

Factors Related to Workplace Violence Towards Nurses in University Hospitals,  
The People's Republic of China\*

ปัจจัยที่เกี่ยวข้องกับความรุนแรงในสถานที่ทำงานของพยาบาลในโรงพยาบาลมหาวิทยาลัย  
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### Abstract

Workplace violence is a significant phenomenon in healthcare settings. Nurses are one of the main groups at risk from workplace violence. The purposes of this study were to explore workplace violence (WPV) towards nurses, and to examine the association between personal factors, workplace factors and workplace violence towards nurses in university hospitals, the People's Republic of China. The participants consisted of 297 nurses who worked in two university hospitals in Yunnan, the People's Republic of China. The research instrument was the Chinese Version of the Workplace Violence in the Health Sector Questionnaire (CWPVQ). The test-retest reliability were between .84 to .90. Data were analyzed using descriptive statistics, Pearson's chi-square and Fisher's exact test.

The results of this study were as follows:

1. The prevalence of total workplace violence towards nurses in the preceding year was 79.79%; the prevalence of physical and psychological violence was 74.74% and 5.05%, respectively; and the prevalence of verbal abuse was 70.73%.
2. The factors related to the prevalence of workplace violence towards nurses were the availability of measures such as "changed shifts or rotas" and "reduced periods of working alone".
3. The factors related to physical violence towards nurses were the departments where the nurses worked and the availability of policies regarding health and safety.
4. The factors related to psychological violence towards nurses were age, the availability of measures such as "changed shifts or rotas" and "reduced periods of working alone".

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The findings of this research suggest that hospital directors and nurse administrators should be aware of workplace violence and carry out effective interventions, appropriate strategies and programs to prevent and control workplace violence in university hospitals.

**Keywords:** Workplace violence, Related factors, Nurses, University hospital

### บทคัดย่อ

ความรุนแรงในสถานที่ทำงานเป็นปรากฏการณ์ที่สำคัญในสถานที่ให้บริการสุขภาพและบุคลากร พยาบาลเป็นหนึ่งในกลุ่มหลักที่มีความเสี่ยงจากความรุนแรงในที่ทำงาน การศึกษานี้มีวัตถุประสงค์เพื่อสำรวจความรุนแรงในสถานที่ทำงานของพยาบาล และเพื่อศึกษาความสัมพันธ์ระหว่างปัจจัยส่วนบุคคล และปัจจัยเกี่ยวกับสถานที่ทำงาน กับความรุนแรงในสถานที่ทำงานของพยาบาลในโรงพยาบาลมหาวิทยาลัย สาธารณรัฐประชาชนจีน กลุ่มตัวอย่างประกอบด้วยพยาบาลจำนวน 297 ราย ที่ปฏิบัติงานในโรงพยาบาลมหาวิทยาลัย 2 แห่งในมณฑลยูนนาน สาธารณรัฐประชาชนจีน เครื่องมือที่ใช้ในการวิจัยคือ แบบสอบถามความรุนแรงในสถานที่ให้บริการสุขภาพฉบับภาษาจีน (Chinese Version of Workplace Violence in the Health Sector Questionnaire: CWPVQ) ความเที่ยงของเครื่องมือมีค่าระหว่าง .84-.90 การวิเคราะห์ข้อมูลใช้สถิติพรรณนา เพียร์สันไคสแควร์ และการทดสอบของฟิชเชอร์

ผลการศึกษามีดังนี้

1. อัตราการเกิดความรุนแรงในสถานที่ทำงานทั้งหมดของพยาบาลในปีที่ผ่านมาเท่ากับร้อยละ 79.79 โดยอัตราการเกิดความรุนแรงทางร่างกายและอัตราการเกิดความรุนแรงทางจิตใจเท่ากับร้อยละ 74.74 และ 5.05 ตามลำดับอัตราการเกิดการทารุณกรรมด้วยคำพูดเท่ากับร้อยละ 70.73
2. ปัจจัยที่เกี่ยวข้องกับอัตราการเกิดความรุนแรงในสถานที่ทำงานของพยาบาล ได้แก่ การมีมาตรการในการเปลี่ยนกะทำงานหรือหมุนเวียนตารางงาน และการลดช่วงเวลาในการทำงานคนเดียว
3. ปัจจัยที่เกี่ยวข้องกับความรุนแรงทางร่างกายของพยาบาลคือ แผนกที่พยาบาลทำงานและการมีนโยบายที่เกี่ยวข้องกับสุขภาพและความปลอดภัย
4. ปัจจัยที่เกี่ยวข้องกับความรุนแรงทางจิตใจของพยาบาล ได้แก่ อายุ การมีมาตรการในการเปลี่ยนกะทำงานหรือหมุนเวียนตารางการทำงาน และการลดช่วงเวลาในการทำงานคนเดียว

ผลการศึกษานี้เสนอแนะให้ผู้บริหารโรงพยาบาล และผู้บริหารทางการพยาบาลควรตระหนักต่อความรุนแรงในสถานที่ทำงานที่เกิดขึ้นกับพยาบาล และดำเนินการในการผลักดันมาตรการหรือโปรแกรมที่เหมาะสมเพื่อป้องกันและควบคุมความรุนแรงในสถานที่ทำงานอย่างมีประสิทธิภาพ

**คำสำคัญ:** ความรุนแรงในสถานที่ทำงาน ปัจจัยที่เกี่ยวข้อง พยาบาล โรงพยาบาลมหาวิทยาลัย

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## Background and Significance

Workplace violence against healthcare providers, especially nurses, is a significant concern in every healthcare setting in the world (WHO, 2012). Workplace violence (WPV) was defined as incidents where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, and involving an explicit or implicit challenge to their safety, well-being or health (ILO/ICN/WHO/PSI, 2002). Jiao et al. (2015) classified WPV into physical violence and psychological violence. Psychological violence includes verbal abuse, Yi Nao, threats, and verbal/physical/sexual harassment. Yi Nao was defined as any medical or hospital disturbance created by a group of people or Yi Nao gang members hired by patients or their families that are involved in disputes with patients for actual or perceived medical malpractice (Jiao et al., 2015).

Numerous researchers have discussed workplace violence toward nurses as it affects them at the individual, organizational, and societal levels (Zhao et al., 2015). At the individual level, nurses who experienced WPV might have a stronger tendency toward de-personalization (Merecz, Rymaszewska Mościcka, Kiejna, & Jarosz-Nowak, 2006) and anxiety (Edward, Ousey, Warelow, & Lui, 2014). At the organizational level, nurses who had experienced WPV might allege poor organizational commitment (Budin, Brewer, Chao, & Kovner, 2013). WPV may lead to increased financial costs for the health care organization incorporating direct costs (Kai et al., 2015) and indirect costs (Martino, 2003). At the societal level, the prevalence of WPV may affect social stability (Zhao et al., 2015). Moreover, WPV also has an effect on patient-rated quality of patient care

(Arnetz & Arnetz, 2001) and patient outcomes (Roche, Diers, Duffield, & Catling-Paull, 2010).

According to the literature review, personal worker factors and workplace factors are considered to be related to WPV among nurses (Levin, Hewitt, Misner, & Reynolds, 2003; Levin, Hewitt, & Misner, 1998; MacKinnon, 2009). Personal worker factors include issues related to the nurses, such as nurses' age, gender, and years of experience (Estryn-Behar et al., 2008; Fute, Mengesha, Wakgari, & Tessema, 2015; Teymourzadeh et al., 2014). In Southern Ethiopia, Fute et al. (2015) found that nurses in the age groups 22–25 and 26–35 were more likely to be exposed to violence. Estryn-Behar et al. (2008) analyzed results among 39,894 nurses from ten European countries and found that male nurses were more at risk for violence than female nurses. In Iran, the majority of victims of physical violence were nurses who had less than ten years of work experience (Teymourzadeh et al., 2014).

Workplace factors consist of issues internal to the workplace culture or climate like policies, staffing patterns, and work tasks (Levin et al., 2003), including working in shifts, policies and measures (the strategies to deal with workplace violence that exist in the university hospitals), and department (Chen, Ku, & Yang, 2013; Jiao et al., 2015; Sripichyakan, Thungpunkum, & Supavititpatana, 2001). Jiao et al. (2015) stated that nurses with fixed day shifts have less risk of exposure to both physical and psychological violence in China. Sripichyakan et al. (2001) found the availability of policies regarding "physical violence" and "verbal abuse" were implemented by healthcare institution managers of Thailand; the rates of physical violence and verbal abuse were more frequent. The prevalence of total workplace violence was associated

with the following measures: “protocols for aggressive patients”, “increased staff members”, “reduced periods of working alone”, and “personnel training” (Sripichyakan et al., 2001). Nurses working in Emergency Rooms were most likely to suffer from WPV in Taiwan (Chen et al., 2013).

In China, the nursing profession is still not recognized and respected by most people; traditionally, nurses have been extensively regarded as physicians' assistants (Mo, Xiao, Liu, & Lin, 2008; Yue & Xiao, 2005). Most nurses working in tertiary hospitals face a heavy workload in their daily work (Lin, 2012). Nurses are being rushed and spending less time with patients, which may result in poor communication with patients and patients' relatives (Jiao et al., 2015). Due to poor communication, patients may lack sufficient knowledge of their disease, the costs of care, and information on effects or side-effects from medicine. This can result in misunderstandings regarding treatment, which is a source of complaints and disputes (Lin & Liu, 2005). Normally, the characteristics of patients in tertiary hospitals are very critical (Chen, 2011). In case the outcomes of patients do not satisfy their expectations, they may become depressed, discontent, or angry, and feel that hospitals should take responsibility (Lancet, 2012). Thus, nurses, being the healthcare professionals with whom patients and patients' relatives are in direct and long-term contact, may become the object of the disappointment, dissatisfaction and annoyance (Jiao et al., 2015); therefore, nurses might be more likely to suffer violence in the workplace.

The situation of WPV varies by province and occupational setting in China. The prevalence of WPV of nurses in previous studies might not apply in Yunnan since the economic

conditions, culture and context in Yunnan are not similar with other provinces. Previous research regarding the relationship between personal factors (including age, gender, and years of experience) and workplace factors (including work in shifts and department), and WPV towards nurses found inconsistent findings. At present, research articles on the relationships between policies, measures and WPV towards nurses in China have not been found. It is, therefore, necessary to conduct research to provide basic information for nursing administrators and policy makers to further develop appropriate interventions to manage the situation of WPV.

### Objectives

This descriptive correlation study aimed to explore the prevalence of workplace violence towards nurses, and to examine the relationship between personal worker factors including age, gender, and years of experience; and workplace factors including work in shifts, policies, measures, and department, and workplace violence of nurses in university hospitals, the People's Republic of China.

### Conceptual Framework

The conceptual framework of exploring the factors related to workplace violence in this study is based on The Ecological Occupational Health Model (EOHM) revised by Levin et al. (2003) which can be used to explain how a nurse experiences the cues from the environment, the workplace and individually, which affects the occurrences of violence in the hospital setting. According to the EOHM model Levin et al. (2003), factors related to WPV are grouped into personal worker and workplace factors. Personal worker factors related to WPV include age, gender, and years of experience. Workplace factors include working in shifts, policies and measures, and

department. The relationship between WPV of nurses and personal worker factors, including age, gender, and years of experience, and workplace factors, including working in shifts, policies, measures and department in two Chinese university hospitals were explored in the study.

## Methodology

### Research Design

A descriptive correlation study was designed to explore workplace violence towards nurses and to examine the relationship between age, gender, years of experience, working in shifts, policies, measures, department and workplace violence towards nurses in university hospitals in China.

### Population and Sample

The population was 1,171 staff nurses working in surgical, medical, outpatient, operating room, emergency room, intensive care unit, gynecology and obstetrics, and pediatrics departments in two university hospitals in China.

The sample size was calculated by Yamane (1973) formula and consisted of 358 nurses. The samples in each hospital's department were determined by the nurses' proportion in that department. Simple random sampling without replacement method was used to select the subjects from the name list of the nurses in each nursing department.

### Research Instrument

The researcher got written permission from Jiao et al. (2015) to use the Chinese Version of the Workplace Violence in the Health Sector Questionnaire which was developed and modified by Jiao et al. (2015) and consisted of four sections:

1. Section A Personal and Workplace Data: It contains 20 questions. Questions ask about demographic and workplace data including age,

gender, years of experience, department, and working in shifts.

2. Section B Physical Workplace Violence: It contains three subsections: PV1, PV2, and PV3. Questions ask about physical violence experiences. Subsection PV1 has 14 questions regarding exposure to physical violence within the past 12 months, including its frequency, and the perpetrators. In subsection PV1, the prevalence of physical violence was measured by a question asking, "Have you experienced physical violence in the past 12 months"? A "Yes/No" response was required.

3. Section C Psychological Workplace Violence: It contains 11 questions asking about experiences of psychological violence. Types of psychological violence were measured: "How often have you encountered verbal abuse, Yi Nao, threats, verbal and physical sexual harassment in the past 12 months"? The respondents answered "always", "sometimes", or "once".

4. Section D Health Sector Employer: It contains two questions with two checklist tables. One question asked about the existence of policies regarding "health and safety", "physical violence", "verbal abuse", "Yi Nao", "threats", and "sexual harassment" in the healthcare sector. The respondents answer "yes", "no" or "don't know". Another question asked about the availability of measures existing in the healthcare sector. Themes of the twelve measures included "security measures" and "improve surroundings", and respondents answered "original measures" or "new measures".

The CWPVQ had already been tested for validity by Jiao et al. (2015). In this study, twenty nurses were invited to test two-week test-retest and internal consistency reliability of the instrument. The test-retest reliability for section

A, B, and C were .86, .84, and .85, respectively. The Cronbach's alpha coefficients of one part of section C and section D were .90 and .89, respectively.

### Ethical Considerations

This study was approved by the Ethics Committee (EC) of the Faculty of Nursing, Chiang-Mai University. The participants were assured about confidentiality and anonymity before signing the volunteer research agreement form. They had right to withdraw at any time without stating any reason or losing any benefits. The information which the participants and hospitals provided were kept confidential and only used for the study's purposes.

### Data Collection

After getting permission from directors of nursing services, the researcher met with nurse directors of each hospital to explain the objectives, risks and benefits of the study. Two research coordinators in both university hospitals were selected by the nursing directors. A total of 358 questionnaires were distributed to nurses by the coordinator of each hospital. Finally, 348 questionnaires in closed envelopes were returned. Among them, 297 completed questionnaires (82.96%) were used for data analysis.

### Data Analysis

Demographic and workplace data were analyzed using frequency, percentage, mean, and standard deviation. The prevalence of WPV was analyzed using frequency and percentage. Pearson's chi-square and Fisher's exact test were used to analyze the relationship between WPV towards nurses and age, gender, years of experience, working in shifts, department, and the availability of policies and measures.

### Results

1. The age of the participants ranged from 20 to 55, with an average age of 29.56 years old (SD = 6.64). The majority of the participants were female (94.28%), and more than half of the participants were married (63.30%). More than half (58.25%) of the participants had worked less than five years. Most participants held a bachelor's degree (45.12%). More than half had a professional title, such as senior nurse. About 36.70% participants worked in the medical department. The largest group of the participants (77.44%) worked in shifts.

2. The prevalence of total workplace violence towards participants in the preceding year was 79.79 %; the prevalence of physical and psychological violence, verbal abuse, Yi Nao, threat, and sexual harassment were 74.74%, and 5.05 %, 70.73%, 20.88%, 28.96%, and 20.20%, respectively (Table 1).

**Table 1** Prevalence of Workplace Violence in the Preceding Year (n=297)

Types of workplace violence**	Frequency (n)	Percentage (%)
Physical violence	15	5.05
Psychological violence	222	74.75
Verbal abuse	209	70.73
Yi Nao	62	20.88
Threats	86	28.96
Sexual harassment	60	20.20

\*\*Participants exposure to more than one type of workplace violence

3. The percentages of participants who perceived that employers introduced policies regarding “health and safety” “physical violence”, “Yi Nao”, “verbal abuse”, “threat”, and “sexual harassment” were 68.69%, 53.54%, 39.73%, 52.19%, 42.42% and 40.41%, respectively.

4. The percentages of participants who perceived original and new measures to deal with workplace violence existing in the hospitals, including “security measures”, “improve surroundings”, “police on duty”, “restricted public access”, “patient screening”, “patient protocols”, “increased staff numbers”, “check in procedures for staff”, “special equipment or clothing”, “changed shifts or rotas”, “reduced periods of working alone”, and “training” were 94.95%, 87.21%, 84.17%, 79.46%, 67.68%, 75.76%, 73.74%, 63.97%, 62.94%, 61.29%, 61.61%, and 44.00%, respectively.

5. The availability of measures as “reduced periods of working alone” were related to total workplace violence and psychological violence at a significant level ( $\chi^2 = 9.471$ ,  $p = .009$ ;  $\chi^2 = 7.358$ ,  $p = .025$ ).

6. There was a significant association between department and physical violence (Fisher's exact test  $p = .009$ ). However, age, gender, years of experience, and working in shifts were not significantly associated with physical violence ( $p > .05$ ).

7. There was a significant association between age and psychological violence in nurses ( $p = .022$ ). However, gender, years of experience, working in shifts and department were not significantly associated with psychological violence ( $p > .05$ ).

8. There was significant association between availability of policies regarding “health and safety” and physical violence and threats

(Fisher's exact test  $p = .021$ ;  $\chi^2 = 17.646$ ,  $p = .0001$ ). Policies regarding “Yi Nao” were significantly associated with Yi Nao ( $\chi^2 = 6.422$ ,  $p = .040$ ).

9. The availability of measures as “reduced periods of working alone” were related to total workplace violence and psychological violence at a significant level ( $\chi^2 = 9.471$ ,  $p = .009$ ;  $\chi^2 = 7.358$ ,  $p = .025$ ). There were significant associations between the availability of measures as “changed shifts or rotas” and total workplace violence and psychological violence ( $\chi^2 = 8.000$ ,  $p = .018$ ;  $\chi^2 = 7.704$ ,  $p = .021$ ). Regarding each type of workplace violence, the findings also showed that there was significant association between availability of “police on duty” and Yi Nao ( $\chi^2 = 6.666$ ,  $p = .036$ ). The availability of measures such as “patient screening” and “reduced periods of working alone” were significantly associated with sexual harassment ( $\chi^2 = 8.574$ ,  $p = .014$ ;  $\chi^2 = 6.573$ ,  $p = .037$ ). Department was associated with physical violence ( $p = .009$ ), but was not associated with psychological violence (Fisher's exact test  $p = 1.000$ ).

## Discussion

1. The prevalence of WPV towards study participants

The total prevalence of workplace violence was 79.79%, which was high compared to the prevalence of workplace violence against nurses that was reported in Fujian (59.97%) by Gao (2008), and in Zhejiang (70.14%) by Wang and Yuan (2016) in China. However, Spector, Zhou, & Che (2014) recently reviewed 136 articles and found that the total prevalence of workplace violence against nurses ranged from 24.7% to 88.9% in other countries. The results of this study indicated that nurses suffered serious WPV

in university hospitals in Yunnan province. This was perhaps due to the differences in context and situation in Yunnan province from other areas. Yunnan is economically backward and its per capita income is lower than other provinces in China. Patients and their family members thought that the hospital charge was too expensive, and were unsatisfied with the medical service. In addition, patients' condition did not improve or mistakenly did not improve which often induced the occurrence of workplace violence in university hospitals. Therefore, they relieved their feelings by verbal and non-verbal communication with hospital staff, in particular nurses, who have the most contact with patients and their families. However, another possible reason is that collecting data from nurses with direct knowledge of the workplace improves response rates and reduces inappropriate feedback responses.

The study findings show that the prevalence of Yi Nao was 20.88%, which was lower than a previous study by Jiao et al. (2015) (24.0%) in Heilongjiang province. This was perhaps due to the lack of an effective medical dispute-handling system and an unsatisfactory social support atmosphere. Some patients and their relatives resorted to violence or criminal acts by assaulting staff or destroying hospital facilities to coerce hospitals into an agreement via blackmail. Jiao et al. (2015) demonstrated that perpetrators' goals were to force hospitals into providing them with extraordinary compensation for medical disputes. Another possible explanation was that more than half of the participants (52.19%) reported that their hospitals have developed policies regarding Yi Nao, and about 87.21% of them confirmed that measures such as "police on duty" were introduced in their

hospitals. The perpetrators were probably afraid of the police, which likely resulted in nurses receiving less harm. These situations may have contributed to the fact that the prevalence of Yi Nao was low in this study.

## 2. Factors Related to Workplace Violence

This study found that there was a significant association between the availability of policies regarding "health and safety" and physical violence and threats. In addition, the availability of policies regarding Yi Nao development was significantly associated with Yi Nao of nurses. This demonstrates that incidents of physical violence and threat were more widespread in the hospitals in which policies regarding "health and safety" were established. These findings might be explained by taking into account the fact that the hospitals were aware of the problem of physical violence, Yi Nao and threats towards healthcare workers in the hospitals and, therefore, had developed policies for preventing and controlling these types of violent incidents. The issue of Yi Nao has been a concern of the Chinese government (SPPPRC, 2016). The strong actions against the criminal offences of Yi Nao in accordance with law and regulations may have really helped safeguard health worker security in China.

This study found that there were significant associations between measures such as "changed shifts or rotas" and "reduced periods of working alone", and total workplace violence and psychological violence which indicates that the violent workplace incidents were more dominant in conditions such as "changed shifts or rotas" and "reduced periods of working alone". These findings might be explained by the fact that the hospitals were aware of the problem of workplace violence against health-care workers and more likely to

introduce “ changed shifts or rotas” and “ reduced periods of working alone” for preventing and controlling workplace violence incidents in both university hospitals. The availability of measures such as “ patient screening” and “ reduced periods of working alone” were significantly associated with sexual harassment. A possible explanation may be that university hospitals were more prone to implementing patient screening and reduced periods of working alone to reduce prevalence of sexual harassment towards nurses.

The results of this study show that the association between department and physical violence was at a significant level. This indicates that nurses working in the emergency room have a trend toward exposure to physical violence, and the emergency room may need special attention in order to reduce the prevalence of physical violence. Previous studies consistently reported that nurses working in emergency rooms experienced the highest prevalence of physical violence (Jiao et al., 2015; Teymourzadeh et al., 2014). According to clinical experience, the emergency room deals with the acute care of patients who come without prior appointment, and some patients may be in life-threatening circumstances and require immediate attention. Patients or their families usually believe that the symptoms of diseases should be controlled or relieved immediately in the emergency room (Xing et al., 2015). When nurses' responses and treatment cannot satisfy the patients and relatives because of the limitations or deficits in manpower or communication, the nurses experience violence (Chen et al., 2013). Therefore, the department has a relationship with physical violence toward nurses.

## Conclusion

Nurses frequently experienced WPV in university hospitals in Yunnan, China. There are two new findings in this study. First, measures such as “reduced periods of working alone” were associated with total workplace violence, psychological violence, and sexual harassment towards nurses. Second, the availability of policies regarding “police on duty” was associated with Yi Nao of nurses. According to Levin et al. (2003), prevention efforts or solutions are directed at the individual workplace through such interventions as policy enactment. In conclusion, this study indicates that the problem of violence at work exists, and that policy and measure prevention is essential.

## Implications and Recommendations

The findings provide evidence of WPV in university hospitals, which may support nurse administrators and hospital policymakers to carry out effective interventions focused on at-risk groups, and further evaluate and make recommendations to revise the policies and measures on WPV existing in university hospitals. A further predictive study on factors associated with workplace violence should be conducted to investigate the predictability of workplace violence.

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