Workplace violence among healthcare workers in the emergency departments in Malaysia

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Abstract

Purpose – This study was conducted to determine the percentage and associated factors of workplace violence (WPV) among healthcare workers (HCW) working in the Emergency Departments (ED).

Design/methodology/approach – A cross-sectional study was conducted among 231 HCW using proportionate stratified random sampling. A validated and reliable self-administered questionnaire was distributed among respondents who fulfilled the eligibility criteria. Only Malaysians with a minimum employment of six months in the ED were included. The data was analysed through Multiple Logistic Regression using International Business Machines Statistical Package for Social Sciences software version 24 to determine the association between the independent variables and WPV. Significance level was set at 0.05 ($p = 0.05$) at 95% confidence interval (CI).

Findings – The percentage of WPV was 38%, of which 88.9% were psychological violence and were mostly perpetrated by combinations of perpetrator types (51.9%). Those aged 40 years and below, with low job support, and working in a secondary hospital have 5.4 (AOR = 5.366, 95% CI: 1.51–19.05), 2.9 (AOR = 2.871, 95% CI: 1.44–5.73) and 2.7 (AOR = 2.737, 95% CI: 1.50–5.01) times higher odds, respectively, of experiencing WPV.

Originality/value – The findings revealed a relatively high percentage of WPV among the HCW working at the ED with those of younger age with low job support and working in secondary hospitals being more at risk. Early interventions to reduce WPV are necessary in targeting those with identified risks.

Keywords Workplace violence, Emergency department, Healthcare, Malaysia

Paper type Research paper

Introduction

Workplace violence (WPV) as adapted from the European Commission Directorates-General V (EU DG-V) is defined as incidents where staff are abused, threatened or assaulted in circumstances related to their work, including commuting to and from work, involving an explicit or implicit challenge to their safety, well-being or health. It includes physical and psychological violence, ranging from mild forms such as verbal abuse, harassment, bullying and threats [1] to the extreme of homicide.

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Globally, 16,890 workers in the private sector industry have experienced trauma from non-fatal WPV, and 70% worked in the healthcare and social assistance industry [2]. In the South East Asia region, a cross-sectional study in Malaysia's neighbouring country, Indonesia, showed that the prevalence of WPV was up to 54.6% of emergency nurses [3].

In the hospital setting, WPV has been frequently reported among workers at Emergency rooms, Geriatric units, Psychiatric wards and waiting rooms. Emergency departments are particularly exposed to WPV due to contact with patients and their companions who are aggressive, overcrowding which leads to long waiting time, 24-h accessible "open-door" policy and the acute nature of illnesses presented [4].

Based on the Ecological Occupational Health Model (EOHM) of workplace assault, the risk factors for WPV can be grouped into three categories, which are worker, workplace and community/environmental factors [5]. An occupational ecological framework was first proposed by Conrad, Balach, Reichelt, Muran and Oh in their study related to musculoskeletal injuries among firefighters in 1994, believing that the framework could be used in problem identification and solution formulation for work-related injuries. Levin, Hewitt and Misner subsequently adapted the model to their study on WPV among nurses in ED by replacing the term "musculoskeletal injuries" with the broader term of "injuries" [6]. In 2003, Levin and colleagues subsequently further refined the EOHM to include, among others, community factors, assault situations and the consequences of assault during their study of WPV among long-term care personnel [5]. They believed that because of all these refinements mentioned above, the latest model was superior compared to the previous models as it gave a holistic view of the WPV issue in terms of its contributing factors, its effects and its solutions. This model has been used to guide previous WPV research in both qualitative [5, 6] and quantitative [7] studies.

Examples of worker factors are age, race, gender, working experience, educational level and occupational group (e.g. physician, nurse, paramedic). Workplace factors include shift work, job tasks such as direct contact with patients, number of staff, presence of security personnel/equipment and workplace settings. Workplace factors can also include the psychosocial workplace environment which can be assessed based on three scales of demand, control and support that are used to measure the high-demand/low-control/low-support model of job strain development [8]. Based on the assessment, through Karasek's Job Demand Control Model, jobs can subsequently be categorised into passive, active, low strain and high strain. High demand and low control create a high strain job that results in risk of psychological and physical distress [8]. Previous studies have shown that the high demand characteristics of a job such as staff workload and understaffing are perceived as the cause of violence and have a higher probability of causing WPV compared to low job demand [9]. Healthcare workers (HCW) with a high job control have a lower risk of experiencing WPV compared to those with low job control, while those with high job support have a lower probability of experiencing WPV compared to HCW with low job support [9]. It is therefore important to explore these variables in relation to workplace factors.

Community/environmental factors include the population serviced in the workplace (e.g. adult, general, paediatric), prevalence of substance abuse or violence in the population and the geographical location of the workplace (e.g. urban, suburban, rural) [7].

In Malaysia, the Ministry of Health (MOH) promotes the safety and health of government HCW through the Occupational and Environmental Health Unit. The Occupational Safety and Health Act (OSHA) 1994, enforced by the Department of Occupational Safety and Health (DOSH) under the Ministry of Human Resource (MOHR) requires employers to provide a safe and healthy working environment for their employees. Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease Regulations (NADOPOD) 2004 is a regulation under OSHA 1994 that requires employers to notify DOSH of any

accident, dangerous occurrence, occupational poisoning and occupational disease, including injuries sustained as a result of WPV.

Limited published data are available regarding WPV among HCW in Malaysia. A recent related study among 136 doctors and nurses working in a public hospital in Kuala Lumpur showed that the one-year prevalence of WPV was 71.3% [10]. Meanwhile, another similar local study involving 455 female registered nurses in three government hospitals in Melaka, Malaysia, yielded a result showing that the prevalence and past one-year incidence of sexual harassment among these nurses were 51.2% and 22.8%, respectively [11]. By adopting the EOHM for Workplace Assault, this study aimed to determine the percentage and factors associated with WPV among HCW working in the ED.

Methodology

This cross-sectional study was conducted in Melaka, Malaysia. It consists of three districts, namely Melaka Tengah, Jasin and Alor Gajah. The study involved HCW working in the ED of all three public hospitals in Melaka. From the limited published data, hospitals in Melaka showed that an alarming 51.2% of registered female nurses have suffered from sexual harassment [11].

The final required number of samples was 231 HCW, calculated using the two independent proportions formula by Lemeshow, adjusting for comparison between two groups and design effect size of 1.3, and anticipating a 10% non-response rate. HCW in this study is defined as staff who work at the ED whose activities involve contact with patients or with blood or other bodily fluids from patients in their working environment. The definition includes doctors, nurses, medical assistants, ambulance drivers, health attendants and administrative/clerical workers. Proportionate stratified random sampling according to hospital was used to sample the respondents. There were an estimated 380 HCW working in the ED in public hospitals in Melaka. From this number, 59% worked in Melaka General Hospital, 19% in Alor Gajah Hospital and 22% in Jasin Hospital. Only Malaysian citizens working in the ED under study for at least six months were included. A six-month employment frame was selected for this study based on several previous similar studies on WPV [12, 13]. Meanwhile, those who were absent during the study period, replacement HCW from other departments or attachment HCW at the ED were excluded. This study was carried out from September 2018 until June 2019.

To sample the respondents, the name list of HCW working in the ED of all three public hospitals in Melaka was acquired through the Human Resource Department of each hospital. Subsequently, the stratification was based on the hospital but not according to the respondents' occupations, and the number of samples required from each stratum was taken proportionately. Random sampling was done first by assigning a number to each HCW. A random number table was then used to take the sample based on the number assigned to the HCW, until the required number of samples needed for each stratum was achieved.

A pre-tested and validated self-administered questionnaire was used for this study. The questionnaire was the combined materials from an adapted version of the International Labour Office (ILO), World Health Organisation (WHO), International Council of Nurses (ICN) and Public Services International (PSI) joint programme on WPV in the health sector [14] and an adapted version of the Demand Control Support Questionnaire (DCSQ) [15]. The questionnaire consisted of three parts: (1) personal and workplace data, (2) workplace violence and (3) psychosocial workplace environment factor. The first part recorded the respondent's sociodemographic profile such as age, gender, race/ethnicity and educational status, as well as data regarding the respondent's work profile such as occupation, length of employment in years, direct contact with patients, participation in shift work and number of staff working with the respondent during their duty roster.

The second part extracted information about the respondent's WPV experience. This section started with a brief definition and examples of both physical and psychological workplace violence, which was followed by a question on whether the respondent had experienced WPV in the last six months. Subsequent questions asked the respondent to specify the type of WPV experienced by them and who perpetrated the incident.

The psychosocial workplace environment factors were assessed in part C. Questions in this part were divided into three subscales, namely Job Demands, Job Control and Job Support, and were assessed using the adapted version of DCSQ [15]. Each item was scored on a four-point scale from one to four. The item scores were added, giving subscales scores from 5 (minimum level) to 20 (maximum level) for job demands, and from 6 to 24 for both support and control. Job demands, control and support scores were dichotomised into high and low by their medians.

The content validity of the questionnaire was reviewed by a panel of experts which consisted of an emergency physician and a public health physician in charge of the Occupational Safety and Health Unit of the State Health Department. The questionnaires were distributed in both English and Malay (Malaysian National Language) with the translation process done as per the WHO guideline. For internal consistency of the questionnaire, Cronbach's alpha was used to check the consistency of respondents' answers for the Likert scale-type questionnaire that was included in "Part C: Psychosocial workplace environment factors" during the pre-test. After analysing the data of the pre-test, the appropriate correction was done which included deleting item number 4 of the job control subscale to achieve an acceptable Cronbach's alpha. The Cronbach's alphas of the final questionnaire for the job demand, job control and job support subscales were 0.668, 0.802 and 0.689, respectively. WPV was considered to have occurred if the study participants had experienced at least one type of violence (physical or psychological) in circumstances related to their work six months prior to the study, based on several previous similar studies on WPV [12, 13]. The data collected was analysed using International Business Machines Statistical Package for Social Sciences (IBM SPSS) version 24. Multiple logistic regression was used to identify the predictors of WPV.

Ethical consideration

Ethical approval was obtained from the MOH's Medical Research and Ethics Committee (NMRR-19-309-45718) and registered under the National Medical Research Register.

Results

Percentage of WPV

Table 1 shows the percentage of WPV among the respondents with 38% of them having experienced WPV in the six-month period prior to the time the study was conducted. Almost all WPV were in the form of psychological violence (88.9%), followed by a combination of both physical and psychological violence (8.6%), and the least (2.5%) was of physical violence. Half of the WPV was perpetrated by more than one type of perpetrators (51.9%), nearly a quarter (24.7%) was committed by relatives of patient or client and an equal number was committed by the patient or client and other staff members (11.1% each).

Table 2 shows the background characteristics of the respondents. A majority of them were Malay (86.9%), aged 40 years old and below (86.4%), worked in the clinical support group (51.7%), had working experience of ten years and below (68.1%), were diploma holders (45.5%), working shifts (90.6%), had direct physical contact with patients (79.8%), having high job demand (64.3%), high job control (52.1%), high job support (77.0%) and worked in a tertiary hospital (58.2%).

Workplace violence	*n* (%)
No	132 (62.0)
Yes	81 (38.0)
Type of violence (n = 81)	
Physical	2 (2.5)
Psychological	72 (88.9)
Both	7 (8.6)
Perpetrator of violence (n = 81)	
Patient/client	9 (11.1)
Relatives of patient/client	20 (24.7)
Staff member	9 (11.1)
Management/supervisor	1 (1.2)
Combination*	42 (51.9)

Note(s): *Combination includes more than one perpetrator at the same time

Table 1. Percentage and characteristics of workplace violence among the respondents ($N = 213$)

Predictors of WPV among the respondents

Multiple logistic regression analysis was performed to determine the predictors for WPV among the respondents and the results are shown in Table 3. Those of a younger age (40 years and below) with low job support and working in secondary hospitals had 5.4 (AOR = 5.366, 95% CI 1.51–19.06, $p = 0.009$), 2.9 (AOR = 2.871, 95% CI 1.44–5.73, $p = 0.003$) and 2.7 (AOR = 2.737, 95% CI 1.50–5.01, $p = 0.001$) odds of experiencing WPV.

Discussion

Workplace violence

This study revealed a high percentage of WPV among HCW in the ED of public hospitals. Using a 6-month employment time frame, the finding of this study was slightly higher compared to a study conducted in Southern Ethiopia (29.9%) [12]. In contrast, a higher prevalence of WPV was reported among nurses in Nepal (64.5%) [13]. However, if a longer time frame is used (12 months), a prevalence of as high as 83.3% has been reported in previous studies [16]. This is supported by a meta-analysis involving 136 studies related to WPV, which concluded that the prevalence of WPV increased with length of study time frame [17].

Psychological violence was found to be the main type of WPV, which was also reported in many other previous studies [13, 16, 17]. In a hospital-based descriptive cross-sectional study conducted in Pokhara, among the two-thirds (64.5%) of the nurses who experienced WPV, 61.5% were contributed by verbal violence compared to physical (15.5%) and sexual violence (9%) [13]. Most perpetrators of the violence were relatives of patients and hospital employees, with age of nurses and working stations having statistically significant associations with WPV [13]. Similarly, a quantitative review by Spector and colleagues [17] reported 66.9% non-physical violence, 39.7% bullying, 36.4% physical bullying and 25% sexual harassment with patients, families and friends as the main perpetrators.

Predictors of workplace violence

Factors that were found to significantly predict the occurrence of WPV among HCW at the ED are younger age, low job support and working in secondary hospitals. The role of age towards WPV is also supported by other local and international studies [10, 11, 16]. One of the local studies reported that every one-year reduction of age among the HCW increased WPV

Factors	*n*	%
Worker factors		
Age (years)		
≤40	184	(86.4)
>40	29	(13.6)
Gender		
Male	105	49.3
Female	108	50.7
Race/ethnicity		
Malay	185	86.9
Chinese	13	6.1
Indian	11	5.2
Others	4	1.9
Occupation		
Emergency physician	5	2.3
Medical officer	44	20.7
Medical assistant	50	23.5
Medical assistant supervisor	1	0.5
Staff nurse	43	20.2
Sister/matron	3	1.4
Community nurse	13	6.1
Driver	13	6.1
Health attendant	35	16.4
Clerk/administrator	6	2.8
Working experience (years)		
≤10	145	68.1
>10	68	39.1
Education level		
Primary	1	5.0
Form three	2	9.0
Form five	50	23.5
Form six	5	2.3
Diploma	97	45.5
Bachelor's	51	23.9
Master's	7	3.3
Workplace factors		
Working in shifts		
Yes	193	90.6
No	20	9.4
Physical contact with patient		
Yes	170	79.8
No	43	20.2
Number of staff working together		
≤10	103	48.4
>10	110	51.6

Table 2. Background characteristics of the respondents ($N = 213$)

(*continued*)

Factors	*n*	%
Psychosocial workplace environment factors		
Job demand		
Low	76	35.7
High	137	64.3
Job control		
Low	102	47.9
High	111	52.1
Job support		
Low	49	23.0
High	164	77.0
Community/environmental factors		
Type of hospital		
Tertiary hospital	124	58.2
Secondary hospital	89	41.8

Table 2.

		Multiple logistic regression			
				95% CI	
Variable	*B*	Adjusted OR (AOR)	*p* value	Lower	Upper
Intercept	−2.713	0.066	<0.001		
Age (years)					
≤40	1.680	5.366	0.009*	1.51	19.06
>40		1.0			
Job support					
Low	1.055	2.871	0.003*	1.44	5.73
High		1.0			
Type of hospital					
Tertiary	1.007	1.0	0.001*	1.50	5.01
Secondary		2.737			

Note(s): (*) – significant at $p \leq 0.05$
B = Regression coefficient
Forward LR was applied
Multicollinearity and interaction terms were checked
Hosmer and Lemeshow test ($p = 0.519$), classification table (overall percentage 66.7%), Cox and Snell R^2 (0.140), Nagelkerke R^2 (0.191)

Table 3.
Predictors of workplace violence among healthcare workers in the emergency department of public hospitals in Melaka ($N = 213$)

by five times [10]. A possible explanation for this finding is a younger age usually reflects lack of experience in handling difficult situations and is associated with a low threshold for insult or pain, thus possibly contributing to the higher reported WPV compared to older, more matured respondents.

Having low job support also predicted the experience of WPV among the respondents of this study. According to Magnavita and Heponiemi [9] in their study among HCW in a public healthcare facility in Italy, those who experienced high job strain, low support, low perceived organisational justice and high psychological distress were more likely to be exposed to non-physical violence.

Support can be used to prevent WPV (before the event) or can be given to the victim of WPV (after the event). A supportive work team creating a safe working environment was found to mitigate WPV, while an unsupportive team has been associated with a high level of WPV [18]. Although this is true most of the time, it is worth noting that managers or supervisors should not give unsolicited support and should not attempt to be supportive if they are the cause of strain at work, which can produce a reverse effect on the employees.

The type of hospital being studied was also a significant predictor for WPV. This study showed that respondents who worked in a secondary hospital were nearly three times more likely to experience WPV compared with those who worked in a tertiary hospital. Secondary hospitals receive relatively smaller allocations from the government as compared to tertiary hospitals. Thus, sometimes inventory issues do occur in secondary hospitals when the number of patients is overwhelming. This will create dissatisfaction among them. Due to the easy access to doctors, patients easily blame doctors for inventory issues, without considering the political interplay of factors [19].

Secondary hospitals typically have a lower staffing level than tertiary hospitals. The number of patients that came to the ED of the Melaka General Hospital (tertiary hospital) in 2017 was 128,860, while the combined number of patients that came to the ED of the Alor Gajah and Jasin Hospitals (secondary hospitals) in 2017 was 98,505 [20]. Thus, the HCW to patient ratio for the tertiary hospital and secondary hospitals were 1:578 and 1:627, respectively. Shortage of staff could very well be the reason that HCW in the ED of secondary hospitals experience more WPV compared with those in tertiary hospitals. Understaffing causes delays in the treatment of patients and is perceived as inefficiency by the patients or their escort, which can promote negative behaviour.

Apart from the above, one reason that causes HCW working in a secondary hospital to experience more WPV compared to a tertiary hospital is possibly because the unmet demand or unrealistic expectation of the patients towards the HCW. Due to the lack of comprehensive and advanced medical care or facilities in the secondary hospital, referral to a tertiary level hospital may be needed. It is also possible that patients perceive HCW in tertiary hospitals as possessing a higher status, and so less fitting as targets of frustration or abuse, thus reducing WPV among those working in tertiary level hospitals [21].

Strengths and limitations

Among the strengths of this study are the involvement of all occupational categories in the ED. The focus on all categories presents a more holistic view of WPV among HCW in the ED of public hospitals in Melaka. This study also did not only cover specific types of WPV, but rather all types by grouping them as physical and psychological violence. This has provided a more complete assessment of the problem.

This study has several limitations. First, this research used a cross-sectional study design, thus caution should be exercised in drawing conclusions as no temporal relationship between independent and dependent variables can be established. Second, respondents were also required to recall their WPV events. Thus, this study was prone to recall bias, given the possibility of over or under exaggeration of incident claims, compared to objectively verified WPV events occurring in the ED. However, this study minimised this bias by limiting the period of recall to only the past six months instead of for the past 12 months as done by most previous WPV studies. Third, the lengthy but comprehensive WPV in the Health Sector (Country Case Studies) Survey Questionnaire that was developed by the joint committee of ILO/ICN/WHO/PSI was shortened in this research, causing possible loss of valuable information or resulting in information bias. Lastly, the questionnaire used in this study did not go through the test–retest process. Due to a very poor response by the respondents for the retest questionnaire, the Cohen's Kappa value and intraclass correlation coefficient could not be calculated.

Recommendation for future study

The final model from this study can explain 19.1% of the variation in WPV, and as such, a qualitative or mixed method study design is recommended to further explore and study other factors that are not included in this study. Another recommendation for future study is to use a study design that can obtain a causal effect association such as cohort design.

Study implication and recommendation

A further intervention programme focusing on high-risk groups identified in this study should be planned and carried out to curb this issue. Among the significant predictors found in this study, the non-modifiable risk factor is age, while modifiable risk factors are job support and type of hospital. Based on this information, prevention such as education programmes regarding WPV among HCW should be done, particularly focusing on the younger age groups. As for job support, a conducive and pleasant working environment for HCW to work in should be targeted by the MOH, including promoting a non-toxic working culture, encouraging the reporting of WPV and management of staff suffering from WPV. This will create a supportive environment and in turn will be able to reduce WPV prevalence. It is worth noting possible protective factors present in tertiary hospitals, for example better security features, protective work floor layouts and simpler WPV reporting mechanisms, and applying them to the secondary hospitals to reduce the prevalence of WPV.

Conclusion

This study reported a considerably high percentage of WPV among the healthcare staff working in the ED, which was mainly related to psychological violence from the patients and their family members. Those in a younger age group received low job support and working in secondary hospitals had a higher likelihood of experiencing WPV. Health education and intervention should be targeting those at risk to reduce the occurrence of WPV and its negative impact on individuals and organisations. With the high possibility of underreporting, further research is needed to explore the related issues so that early intervention can be conducted effectively.

Conflict of Interest: None

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