Advances in Research on Workplace Violence Against General Practitioners: Prevalence, Influencing Factors, and Intervention Strategies (Post-Print)

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Abstract

General practitioners are highly comprehensive medical professionals who serve as "gatekeepers" of public health. Violence-related incidents not only seriously jeopardize the physical and mental well-being of general practitioners, but also compromise the quality and standards of primary healthcare services, exacerbating both the attrition of general practitioner talent and the economic burden on the healthcare system. Studies indicate that over half of general practitioners have experienced workplace violence, with verbal abuse and threats being the most prevalent forms, followed by physical violence and sexual harassment or assault; patients and their relatives constitute the primary perpetrators. Important contributing factors to workplace violence include healthcare service quality failing to meet patient expectations, perpetrator alcohol intoxication, substance abuse, mental illness, and inadequate physician-patient communication. It is recommended to refine policies, regulations, and management protocols concerning workplace violence against healthcare workers, establish and improve mechanisms for violence reporting and penalization; enhance the capacity of healthcare workers and institutions to deliver medical services and prevent workplace violence; and appropriately utilize media to advance the establishment of a "zero-tolerance for violence" framework.

Full Text

Preamble

Research Progress of Workplace Violence Among General Practitioners at Home and Abroad: Prevalence, Influencing Factors, and Intervention Strategies

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Abstract: General practitioners are medical professionals with high comprehensive ability and specialized quality, serving as the "gatekeepers" of residents' health. Workplace violence seriously harms the physical and mental health of general practitioners, affects the quality of basic medical services, and increases the turnover of general practitioners and the economic burden on the health system. Studies showed that more than half of general practitioners had experienced workplace violence, of which the most common types were verbal abuse and threats, followed by physical violence and sexual harassment and assault. Patients and their families were the main perpetrators. Important factors associated with workplace violence included medical service quality not meeting patient demands, perpetrator alcoholism, drug abuse, mental disorders, and poor doctor-patient communication. It is suggested to improve policies, regulations, and handling standards related to workplace violence against healthcare workers, establish and implement reporting and punishment mechanisms, enhance the capacity of healthcare professionals and institutions to provide high-quality health services and prevent workplace violence. Finally, we should give proper play to the role of public media and promote the establishment of a "zero-tolerance" system for violence.

Key words: general practitioner; workplace violence; influencing factors; intervention strategies

Workplace violence against healthcare workers is a global problem, with healthcare personnel being the primary targets or victims of workplace violence (WPV). Compared to other industries, the healthcare sector is more vulnerable to violent harm [1]. According to a systematic review, the overall prevalence of physical violence perpetrated by patients or visitors against healthcare professionals was 26.38% in Europe, 23.61% in the Americas, 20.71% in Africa, 17.07% in the Eastern Mediterranean region, 14.53% in the Western Pacific region, and 5.62% in Southeast Asia [2]. WPV incidents in Chinese medical institutions have also been increasing, with 62.4% of healthcare workers nationwide reporting having experienced WPV. The prevalence rates of physical violence, psychological violence, verbal abuse, threats, and sexual harassment were approximately 13.7%, 50.8%, 61.2%, 39.4%, and 6.3%, respectively [3]. Between 2000 and 2014, the incidence of violence against medical workers increased at a rate of about 11% per year. In 2012 alone, seven medical workers were killed, approximately half the total number of deaths in the previous nine years [4]. Since the global COVID-19 pandemic in 2019, healthcare workers, as pillars of the health system, have been under unprecedented pressure. According to International Committee of the Red Cross records, among 611

documented incidents of stigmatization, violence, or harassment in the first six months of the pandemic, 67% were directed at healthcare workers, with over 20% involving physical attacks, 15% classified as fear-based discrimination, and 15% being verbal attacks [5]. WHO Director-General Tedros Adhanom Ghebreyesus emphasized: "The COVID-19 pandemic has reminded us all that health workers play a vital role in alleviating suffering and saving lives. No country, hospital, or clinic can keep its patients safe unless it keeps its health workers safe."

General practitioners are medical professionals with high comprehensive ability who primarily provide integrated services at primary healthcare institutions, including preventive care, diagnosis and referral of common diseases, patient rehabilitation, chronic disease management, and health management [6]. Establishing a general practitioner system is crucial for improving the national healthcare network, providing basic medical security, breaking down urban-rural medical barriers, developing personalized medicine, and enhancing residents' health levels. However, WPV seriously endangers the occupational safety and physical and mental health of general practitioners, leading to negative psychological effects such as hypervigilance [7] and anxiety [8], exacerbating job burnout, reducing job satisfaction, and increasing turnover intention [9], while also intensifying doctor-patient tensions [10, 11]. Additionally, WPV affects the quality and equity of medical services provided by general practitioners. For instance, GPs who have experienced violence reported that to prevent violent incidents, they would only provide home medical services to familiar or seemingly friendly patients and would inform colleagues or family members of the addresses of patients' homes they visited [12]. Finally, WPV causes productivity losses among medical staff and increases organizational economic burdens, including issues such as absenteeism, disability, death, staff turnover, and medical compensation. In 2016, the national cost of violence against hospital staff in U.S. medical institutions totaled $428.5 million [13]. Therefore, systematically reviewing the global prevalence, influencing factors, and intervention strategies of WPV is particularly important for its prevention.

1 Research Methods

The search strategy included a combination of subject headings and keywords in titles and abstracts. The following keywords were used: workplace violence, violence, aggression, bullying, general practitioner, township hospital, family physician, healthcare professional. Databases searched included Ovid Medline and PubMed, yielding 417 articles. We used EndNote X9.1 for screening, excluded 3 duplicate articles, and obtained 78 articles through preliminary screening based on titles and abstracts. After screening, 51 articles underwent full-text review, and ultimately 33 articles were included in the review.

Inclusion criteria comprised: English articles published between 2000 and 2022; studies covering the prevalence, influencing factors, preventive measures, and intervention programs for WPV against general practitioners; and WPV pri-

marily originating from patients (patients, family members, etc.). Exclusion criteria included: articles on other violence types such as domestic violence or youth violence; and articles focusing on other health technical personnel such as specialists, nurses, pharmacists, midwives, or security staff.

2 Concept and Definition of Workplace Violence

WHO defines WPV as incidents where staff are abused, threatened, or assaulted in circumstances related to their work [14]. Currently, common types of violence included in various healthcare setting violence studies are verbal violence, threats, sexual harassment, sexual assault, and physical attacks [15]. Additionally, there are economic violence [9], property damage or theft [16], bullying, and racial discrimination [17]. However, definitions of each violence type vary across studies. For example, the definition of "stalking" differs—some studies define it as patients intentionally following doctors to their residences or workplaces [16], while others use duration as the criterion, defining events causing fear that last more than two weeks as stalking and shorter-duration events as harassment [17]. There is currently no unified international standard for WPV classification. Based on behavioral characteristics, violence can be categorized as physical violence (attacks, murder, physical or sexual assault, abuse, etc.) and psychological violence (threats, sexual harassment, verbal abuse, intimidation, stalking, etc.) [14]. Based on the perpetrator' s identity, violence can be divided into four types: violence by criminals unrelated to the workplace; violence by service recipients such as patients and customers; violence by current or former colleagues and supervisors; and violence by non-employees with personal relationships with the employee that occurs in the workplace [18]. This study focuses primarily on patient-initiated violence against general practitioners in the workplace.

3 Global Prevalence of Workplace Violence Among General Practitioners

Multiple studies have shown that the prevalence of WPV among general practitioners is high both domestically and internationally, with verbal violence being the most common type. Joa et al. [19] surveyed 536 staff members at 20 primary care centers in Norway, finding that 78% had experienced verbal violence, 44% had been threatened, 13% had experienced physical abuse, and 9% had experienced sexual harassment. Aydin et al. [9] conducted a questionnaire survey of 522 general practitioners across 48 cities in Turkey, revealing that 82.8% had experienced violence at work, with 332 (61.69%) reporting more than one violent incident. The most common form was verbal violence (89.3%), followed by physical attacks, sex-related violence, and economic violence. Forrest et al. [20] surveyed 3,090 general practitioners selected nationwide in Australia to represent urban, rural, and remote areas, finding that 58% had experienced verbal abuse, 18% had experienced property damage or theft, and smaller numbers had experienced physical harm (6%), stalking (4%), sexual harassment (6%), or sex-

ual assault (0.1%). Feng et al. [21] randomly selected 4,376 general practitioners from five provincial-level administrative regions in eastern, central, and western China for a questionnaire survey, showing a WPV incidence rate of 14.26% among GPs, with verbal violence being the most common type (13.44%), followed by threats (9.23%), sexual harassment (4.68%), physical attacks (4.59%), and sexual assault (2.29%). Gan et al. [15] surveyed 1,015 general practitioners in Hubei Province (response rate 85.6%), finding that 62.2% had experienced WPV in the past year, with physical violence prevalence at 18.9% and non-physical violence at 61.4%. Li et al. [22] conducted a retrospective survey of general practitioners and nurses in Heilongjiang Province, finding that 153 out of 422 GPs (34.62%) had experienced psychological violence in the past year, most commonly verbal violence (28.05%), followed by "medical disturbance"(14.93%), threats (13.80%), verbal sexual harassment (10.18%), and sexual harassment (6.11%). Tian et al. [23] used meta-analysis to estimate that 63.1% of general practitioners worldwide had experienced WPV, with the highest prevalence in Europe (69.3%; 95%CI: 54.9%-83.7%), followed by Asia (66.2%; 95%CI: 55.6%-70.6%), and the lowest in Oceania (57.3%; 95%CI: 49.9%-64.7%). Among these, 33.8% (95% CI: 25.3%-42.3%) experienced non-physical violence, and 8.5% (95% CI: 5.7%-11.4%) experienced physical violence.

4 Influencing Factors of Workplace Violence Against General Practitioners

A study in rural eastern Australia [12] showed that perpetrators of violence mainly originated from patients. Influencing factors for patient violence included dissatisfaction with medical services, long waiting times [24], staff shortages, acute psychiatric episodes in patients, personality disorders, and drug and alcohol abuse [12]. Forrest et al. [20] found that GPs with less experience, full-time employment, or working in large practices were more likely to experience verbal violence compared to other GPs. Full-time GPs or those working in metropolitan areas were more likely to experience property damage or theft, while female GPs and those with less experience reported significantly more sexual harassment. Feng et al. [21] showed that perpetrators were primarily male patients, with incidents most commonly occurring in doctors' offices during morning shifts. The top three reasons for WPV were unmet patient needs, long waiting times, and dissatisfaction with GP services. Aydin et al. [9] investigated the work scenarios when GPs experienced violence, finding that violence most frequently occurred during information consultation (44.0%) and physical examinations (26.5%), with the main cause being refusal of perpetrators' unreasonable demands (50.5%). Gan et al. [15] explored influencing factors of WPV, revealing that male GPs with higher professional titles and lower monthly average income were more likely to experience physical violence, while male GPs, those lacking experience, and those with administrative responsibilities were more likely to experience non-physical violence. Some studies found that foreign-born GPs were more likely to experience verbal or physical violence than native-born GPs, possibly due to insufficient language proficiency, communication difficulties, and

inability to understand patients, leading patients to exhibit aggression toward GPs [24]. Pina et al. [26] used focus group methods to survey 80 users of primary care services in the Murcia Health Department about factors causing violence and prevention measures, indicating that appointment difficulties, inappropriate attitudes of health staff and patients, healthcare deficits, and clinic closures due to COVID-19 were key causes of conflict.

Reviewing domestic and international research findings, the main perpetrators of WPV against GPs are typically patients and their families [9, 12, 27], followed by colleagues and managers [9, 12]. Verbal and physical violence most commonly originated from patients [12, 21] or patients' relatives [22, 28], while economic-related violence and sexual violence may more frequently come from colleagues and supervisors [9]. Regarding demographic characteristics, conclusions about the impact of gender and work experience are inconsistent. A survey of primary care professionals in Bulgaria found no significant differences in the degree of patient violence across genders or years of service [29]. However, other studies suggest that different genders are more susceptible to different violence types—female GPs primarily experienced sexual harassment [20] and sexual assault [16], while male GPs experienced physical attacks [19] and economic violence [9]. Older age and more work experience were associated with lower risk of sexual harassment and other violence types [19, 20]. Regarding workplace characteristics, WPV prevalence may differ across regions. Some studies found no difference in violence and attack probabilities between urban and rural family doctors [30], while Magin et al. found higher WPV prevalence in rural areas [31]. Influencing factors also varied across different workplaces—most violence incidents reported by GPs working in health centers resulted from refusing perpetrators' unreasonable demands, while in public hospitals and emergency centers, incidents were more often due to perpetrators' misbehavior such as drug abuse and alcoholism [9].

5 Prevention Strategies for Workplace Violence Against General Practitioners

5.1 Improve Guidelines for Handling Workplace Violence Against Healthcare Workers and Establish Sound Regulations for Managing Violence in Medical Settings

The International Labour Office (ILO), International Council of Nurses (ICN), WHO, and Public Services International (PSI) have published the *Framework Guidelines for Addressing Workplace Violence in the Health Sector*, combining years of research and practical work in WPV prevention. The guidelines comprehensively detail action guides for individuals, institutions, and society to prevent and respond to WPV, covering healthcare workers' awareness and recognition of WPV and its influencing factors, adverse consequences of violence, workers' rights and responsibilities, tertiary prevention of WPV, and responsibilities and measures to be undertaken by medical institutions, governments, and society

beyond healthcare workers [32]. On July 19, 2020, WHO released the *Health Worker Safety Charter*, proposing five steps to protect health workers from WPV: implementing relevant policy mechanisms, fostering a "zero-tolerance" culture toward violence against health workers, reviewing and improving relevant laws and regulations, establishing enforcement mechanisms such as ombudsmen and helplines, and particularly establishing clear WPV reporting mechanisms. Research indicates that main factors affecting reporting include incident severity, patient condition, and clarity of reporting mechanisms [33]. Organizations should establish different severity classifications for medical WPV and clarify corresponding handling measures to reduce WPV incidence and its negative impacts. To reduce WPV incidents in medical institutions and respond effectively, countries and regions need to establish social consensus on "zero tolerance" for violence against healthcare workers through relevant laws, regulations, and policy mechanisms. The *Law of the People' s Republic of China on Basic Medical and Health Care and Health Promotion*, passed by the 15th meeting of the Standing Committee of the 13th National People' s Congress on December 28, 2019, incorporates the personal safety and dignity of medical personnel into legal protection and standardizes improvements to the practice environment for medical staff. Medical institutions and relevant departments should establish specialized departments and measures to provide GPs with professional assistance including WPV-related consultation, incident handling guidance, and post-incident psychological counseling.

5.2 Establish Workplace Violence Reporting Mechanisms, Improve Punishment Mechanisms for Violence in Medical Settings, and Implement Relevant Regulations

Establishing a comprehensive reporting system is a key link in preventing and controlling WPV in healthcare settings, yet the current situation is unsatisfactory. After exposure to WPV, GPs receive limited organizational support, with support primarily coming from individuals, colleagues, or close associates. A survey of 448 GPs in Heilongjiang Province found that after experiencing psychological or physical violence, GPs mainly received individual-level support, including relying on their own strength, talking with colleagues, and receiving family support. At the organizational level, the most common support was completing injury reports or reporting to leaders [34]. Additionally, a survey of U.S. medical workers showed that only 17.7% of all violent incidents were investigated, perpetrators received no punishment in 52.4% of cases, and only 30.1% of victims formally reported their experiences [35]. Therefore, despite high WPV prevalence, formal reporting remains low and measures to combat violence are insufficient, necessitating more scientific punishment mechanisms and improved tracking and management methods for violent incidents. Sun et al. [36] developed an Externality, Identifiability, and Preventability (EIP) analytical framework to distinguish healthcare workplaces from general workplaces and constructed an economic model for optimal punishment of WPV in healthcare settings, aiming to prevent external perpetrators from committing violence

in healthcare workplaces through appropriate penalties. Improving punishment mechanisms for WPV in healthcare settings and increasing the cost of committing violence can effectively curb its occurrence.

5.3 Enhance the Service Capacity of General Practitioners and Medical Institutions

General practitioners need to improve their professional competence, communication skills, and ability to prevent and respond to WPV, while medical institutions must strengthen cooperation within departments and with other organizations to narrow the gap between service quality and public expectations. Insufficient individual competence, such as lack of communication skills or inadequate understanding of medical settings and equipment before 急于 beginning medical procedures, is a major influencing factor for violence [37]. Good professionalism among GPs is an important guarantee for violence prevention. Second, lack of communication between doctors and patients is a key factor leading to WPV [38]. Harsh or unfriendly communication styles from healthcare workers are triggers for serious conflicts [37]. Good communication skills can keep patients calm, build trust and hopeful relationships, thereby reducing WPV. Furthermore, GPs' full understanding, early recognition, and proper response to WPV can effectively reduce its harmfulness and dangerousness. Effective measures include assessing patient dangerousness by understanding their history of previous aggressive and violent incidents, avoiding working alone, and ensuring one' s whereabouts are traceable [14]. Capacity training requires collaborative efforts from individuals, schools, medical institutions, and communities. Therefore, ensuring quality knowledge acquisition during medical education, offering courses on preventing interpersonal violence, and improving healthcare workers' WPV recognition levels in communities are crucial [9]. Strengthening information and resource connectivity and organizational coordination among medical institutions and throughout the health system to meet patient needs, and rationally optimizing various health resource allocations to shorten treatment response times and enable patients to receive needed medical services promptly can also effectively prevent WPV.

5.4 Properly Utilize Media to Achieve "Zero Tolerance" for Violence

As incidents of violence against healthcare workers increase, proper medical publicity is a key measure to reduce such events [38]. Media needs to play a positive role, emphasizing that the public should give doctors more trust [9]. A survey of 560 Israeli members of the public (non-healthcare workers) showed that simultaneous action is needed at both the healthcare worker and general public levels. At the healthcare level, working conditions need improvement, healthcare workers require training to respond to violence, and institutions need increased security personnel and cameras as deterrents. At the public level, education is needed to make the public more tolerant of healthcare workers, raise awareness of zero tolerance for violence, and punish perpetrators [39]. To curb violence

against doctors, society needs to transform the public's hostile mentality toward healthcare workers, strengthen the concept of a "doctor-patient community," improve citizens' awareness of laws against violence in medical settings, and clarify that violence in healthcare settings is unacceptable.

6 Research Outlook

Currently, research topics related to WPV against general practitioners are increasingly rich, but there remains room for deeper development in standard definitions, research content, and directions. (1) Promote the publication of research on violence in general practice settings in domestic Chinese journals—currently, this is almost blank in China, and the Chinese data involved in this article are from domestic scholars' publications in foreign journals. (2) Most studies define WPV from the perspectives of perpetrator characteristics and violence behavior features, but descriptions of violent behaviors vary across studies. Some studies only broadly distinguish verbal violence, physical violence, and sexual assault, while others describe various violent behaviors in detail, such as fist-waving [29]. Additionally, the conceptualization of "violence" differs between China and other countries, with foreign research using a more generalized concept of "violence," which inevitably affects prevalence survey results. Therefore, future research should consider using more consistent standards. (3) Almost all studies are conducted from the perspective of GPs, lacking research from the perspectives of GPs' health organizations, patients receiving GP services, or other professionals working with GPs—research perspectives should be broadened. (4) Measurement of violence cognition and exposure levels can be based on questionnaires developed in the training manual for the *Framework Guidelines for Addressing Workplace Violence in the Health Sector* [22, 28], or the *Working Violence in the Health Sector Country Case Studies Research Instruments Survey Questionnaire* developed by ILO, ICN, WHO, and PSI [3, 35]. Existing questionnaires mainly focus on demographic characteristics and violence occurrence, with few covering incident reporting, organizational support, or training situations. Moreover, discussions of influencing factors for GP WPV mostly focus on characteristics of doctors or perpetrators, lacking attention to organizational characteristics and situational features when violence occurs. (5) Current research designs are mostly cross-sectional, lacking longitudinal or experimental studies, making it difficult to identify predictive factors and establish causality. (6) Promote qualitative and case studies of WPV incidents to provide more findings related to attribution and policy, offering new ideas for top-level policy design.

This article has limitations. First, only English literature was included, which cannot avoid selection bias. Second, searches were conducted only in Ovid Medline and PubMed databases, which may result in incomplete retrieval.

In summary, the global prevalence of WPV against general practitioners is high, with verbal violence and threats being the most common types. Perpetrators are mainly patients and their relatives. Poor doctor-patient communication,

patient alcoholism, drug abuse, long waiting times, and low medical service quality increase WPV incidence. Relevant departments should accelerate the establishment and improvement of relevant laws and regulations, perfect WPV reporting and punishment mechanisms, and develop violence handling guidelines while guiding media to play their role. It is also necessary to continuously enhance the ability of GPs and their organizations to prevent, identify, and handle WPV, improve doctor-patient mutual trust, and provide strong guarantees for the stability and high-quality development of the general practice workforce.

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Note: Figure translations are in progress. See original paper for figures.