ORIGINAL ARTICLE

Workplace violence among nurses in a Penang hospital: Prevalence and risk factors

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ABSTRACT

Introduction: Workplace violence (WPV) has become a universal concern and is perceived as a serious safety and health threat, especially in healthcare settings. Very few studies have been done previously to determine the prevalence of WPV and associated risk factors among nurses in Malaysia. Among the health professionals, nurses spend most of their time with patients compared to other healthcare professionals. Several studies suggested that nurses had a higher risk of experiencing WPV. This study determined the prevalence and associated risk factors of WPV among nurses in a government hospital.

Materials and methods: This cross-sectional study involved 410 randomly selected respondents among nurses in a government hospital in Penang, Malaysia. Data were gathered through a self-administered questionnaire consisting of a standardised questionnaire regarding WPV.

Results: The prevalence of reported WPV was 43.9%. The most common forms of WPV were verbal abuse (82.2%), followed by psychological violence (8.9%), physical violence (8.3%), and sexual violence (0.6%). The perpetrators were primarily among relatives of patients (51.7%), followed by patients (30%). Multiple logistic regression demonstrated that nurses working in the emergency department (ED) were six times more likely to experience WPV than in other departments (adjusted odds ratio (AOR) 6.139, 95% CI: 1.28 – 4.03). In addition, nurses in the age group of ≤30 years old were twice more likely to experience WPV (AOR 2.275, 95% CI: 3.4–11.08).

Conclusion: This study indicates that the prevalence of WPV among nurses is high and most common among young nurses and those working in ED. Hence, hospital management should develop guidelines and comprehensive policies to prevent WPV. In addition, education and training, especially among young nurses and those working in the ED, are needed to increase their knowledge in the management and prevention of WPV and counselling sessions for nurses who have experienced WPV.

KEYWORDS:
Workplace violence, prevalence, hospitals, risk factors, government

INTRODUCTION

Workplace violence (WPV) has become a universal concern and is perceived as a serious safety and health threat, especially in healthcare settings.[1,3] Health professionals have a higher risk of experiencing WPV than other professionals.[2] From 2002 to 2013, severe WPV incidents (those requiring days off for the injured worker to recuperate) were four times more common in healthcare than in private industry. Among the health professionals, nurses spend most of their time with patients compared to other healthcare professionals. As a result, nurses have a higher risk of experiencing WPV. A meta-analysis of 136 studies on 151,347 nurses worldwide demonstrated that the prevalence of WPV varied by region, with the Middle Eastern region having the highest at 61.3%, followed by the Asian region at 51.3%, and the European region having the lowest (38.3%).[4] A study by Zainal et al. reported that 71.3% of healthcare workers in Hospital Kuala Lumpur, Malaysia, were subjected to at least one of the four types of violence: verbal abuse (70.6 %), bullying/mobbing (29.4%), physical violence (11.0%), and sexual misconduct (6.6%). However, this study does not explicitly focus on WPV among nurses.[1]

Stressors such as reduced co-worker and supervisory support, lack of workgroup harmony, and layoff worry are associated with violent outcomes.[5] Similarly, job characteristics such as workplace and experience are important determinants of experiencing WPV. The level of WPV among nurses working in the Emergency Department (ED) was higher than that of those other units.[6] Younger doctors and nurses were more vulnerable to WPV exposure than their older counterparts.[1] The most frequent aggressions against nurses and physicians were committed by patients, followed by patients' relatives and professional colleagues.[7] An individual personality can result in them being victimised and an easy target of aggression and can make them vulnerable when faced with interpersonal aggression and conflicts. Some studies have indicated that personality traits may function as predictors and outcomes of WPV.[8-10]

This study was designed to determine the prevalence of WPV among nurses and the association between socio-demographics and job characteristics with WPV within 12 months. This study is about nurses who have experienced WPV from patients, relatives, visitors, colleagues, or other professional groups in a government hospital during their work. Moreover, it also identifies the problems these nurses encountered and hopes that appropriate support and treatment can be given to prevent further anxiety and stress.

This article was accepted: 13 October 2022
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MATERIALS AND METHODS

Study design

This cross-sectional study was conducted from March to October 2020 among all clinical nurses in Penang General Hospital, Malaysia. Ethical approval for the study was obtained from Medical Ethical Board University Kebangsaan Malaysia and the Medical Research and Ethics Committee of the Ministry of Health Malaysia through the National Medical Research Registry.

Study subject

This study included all clinical nurses aged 18 to 60 years old, Malaysian, and have worked in a clinical setting for at least 1 year. Those in the administrative work setting were excluded. Written and oral informed consent was obtained from all participants.

Sample size

The sample size for this study was calculated using the formula $z^2 1\text{-}\alpha/2PQ/d^2$, taking a confidence interval (CI) of 95% (1.96), and absolute precision was 5% (α = 0.05). Based on Zainal et al. (2018), the prevalence of WPV among healthcare workers at 71.3% was used as the reference. Therefore, a minimum of 393 respondents was randomly selected to cover the non-response rate of 20%.

Procedure and Instruments

Name list of clinical nurses obtained from the Human Resource Department, Penang General Hospital -was stratified into five major departments (Surgical, Emergency, Medical, Paediatric, Obstetrics, and Gynaecology). Then, the nurses were selected from each department (strata), and the proportion was based on the total number of nurses in a particular department. Finally, a simple random technique was used to select each selected department.

A validated Workplace Violence Questionnaire was utilised in this study. The reliability and validity test with Cronbach's α was 0.872 by Ruth (2009).[14] There were six parts with 15 questions in this questionnaire: Part A—socio-demographic background; Part B—job characteristic (includes place of work and years of experience since completion of training); Part C—violent incident (violence incident at the workplace in the last 12 months, location and the form of the violence); Part D—Characteristics of the Perpetrator (who was the perpetrator and the perpetrator's gender); Part E— Situational Factors of WPV (WPV happened during weekdays or weekend and whether it happened during the morning or night shift); and Part F— Feelings Post Violence.

The definition of WPV adopted in this study was according to the Department of Occupational Safety and Health, Malaysia (2001), which was *incidents where employees are abused, threatened, assaulted, or subject to other offensive behaviour in the circumstances related to their work*.[21]

Statistical analysis

Data collected were analysed using Statistical Package for the Social Sciences (SPSS) for Windows, version 22.0 (IBM Corp., Armonk, NY, USA). Descriptive analysis for continuous variables presented as mean with standard deviation (SD). In contrast, categorical variables were presented as frequency and percentage, including social-demographic data, job characteristics, types of violence, characteristics of the perpetrator, and feelings of the participant post-violence. The association of the risk factors with WPV was tested using the chi-square test for categorical variables at the bivariate level. In addition, all significant factors were analysed using simple logistic regression and multiple logistic regression to determine the contribution toward WPV. The adjusted odds ratio (AOR) is an expected analysis for each significant independent variable. The test's significance was set at a p value < 0.01 and 95% CI.

RESULTS

Socio-demographic and job characteristics of the respondent

Most were female respondents, with 98.8%, and 1.2% were male (Table I). The age ranged from 22 to 54 years old, with a mean age of 31.72 (SD=5.932). Malay respondents consisted of 83.9%, followed by Indian (9.5%), Chinese (2.2%), and other races (4.4%). In addition, 80.5% of respondents were married, and the remaining were single. A total of 40.2% of respondents had 1–5 years of working experience. Furthermore, respondents with working experience of 6–10 years (33.9%), 11–15 years (16.8%), 16–20 years (5.1%), and 3.9% with working experience of more than 20 years (Table I).

Prevalence and type of WPV

A total of 180 respondents (43.9%) had experienced WPV in the past 12 months, most of whom were exposed to verbal violence (82.2%). In addition, psychological violence and physical violence accounted for 8.9% and 8.3%, respectively. One respondent (0.6%) was subjected to sexual abuse and violence (Table II).

Characteristics of the perpetrator and situational factors of WPV

The majority of the perpetrators were male (68.3%). On the other hand, the female perpetrator only contributed 31.7% of the total number. Patient's relatives contributed to the most significant percentage of WPV, 51.7%, followed by 30% of WPV from patients, 10.6% from working colleagues, and management/superior with 7.8% of WPV. A number of 67.2% of cases were reported during day shifts, whereas 32.8% of cases happened during night shifts. Further stratification based on weekday and weekend shifts demonstrated that most violent cases occurred during weekdays (66.7%), and the remaining 33.3% happened during weekends (Table II). Feeling post-violence incidence of embarrassment, anger, and depression accounted for 22.8%, 22.2%, and 19.4%, respectively. In addition, a faction of victims was shocked (17.2%), fearful (10.0%), and 8.3% felt confused post-violence.

Association independent variables and WPV

Age and marital status positively affect the socio-demographics of nurses with WPV. Nurses aged 30 years old and younger (50.0%) have a higher risk of experiencing WPV compared to those who are older (36.8%) (p<0.05). On the other hand, single (53.8%) has a higher risk of WPV compared with the married (41.5%) (p<0.05) (Table III). In addition, respondents working in ED (76.6%) have a higher risk of experiencing WPV compared with respondents working in other departments (36.3%) (p<0.05) (Table IV).

Table I: Socio-demographic and job characteristics of the respondent

Variables	Frequency (n)	Percent (%)
Age		
20–29	180	43.9
30–39	183	44.6
40–49	40	9.8
50–59	7	1.7
Gender		
Female	405	98.8
Male	5	1.2
Ethnic background		
Malay	344	83.9
Chinese	9	2.2
Indian	39	9.5
Others	18	4.4
Marital status		
Single	80	19.5
Married	330	80.5
Working experience		
1–5 years	165	40.2
6–10 years	139	33.9
11–15 years	69	16.8
16–20 years	21	5.1
>20 years	16	3.9
Place of work		
Medical department	94	22.9
Surgical department	76	18.5
Paediatric department	80	19.5
Emergency department	77	18.8
O&G department	83	20.2

Table II: Descriptive data of types of violence and characteristics of the perpetrator

Variables	Frequency (n)	Percent (%)
Type of violence		
Verbal violence	148	82.2
Psychological violence	16	8.9
Sexual violence	1	0.6
Physical violence	15	8.3
Characteristics of the perpetrator		
Gender of the perpetrator		
Female	57	31.7
Male	123	68.3
Category of perpetrator		
Patient	54	30.0
Patient's relative	93	51.7
Colleague	19	10.6
Management/superior	14	7.8

Table III: The association between sociodemographic of nurses with workplace violence

Risk factors	x^2	Workplace violence		*p* value
		Yes n (%)	No n (%)	
Age++				0.007*
≤30 years old	0.58	110 (50.0)	110 (50.0)	
>30 years old	3	70 (36.8)	120 (63.2)	
Gender	0.192			0.102
Male		4 (80.0)	1 (20.0)	
Female		176 (43.5)	229 (56.5)	
Marital status	1.637			0.048
Single		43 (53.8)	37 (46.3)	
Married		137 (41.5)	193 (58.5)	
Ethnicity++	1.159			0.584
Malay		149 (43.3)	195 (56.7)	
Non-Malay		31 (47.0)	35 (53.0)	

++ Adjustment to the age group and ethnic group was made. For the age group, the respondent was regrouped into two groups: respondents with less or equal to 30 years old and respondents over 30 years old. For ethnic background, respondents were regrouping into two groups: Malay and Non-Malay.
* Chi-Square test significant $p < 0.05$.

Table IV: The association between job characteristics of nurses with workplace violence

Risk factors	x^2	Workplace violence		*p* value
		Yes n (%)	No n (%)	
Place of work++	0.174			<0.001*
Emergency department		59 (76.6)	18 (23.4)	
Other department		121 (36.3)	212 (63.7)	
Experience++	0.749			0.208
≤10 years		139 (45.7)	165 (54.3)	
>10 years		41 (38.7)	65 (61.3)	

++Adjustment to the place of work and experience group was made. For the place of the workgroup, the respondent was regrouped into two groups: the respondent working in the emergency department and the respondent working in other departments. For working experience, the respondent was regrouped into two groups: respondent with working experience less or equal to 10 years and respondent with working experience of more than ten years.
*Chi-Square test significant $p < 0.05$.

Table V: Multivariate analysis of associated risk factors of workplace violence

Risk factors	AOR	95% CI	*p* value
Age	2.275	1.284–4.030	0.005*
Gender	2.308	0.222–23.978	0.484
Marital status	0.741	0.433–1.268	0.274
Ethnic	0.785	0.444–1.388	0.405
Experience	0.723	0.379–1.380	0.326
Place of work	6.139	3.401–11.082	<0.001*

*Chi-square test significant $p< 0.01$. AOR: adjusted odd ratio, CI: confidence interval.

Multiple logistic regression analysis demonstrated that age ($p = 0.005$) and working place ($p < 0.001$) were significant factors related to WPV (Table V). Respondents in the ED were six times more likely to report WPV than those in other departments (AOR 6.139, 95% CI: 1.28–4.03). In addition, nurses younger than 30 years old were twice more likely to experience WPV than older respondents (AOR 2.275, 95% CI: 3.4–11.08).

DISCUSSION

This study demonstrated a 43.9% prevalence of WPV among nurses exposed to at least one of four types of violence in their workplace. This finding was comparable with other studies, where the prevalence of WPV in Ethiopia, South Korea, Jordan, Germany, and Iran was 18.22% to 56.0%, and 49.6% in Taiwan.[2,3,11] However, a study done in Hospital Kuala Lumpur, Malaysia, exhibited that 71.3% of the doctors and nurses reported being victimised by at least one of the four types of violence. The nature of work performed by healthcare workers in each study and the definition of respondents taken into the study could vary the prevalence rate.[1] Furthermore, hospital capacity and the number of departments in the hospital may influence WPV incidence, which Hospital Kuala Lumpur has a higher prevalence comparatively. Most violent cases occurred during the day shifts, 121 cases (67.3%) during the day shift, and the remaining 59 cases (32.8%) during the night shift. These findings seem reasonable because much of the activities of daily living and highly technical and complex care take place during the day, while most patients rest or sleep, and patients' relatives are not allowed in the hospital at night. Nurses are inevitably more involved in violent situations during the day. The same explanation can be applied where most highly technical and complex procedures are carried out during weekdays compared to weekends. Therefore, during the weekdays, the staff becomes more involved with the patients, thus putting them more vulnerable to violent situations.[12,13] This study demonstrated that verbal violence is the most frequent type of violence among nurses in the workplace, followed by psychological violence, physical violence, and sexual violence.[11,14,15] Previous studies have shown that the prevalence of verbal violence among nurses is the highest of all four types, approximately 70.6%, 63.8% to 89.58%, and 46.3%.[1,2,11] Verbal abuse is frequently reported as the initial stage of subsequent physical violence.[14,15] It can lead to many consequences, particularly on psychological and organisational levels.[17] Patients' relatives and patients made up most of the perpetrators in our study. Again, these results are consistent with previous studies showing that patients and their relatives committed between 72% and 98% violent acts toward nurses.[18] The familiar feelings experienced post-violence by the nurses were an embarrassment, anger, depression, shock, fear, and confusion.8 This exhibited how WPV affects healthcare professionals differently, depending on the situation, perpetrator, and personal emotional state. Therefore, it is of utmost importance for the management to proactively deal with WPV, curb its effects and create a healthy and safe working environment, as those who have experienced WPV are more likely to suffer from depression and anxiety than those who have not.[19,20]

In this study, two sociodemographic variables, age, and one job characteristics variable of the nurses are significantly associated with WPV. This is similar to a study in South Korea; WPV is experienced mainly by junior nurses.[6] Respondents younger than 30 years old were twice more likely to experience WPV than the older respondent. Younger age may mirror a lack of work experience and lower education, resulting in less skill in dealing with violence. In

government hospitals in Malaysia, with an overwhelming number of patients and overtime demand, working as nurses is exacting, and a lack of coping skills in WPV will worsen the effects. Given job characteristics, place of work was found to be a significant risk factor for WPV. This factor has continued to be significant in predicting WPV even after controlling other variables; nurses working in the ED were six times more likely to experience WPV than nurses working in other departments. This finding was indistinguishable from other studies, whereby nurses working in EDs were at the most significant risk of violence in many countries.[1-3,15] This is probably due to the frustration of long waiting times in the ED, not satisfied with the treatment, being under the influence of alcohol or drugs, and poor waiting areas.[1,2,6,7,11] On the other hand, the language barrier is a common problem as Malaysia has a diverse population with different languages and dialects.

Hopefully, the information obtained from this study will be beneficial in improving findings related to risk factors and prevalence of WPV and developing related general guidelines and fact sheets to improve understanding of risk factors and prevalence of WPV.

The current study had a few limitations. Firstly, the findings were only confined to Penang General Hospital, and a generalisation is not conceivable. Besides, the questionnaire used was a self-reported questionnaire. Furthermore, respondents needed to recall the incident of WPV in the past twelve months, which might have been affected by other events or experiences in the past 12 months.

There is a widespread lack of organisational controls against violence. Nurses must develop their ability to protect themselves from violence through educational programs. Violence toward nurses is a subject that should be studied more adequately, and nurses who are victims of violence should receive appropriate occupational and institutional assistance. Moreover, nurses who have been victims of violence should be offered professional assistance and support.

It is recommended that this study can be done as a cohort study to establish a causal relationship between risk factors and the prevalence of WPV among nurses. In addition, the study population should be more generalised to other populations of nurses in Government Health Clinics and the Private Sector so that it can create more variation in terms of data collected and prevent selection bias.

CONCLUSION

This study confirms that nurses are considered a professional group at high risk for violence in healthcare, likely due to organisational and individual factors, which calls for more effective measures to overcome this problem. It is also time for nurses to demand a healthy working environment to provide effective and productive nursing care. Education and training are needed to increase their knowledge in the management and prevention of WPV and counseling sessions for nurses who have experienced WPV.

The main limitation of our study was that respondents needed to recall the incident of WPV in the past 12 months. Therefore, the accuracy of respondent recall of WPV incidents may be affected by other events or experiences for the past 12 months.

ACKNOWLEDGEMENTS

The authors thank all nurses who participated in this study.

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