

## ARTICLE

# Workplace violence against healthcare professionals in China: A content analysis of media reports

RU JIAN JONATHAN TEOH, LU FANG, XIN-QING ZHANG

## Abstract

*Medical workplace violence (WPV) has become an alarming phenomenon in China. Few studies exist concerning how this is represented in the news. This study investigated the prevalence, characteristics, and causes of WPV from major news portals and medical websites in China, to provide a direction on the prevention and control of this issue. Quantitative content analysis was used to examine Chinese news portals and medical websites from 2013 to 2017. 235 valid reported cases were found. The number of incidents peaked in 2015, during the summer. Most cases occurred in the mid-eastern region of mainland China, in tertiary hospitals, and in the emergency department. The perpetrators were mainly individual males from the young adult or middle-aged groups. The major cause of medical WPV was dissatisfaction with treatment and referral. In conclusion, the development of prevention and control strategies is crucial and should be in accordance with the evidence from the research conducted.*

## Introduction

According to the definition provided by the United States National Institute for Occupational Safety and Health, workplace violence (WPV) is defined as acts of violence, which include both verbal and physical threats and assaults on workers (1). WPV in the medical sector is not uncommon. For instance, in the UK it was found that healthcare workers have a four-times higher risk of experiencing WPV, compared with workers in other industries (2). Medical WPV is an alarming issue, which is prevalent worldwide, including in the USA (3), UK (4), Europe (5), Asia (6-8), and Australia (9). The consequences of past incidence of workplace violence has included the lowering of occupational performance

and enthusiasm for work, creating fear for one's safety at the workplace, lowering job satisfaction, and affecting physical and mental health adversely (10-14).

Medical WPV is a significant and serious issue in China, where a recent meta-analysis of 44 observational studies found that 62.4% of 78,026 healthcare professionals in China had experienced medical WPV (15). WPV in the healthcare sector in China is unique, due to the presence of *Yi Nao*, (literally "healthcare disturbance"). *Yi Nao* are criminal gangs that target hospitals and medical professionals, whose main aim is to pressure the hospitals into reducing medical costs and paying compensation to the patients or their families. Medical professionals had sustained serious injuries from the attacks perpetrated by these gangs, patients and their relatives. An editorial published in the *Lancet* pointed out that one-third of medical doctors in China had experienced assaults and conflicts at their workplace (16).

However, epidemiological evidence of WPV in the medical sector in China does not yield a concrete conclusion in terms of time, place, and person attacked. A recent cross-sectional survey carried out in 18 Eastern Chinese hospitals found that 7% of 2,018 healthcare workers had experienced physical attacks and 34% had faced physical threats (8). On the other hand, in North-eastern China, 83.3% of 1,899 survey respondents reported WPV experience in healthcare, and 68.9% reported non-physical violence (17). A study done in Southern China reported that 64.5% of 1,043 healthcare workers in hospitals had experienced WPV (18). There were substantial differences in the prevalence of WPV in different regions in China, and our research aims to investigate the reasons behind these differences.

In China, the media plays an important role in delivering information on medical WPV to the public, as incidents of violence against medical professionals often appear in headlines in the Chinese media (19, 20). In 2012, the murder of a young junior doctor in Northern China was covered by *People's Daily*, the most influential newspaper group in the country. An online poll was established and although the results might not be generalisable to the entire population, it was found that a huge majority (65%) of the 6,161 respondents were happy with such violence, and only 6.8% of them were opposed to it (21). Another study conducted on the use of micro-blogs in China demonstrated that out of 661 micro-blogs that were posted in a month after a WPV incident in

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Guangdong province, less than a quarter of them condemned the perpetrators (22).

Identifying the patterns and characteristics of WPV is important for the relevant authorities to develop suitable strategies to curb this problem. To the best of our knowledge, earlier studies have explored the prevalence of WPV in China, but analyses of its detailed distribution by geographical regions, season, types of hospital departments involved, and characteristics of the perpetrators are limited. The role and use of the Chinese media in portraying WPV in the medical sector are also largely neglected. This research aims to address this gap by gathering and analysing the presentation of medical WPV from 2013 to 2017 on the Chinese news media, thereby suggesting a direction for prevention of medical WPV incidents in the future.

**Materials and methods**

We used the search tool of Baidu, the largest Chinese search engine in the world, to collect data and develop a dataset. The search terms included were: “medical violent events,” “medical accident,” and “injury of nurses and doctors.” The search was done in the Chinese language. The reports were included if they met the criteria: (1) WPV in mainland China, (2) posted on Chinese-language Chinese news portals and medical websites, (3) between January 1, 2013 and December 30, 2017. The reports were excluded if they were: (i) duplicate reports, (ii) without outcome of victim, and (iii) had no proper mention or explanation of background of the WPV event, including time and location of the event.

From our search, we identified 265 relevant reports using the Baidu search tool. After removing duplicates and excluding reports according to the exclusion criteria, there were 235 reports that satisfied the inclusion criteria. The included reports were from the following Chinese-language Chinese news portals and medical websites: *China Daily*, *Huanqiu*, *Dingxiangyuan*, *Sina*, *People’s Daily Online*, *Health News*, *Southern Weekly*, and news portals of all provinces such as *Henan Daily* and *Guangdong Daily*.

From the 235 reports, two independent investigators performed content analysis to extract and code the following information: 1) What was the date (year and month) of the event? 2) what was the province where the event occurred? 3) What was the department and type of hospital and in which the event occurred? 4) What was the cause of the event? 5) What was the outcome for the concerned healthcare worker? Did it result in the death of the healthcare worker? 6) What were the age, sex, and occupation of the perpetrators? 7) Was it a single person or a group of perpetrators? Any disagreement with the coding was resolved with discussion.

**Results**

**Temporal distribution of medical violent events**

The total number of valid incidents of medical violence reported on major Chinese news portals and websites from

2013 to 2017 was 235. The number increased from 2013 to 2015, peaked in 2015, and then decreased from 2015 to 2017 (Table 1).

| Year  | 2013 | 2014 | 2015 | 2016 | 2017 |
|-------|------|------|------|------|------|
| Cases | 26   | 54   | 75   | 46   | 34   |

Figure 1 describes the monthly distribution of incidents of medical WPV. It was found that such cases mainly occurred in the summer season, from May to August, accounting for 47.20% of all cases throughout the year. There were two other small peaks in February and November, 8.9% and 8.1%, respectively.

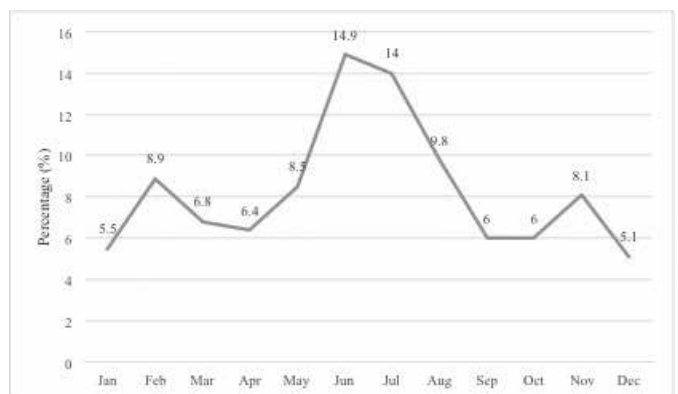


Figure 1. Monthly distribution of medical WPV incidents

**Geographical distribution of medical violent events**

Over the past four years, violent incidents occurred in 28 provinces or municipalities. Among these, the central and eastern coastal regions were areas of the highest frequency, while the western region reported relatively fewer cases. There were more than 10 cases reported in 5 provinces, and in descending order they were Guangdong (16.5%), Hunan (10.5%), Jiangsu (8%), Zhejiang (7%), and Shanghai (5%), contributing to a total percentage of 47%. All of them are located in the mid-eastern part of China.

**Hospital and department-wise distribution of medical WPV events**

According to Table 2, violent incidents occurred mainly in the

| Type of hospital             | Frequency | Percentage (%) |
|------------------------------|-----------|----------------|
| <b>Public hospitals</b>      |           |                |
| Tertiary hospitals           | 134       | 57.0           |
| Secondary hospitals          | 73        | 31.1           |
| Community health care center | 14        | 6.0            |
| Private hospitals            | 14        | 6.0            |
| Total                        | 235       | 100.0          |

**Table 3.****Distribution of medical WPV events by departments in hospitals**

| Departments in hospital    | Percentage of medical WPV events (%) |
|----------------------------|--------------------------------------|
| Emergency                  | 34                                   |
| Others                     | 12.3                                 |
| Unknown/missing            | 12.3                                 |
| Obstetrics and Gynaecology | 8.9                                  |
| Paediatrics                | 5.5                                  |
| Radiology                  | 3.8                                  |
| Orthopaedics               | 3.4                                  |
| General surgery            | 3                                    |
| Nephrology                 | 3                                    |
| ICU                        | 2.6                                  |
| ENT                        | 1.7                                  |
| Respiratory medicine       | 1.7                                  |
| Dentistry                  | 1.7                                  |
| Gastroenterology           | 1.7                                  |
| Neurology                  | 1.3                                  |
| Ophthalmology              | 1.3                                  |
| Dermatology                | 0.9                                  |
| Urology                    | 0.9                                  |

**Table 4.**  
**Characteristics of perpetrators**

| Characteristics of perpetrators  | Frequency | Percentage (%) |
|----------------------------------|-----------|----------------|
| Individual man                   | 126       | 53.6           |
| Individual woman                 | 25        | 10.6           |
| In a group                       | 56        | 23.8           |
| Unknown                          | 28        | 11.9           |
| Total                            | 235       | 100.0          |
| <b>Age group of perpetrators</b> |           |                |
| Teenager                         | 1         | 0.4            |
| Young adult and middle age       | 137       | 58.3           |
| Elderly                          | 8         | 3.4            |
| Unknown                          | 89        | 37.9           |
| Total                            | 235       | 100.0          |

tertiary hospitals (57% of cases), followed by the secondary hospitals (31.1%).

The Emergency Department had the highest number of medical WPV cases among all departments in hospitals

(34%) (Figure 2). This was followed by the Obstetrics and Gynaecology Department (9%) and the Paediatrics Department (6%).

Among the perpetrators of violent incidents reported, the majority were individual males (53.6%), followed by groups (23.8%) and individual females (10.6%). Of 37.9% of cases reported, sex and number of perpetrators were not specified. In 137 of the cases (58.3%) reported, violent acts were committed by young adults and the middle-aged (Table 3).

As for the victims, in 93.2% (n=219) of the cases the victims were injured, and in 6.8% (n=16) of the cases the victims died due to the violent acts. It was found that the main reason for the violence was dissatisfaction about treatment and referral (40.9%). The perpetrators were unhappy with the decisions made regarding management of the patients. Tense doctor-patient relationships, which solely encompass doctors' attitudes and communication skills, but not treatment or management of the patient's condition, account for 16.6% of all cases. Factors influencing the behaviour of perpetrators, included being under the influence of alcohol, and mental illness also accounts for 16.6% of all cases. The other most common reasons for violence were the deaths of patients (14.9%), and issues regarding treatment fees, medical insurance, and ambulance fees (5.5%) (Table 5).

**Table 5.**  
**Causes of WPV**

| Cause  | Frequency | Percentage (%) |
|--|-----------|----------------|
| Dissatisfaction regarding treatment and referral   | 96        | 40.9           |
| Tense doctor-patient relationship including dissatisfaction with medical doctors' attitude | 39        | 16.6           |
| Being under the influence of alcohol and mental illness                                    | 39        | 16.6           |
| Deaths of patients   | 35        | 14.9           |
| Disagreements on treatment fees, medical insurance, ambulance fees                         | 13        | 5.5            |
| Unknown  | 13        | 5.5            |
| Total  | 235       | 100.0          |

## Discussion

In this study we used the media as our source to analyse the distribution of medical WPV incidents according to time, region, and hospital departments, in addition to characteristics of perpetrators and causes of the incidents.

### Temporal distribution

The WPV cases in China peaked in 2015 and decreased after that. The time trend of medical WPV from 2013 to 2017 might be explained by the medical professionals' and government's efforts at curbing this public health problem. In 2014, violence prevention guidelines for healthcare workers in China were published by *Dingxiangyuan*, an extensive medical bulletin board system, from the perspective of medical professionals

(23). In effect, from October 1, 2015, under the Amendment of Criminal Law those who are in medical mobs (groups of individuals who disturb medical personnel or institutions with violence or illegal behaviour), whose behaviour disrupts the healthcare sector, will be punished (24). These interventions might have contributed to the drop in WPV cases after 2015. It was also found that incidents of WPV peaked during the summer months. This is consistent with a research conducted in Turkish healthcare facilities, which found that WPV occurred the most in summer (25). This may be due to the higher temperature in summer promoting aggression, as found by previously conducted (26).

### **Geographical distribution**

In mainland China, most hospitals, especially the higher level ones, are located in the eastern region. This result is consistent with the findings in Table 2, showing that more than half of the medical WPV events occurred in tertiary hospitals. A recent content analysis of news report also found that medical WPV had the highest incidence rate in tertiary hospitals (27). In China, people often perceive higher level hospitals as providing a higher quality of care with better treatment outcomes (28). Hence, most patients including those from the rural areas flock to the major cities for treatment, despite knowing that there is a possibility of draining away their savings due to the higher out-of-pocket expenses (15). Thus, there is a higher chance of patients' being dissatisfied with treatment outcomes, which may eventually result in WPV events.

### **Hospital departments**

It was found that there was a high prevalence of WPV in the Emergency departments, Obstetrics and Gynaecology departments, and Paediatrics departments. A similarity among the above departments is that they deal with patients in more acute and vulnerable conditions, and face higher patient expectations. In acute settings, people have less time to reflect, and hence their emotions and actions are more unpredictable and uncontrollable. Prevalence of WPV in the above departments is consistent with findings from multiple studies done in China. A study carried out at 18 hospitals in Zhejiang province found that the emergency department is the commonest location of WPV incidents (8). Another study conducted in 12 children's hospitals also found that there is a higher rate of physical violence in the Emergency department compared to the others (6). However, there was also a study which found that medical professionals working in the Psychiatric department had faced the most WPV, followed by the Emergency department (29).

### **Causes of WPV**

As found in our study, the main reason for WPV events (40.9%) reported in the news media was patients' dissatisfaction with the treatment and its outcome. This is also consistent with a previous cross-sectional survey carried out on nurses in Heilongjiang province, which found that 66.8% (n=393) of the WPV were due to unsatisfactory treatment outcomes (30).

Another study from the US also found that dissatisfaction with care is a major factor of WPV (3). A significant consequence of this issue is that healthcare workers will be more fearful of dealing with difficult cases (8).

This study found that poor and tense doctor-patient relationships were a major cause of WPV incidents in healthcare facilities. To create a good doctor-patient relationship, good communication is required, which helps to promote an exchange of information between the parties, and subsequently leads to shared decision-making about a patient's treatment (31). A previous study which investigated healthcare workers' employment status and doctor-patient relationships using a questionnaire survey in nine Chinese provinces, found that three quarters of the healthcare workers agreed that the current doctor-patient relationship was not satisfactory (32). Another study conducted in 12 hospitals in Fujian and Henan provinces, which included 2,464 medical professionals, found that miscommunication is the main cause of violence in medical practice (29).

A high workload leads to reduction in the quality of medical care provided, which is an important factor that results in patient dissatisfaction and a poor doctor-patient relationship. Higher workload is prominent in higher level hospitals and departments that handle more acute cases. This is consistent with the findings of a study that investigated the link between WPV and occupational stress, that the level of stress in the workplace is positively correlated to WPV, and negatively correlated to general self-efficacy (33). Long working hours ( $\geq 10$  hours/day) are associated with a higher risk of WPV, and may cause reduced sleep time, fatigue, and depression due to increased work stress (29).

Altered mental status, poor mental health, and alcohol abuse among patients are risk factors for WPV. In June 2015, a young man broke into a nursing station and severely injured a 30-year-old nurse. The perpetrator stated that he did not know the victim in person, and he just "hated people who wear white coats, bosses, doctors, and police." After investigation he was diagnosed with antisocial personality disorder. In this study, after analysing the characteristics and background of perpetrators we found that some of them were unemployed and poverty-stricken. Having a financial burden is a major risk factor as these individuals tend to pay for their medical care out-of-pocket. Among such individuals, not having the expected treatment outcome tends to lead to a higher risk of violence to healthcare providers.

### **Role of the media**

The Chinese media play an important role in tackling the medical WPV issue in China. There were media reports that made negative remarks regarding medical doctors, claiming that doctors are "wolves in white" whose focus is on income rather than patients' health (34). Reports in the media might sometimes mislead readers into thinking that WPV is not unusual, and might set off a trend of feeling that WPV is the right method to express dissatisfaction with the healthcare

sector. Instead of negative criticism, more constructive feedback or proposals for reform would be useful in tackling the WPV issue. As found in the study on microblogging after a WPV incident in Guangdong, only three out of 105 micro-blogs had concrete proposals on stopping medical WPV (22). The media has to affirm its social responsibility in promoting the protection of healthcare providers, delivering information on the law and legal aftermath of WPV cases, and educating the public on medical WPV. In response to the rising incidence of WPV, the Chinese government has recently passed a new law in June 2018, namely the Regulation on the Prevention and Handling of Medical Disputes, which emphasises the importance of patient-centred care, doctor-patient communication, and the role of the media in delivering accurate information (35). The law also stresses that the public should express discontent towards the healthcare sector through legal channels.

### Limitations and strengths

As our study includes only WPV incidents reported in the news media, the incidence and prevalence of WPV could be underestimated. The presentation of reports in the news media may also exaggerate the facts of cases, to attract more viewers for more profit. Sources of the media, whether they are state-controlled or autonomous, were unclear. We tried to minimise all these biases by strictly adhering to the inclusion and exclusion criteria. Reporting of the WPV incidents may depend on the popularity of the hospital, perpetrator, victim, or event.

Nevertheless, through this study we were able to investigate the prevalence of WPV in healthcare facilities in all the regions of China. Besides, as we obtained data from the media, we have an insight into the information about medical WPV incidents obtained by the general population in the whole of China through the media. We can also understand the influence of the media on the perspectives of the general population on WPV. Gathering the data on time, place, and person will help the authorities in allocating funds and targeting the right places and perpetrators, at the correct time of the year to tackle medical WPV. The findings and their implications should be discussed in the broadest contexts possible. Future research directions may also be highlighted, more so in view of the law that has been recently passed.

### Conclusions

Based on media reports, the prevalence of WPV seems to have decreased, but it is still a major issue in the healthcare system in China. Most of the cases occurred in higher level hospitals, perpetrated by young adult men. The main causes of WPV were patients' dissatisfaction with treatment outcomes and poor doctor-patient relationships. It is imperative to increase the awareness of the public and authorities, and to develop a new policy for safety and violence prevention in the healthcare sector.

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### Competing Interest

*The authors declare no competing interest.*

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