WPV among general practitioners worldwide.¹³ This variation might be due to the fact that, in China, patients with more severe illnesses often bypass primary care and go directly to hospitals, reducing the likelihood of PCPs encountering situations that might lead to workplace violence. Additionally, differences in WPV assessment tools and methodologies across studies could also contribute to the variation in reported prevalence.

Our findings reinforce those of other studies, highlighting emotional abuse as the predominant form of violence encountered.^{14,20-22} Emotional abuse tends to be more common than physical violence because it can be easily inflicted and is challenging to detect and prove. Our study showed that PCPs who often had night shift were more likely to experience WPV, which is consistent with findings from prior research.^{2,20,23} This correlation may be due to the reduced staff numbers and increased fatigue during night shifts,²⁴ leading to heightened tension and more frequent conflicts with patients and their relatives. Additionally, the diminished presence of security personnel and administrative support during night hours may also contribute to the increased risk of WPV.

Interestingly, our multilevel analysis revealed that higher education levels were associated with an increased risk of WPV. This finding contrasts with our initial expectations and some of the literature, where higher education is often thought to provide better communication skills and conflict resolution strategies.² However, there are potential explanations for this association. Patients may have higher expectations of physicians with advanced education, and unmet expectations could lead to frustration, which may manifest as aggression. Additionally, higher-educated physicians often handle more complex or critical cases, which could increase their exposure to emotionally charged situations, thus raising the risk of WPV.

In coherence with other studies,^{25,26} we discovered that patients and their families are the primary source

of workplace violence. Patients and their families often experience emotional fluctuations due to anxiety about the illness and unfamiliar with the treatment procedure, unsatisfactory treatment outcomes, or dissatisfaction with medical services, which can lead to violent behavior toward healthcare workers. Common causes of WPV include refusal of unreasonable requests from patients and their families, long waiting times which failure to meet the expectations of patients and their families. Similar to the findings of a Turkish study, more than half of incidents can be attributed to the denial of unreasonable requests.¹⁵ According to the frustration-aggression hypothesis, when individuals face obstacles or delays in achieving their goals—such as receiving timely medical care or having their requests fulfilled—the resulting frustration can manifest as aggressive behavior toward healthcare providers.²⁷ This psychological model helps explain why unmet expectations and prolonged waiting periods can trigger violence in healthcare settings.²⁸

The influence of violence on healthcare workers is an issue of concern. Our study found that WPV can contribute to decreased work efficiency, reduced patient trust, and insomnia among healthcare workers in primary care settings, similar to previous findings in other facilities.²⁹⁻³² WPV creates a hostile and unsafe environment, increasing stress and burnout among healthcare workers. This stress reduces their focus and efficiency, damaging patient trust, and overall work performance.^{4,9}

In response to WPV, the majority of participants in our study who encountered such incidents reported employing communication strategies to de-escalate the situation with patients. This finding aligns with previous research on WPV.¹⁶ The efficacy of doctor-patient communication in defusing confrontational scenarios and reducing the risk of WPV has been well-documented.³³ However, it is disconcerting that 10.6% of PCPs did not take any action, and none initiated legal proceedings against the offenders. Despite the endorsement of the “zero-tolerance” policy for workplace violence in healthcare through legal and regulatory frameworks, including the Basic Healthcare and Health Promotion Law, its implementation remains inadequate. Disturbingly, our study revealed that 10% of PCPs were penalized by their respective organizations instead of the offenders, which could potentially deter PCPs from taking action against WPV and intensify the adverse effects on their well-being. We strongly advocate for the government to expedite the enactment of health and safety regulations to protect healthcare professionals. Simultaneously, organizational leaders should take assertive measures to protect and support medical staff, ensuring that punitive actions are directed at the offenders rather than the victims.

The present study reveals that a mere 17.1% of participants confirmed receiving training in anti-violence management previously, a figure significantly lower than the 37.4%

reported in other epidemiological studies conducted in China.¹⁶ This suggests that the adoption of anti-violence training is not widespread in China's primary healthcare settings. This can be attributed to several factors. Firstly, even in tertiary hospitals, where resources are more plentiful, the training against workplace violence (WPV) is infrequent due to a general lack of awareness and emphasis on the issue. Consequently, if such training is not prioritized in larger hospitals, it is less likely to be implemented in primary care facilities with limited resources. Secondly, China lacks standardized national guidelines or training systems specifically aimed at WPV prevention and management, leaving primary healthcare institutions without a clear roadmap to tackle this issue. Lastly, there is a dearth of qualified trainers possessing the necessary expertise to deliver WPV training, further restricting its availability and implementation in healthcare settings. Collectively, these factors contribute to the prevailing deficiency of WPV training in primary healthcare institutions across China. As training is a potentially effective measure of preventing and reducing workplace violence,³⁴ and more than 90% of those surveyed are willing to participate, we recommend that CHCs provide anti-violence training programs for PCPs to ensure the early prevention of WPV and reduce the harm it causes.

This study is subject to several limitations. Due to constraints in time and resources, the sample was not selected randomly. However, we employed stratified and purposive sampling techniques to enhance the representativeness of the study. Additionally, the use of a multilevel model in our analysis accounted for the clustering of physicians within different regions, thereby mitigating some biases introduced by the non-random sampling. Despite these efforts, the high response rate (86.2%) may have introduced certain forms of bias. Specifically, physicians with heightened sensitivity to workplace violence (WPV) or those with prior experiences of WPV may have been more inclined to participate, potentially leading to an overestimation of WPV prevalence. Conversely, physicians who have not experienced WPV may have been underrepresented, introducing nonresponse bias that could skew the results. Furthermore, the retrospective nature of data collection, which required participants to recall incidents from the past 12 months, may be susceptible to recall bias.

However, our study also has some strengths. This is one of the few Chinese studies to investigate the prevalence of WPV in primary care settings, as the majority of previous research focused on hospital or emergency care settings. Meanwhile, the current study transcended a singular focus on WPV prevalence and explored WPV from a more comprehensive perspective, including perceived causes, influencing factors, response to WPV, and impacts, which may be beneficial for preventing and managing WPV and drawing public attention to the importance of adequately supporting PCPs.

Conclusion

In conclusion, this study reveals a moderate prevalence of workplace violence against primary care physicians in primary care settings. The primary causes include rejected demands, unmet expectations, and extended waiting times. The impact of WPV on PCPs includes reduced work efficiency, diminished patient trust, and increased anxiety. Therefore, implementing formal WPV management training programs is essential to equip PCPs with the skills needed to effectively address and mitigate the effects of workplace violence.

Declaration of Conflicting Interests

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