

ORIGINAL ARTICLE

The Risk Factors of Workplace Violence among Healthcare Workers in Public Hospital

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ABSTRACT

Introduction: Workplace violence become a global concern and perceived as a very serious safety and health hazard especially in healthcare setting. The aim of this study was to determine the prevalence of workplace violence and its associated risk factors among healthcare workers in public hospital. **Methods:** This was a cross-sectional study which involved 136 randomly selected respondents among doctors and nurses in a public hospital in Kuala Lumpur. Data was gathered through a self-administered questionnaire consisted of two standardized questionnaire; Workplace Violence (WPV) and Job Content Questionnaire (JCQ-27). **Results:** The response rate was 91%. The prevalence of reported WPV was 71.3% where nurses (73.2%) had slightly higher prevalence than doctors (69.2%). The most common forms of WPV was verbal abuse (70.6%), followed by bullying/mobbing (29.4%), physical violence (11.0%), and sexual harassment (6.6%). The perpetrators were mostly among relatives of patients and visitors followed by the patients. Multiple logistic regression shows that respondents working in Accident and Emergency (A&E) Department was 17 times more likely to report workplace violence than those working in Pediatric Department. Also, for every 1 year younger, respondents were 5 times more likely to experience workplace violence controlling for other factors. **Conclusion:** The prevalence of workplace violent among respondents were high and most common among young workers, especially nurses and those working in A&E Department. Hence, further assessment should be carried out to reduce the identified risk factors and to find ways of solving this issue.

Keywords: Healthcare workers, Clinical setting, Psychosocial hazard, Occupational aggression

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INTRODUCTION

Workplace violence (WPV) is defined as any incidence where workers are threatened, harmed or assaulted at a workplace or as a result of their work (1). Violence can be categorized based on the nature of the behavior which include physical, sexual, psychological and verbal violence. It can also be divided according to the sources of violence: a) internal which is performed by employers and employees of the same company; and b) external which is performed by outsiders including clients and criminals (2). Previously, attention has always been given to workplace physical violence, but lately accumulating evidences were found on the harm caused by non-physical violence including verbal and psychological at the workplace (1).

Violence is frequently being associated with occupations that involve interaction with many different individuals including public and become a significant concern particularly in healthcare sector (1, 2, 3). Healthcare facilities is supposed to provide a safe and conducive environment for patients as well as healthcare workers. WPV will disrupt the secure environment and become a threat for an optimum delivery of healthcare services. The prevalence of workplace violence in healthcare settings was reported high (> 50%) in many of previous studies (4, 5, 6). From the four major type of WPV, previous evidence showed that verbal abuse is the most prevalent and most of the violence is perpetrated by patients and the patients' relatives (4, 5, 6, 7).

Several psychosocial factors of workplace violence among healthcare workers were identified in previous studies which include high job strain, low social support, and low organizational justice (2, 8). The Job Demand Control Support model postulated that these psychosocial factors interact with each other and lead to psychological strain among workers (9, 10). According

to this theory, psychological strain occurs when the psychological demands are high and the worker's decision latitude is low and low social support at work further increases the risk. This theory was also proven in previous study to predict workplace violence among police officers (11). Therefore, in the present study it is hypothesized that these psychosocial factors are also significantly associated with WPV among healthcare workers. Moreover, workplace violence were found to be associated with increased level of psychological distress (12). It is also linked to anger, depression, headache and fatigue among workers (13). The impacts of WPV is not only limited to workers, it is also recognized to be the cause of poor organizational behaviour such as increasing job turnover (14).

In Malaysia workers are protected from the WPV by several rules and regulations including Minor Offences Act 1955 (Insulting Behaviour), Employment Act 1955, Occupational safety and Health Act (1994), Industrial Relations Act (1957) and Penal Code Malaysia (Act 574). Under these laws and regulation, WPV victims can make a report on WPV-related misconduct at the workplace. However, most of verbal abuses including teasing, demeaning, innuendo, and teasing is not a crime even though these abuses might lead victims to hurt themselves. Though, workers who feel depressed due to verbal abuse are entitled to terminate the employment contract under the provision of Industrial Relations Act (1957). Several organization has developed a clear policy, procedure and guidelines on WPV. The Department of Occupational Safety and Health (DOSH) published a general guideline on WPV. Recently the Ministry of Health Malaysia launched WPV guideline specific for healthcare workers. Although several Acts and regulations have been developed to protect employees from WPV, awareness level among Malaysian employees and employers on the detrimental effects of WPV and how to handle it requires a lot of improvement. These initiatives will only be effective with the support from the top management and the team in an organization. Efforts are required in disseminating the information and sufficiently publicize among employees. The content of the related policies, procedures and guidelines needs to be clear, easily accessible and understood by workers and yet, in many organization, important training related to WPV including identifying the signal of danger and conflict management is being provided by the employers but only to a limited number of employees.

In Malaysia, even though issues of WPV among healthcare workers has been increasingly publicized in commercial and social media, there has been very limited number of available scientific evidence to understand factors that lead to WPV among healthcare workers. Findings of this study will provide preliminary data on workplace violence among healthcare workers to assist in understanding more about WPV in healthcare setting. Thus, this study aims to estimate the prevalence

of workplace violence in relation to socio-demographic characteristic, job characteristic, and psychosocial risk factors among doctors and nurses. A better understanding of the problem would enable appropriate intervention and modification of existing practices, policies and related procedures.

MATERIALS AND METHODS

Study design, study location and sampling

This was a cross-sectional study conducted at Hospital Kuala Lumpur (HKL). HKL is the largest tertiary referral hospital under the Ministry of Health that has 28 clinical services departments. Two departments were randomly selected by using Fishbowl method. The selected departments were Accident and Emergency (A&E) Department, and Pediatric Department (PD). A simple random sampling method was used to select respondents from both departments who fulfilled the inclusion criteria such as Malaysian, aged between 18 to 58 years old and had at least 1 year of working experience at Hospital Kuala Lumpur excluding those who have been medically diagnosed with mental illness. In this study, no healthcare workers with diagnosed mental illness was identified. A total of 136 respondents were randomly selected from the name list obtained from each department by using software of SPSS Statistics Edition 22. The sample size of 136 respondents was calculated by using a scientific formula (15). This study followed Helsinki Declarations (16) which required a protocol describing the purposes, methods of data collection, uses of data and guarantees for privacy of participants to be sent out to Medical Research and Ethical Committee that in charged with permitting and approving this study prior to commencing the study.

Instrumentation and data collection

A self-administered questionnaire in English version was used to collect data which comprised of three parts: a) socio-demographic and work characteristic; b) psychosocial factors at work; and c) workplace violence. The first part of questionnaire elicited information of socio-demographic characteristics of respondents including, age, gender, marital status, race, educational level, household income, and number of dependent. In terms of work characteristics, year of employment, current position, department, average working hours per day, average working days per week, and participation in shift work were determined.

The psychosocial factors at work were assessed by using the original version of Job Content Questionnaire (JCQ-27) in English that covered four major domains; job decision latitude, job demand, social support and job insecurity with total of 27 questions (10). Each of these factors was dichotomized by median cut-off points to determine scores obtained from respondents were high or low. Respondents were asked to rate how strongly they agreed with each statement through a Likert-scale

from 1 (strongly disagree) to 4 (strongly agree). In terms of job strain, it was defined as a job ratio which calculated as (Demand*2)/(Decision latitude). A score more than one denoted as "Yes" for having a job strain, and a score less than one was denoted as "No" which means not having a job strain (10).

Standardized questionnaire to measure the one-year prevalence of WPV was adapted from a previous (20). The first 7 questions asked participants about the interaction with patient and its frequency, background of the patient, and availability of procedures for reporting WPV. There were twenty-six questions and two sections which covered physical violence and psychosocial violence (verbal abuse, bullying/mobbing, sexual harassment). Each section consisted 4 questions on the types of violence experienced in the past 12-months, frequency of WPV incident, the source of the violent act (the perpetrator) and respondents perception either the respondents considered the violence as a typical incident at the workplace or not. The questionnaire was distributed personally by researchers together with both oral and written informed consented forms. Each respondent was given 20 minutes to complete the questionnaire. Data were collected within 3 weeks and all data remain private and confidential.

Statistical analyses

Data management and analysis were performed using IBM SPSS Statistic Version 22. Prior to further statistical analysing the data, the raw data obtained were checked for completeness and normality test was applied to all continuous data. The result from normality testing showed that all variables including age, household income, number of dependent, years of employment, average working hours per day and average working days per week were not normally distributed. Descriptive statistics were carried out to determine the distribution of socio-demographic and work characteristic, psychosocial factors among respondents. Frequency and percentage were calculated for each type of WPV. Chi-square tests were run to analyze the associations between socio-demographic and work characteristics of respondents, and psychosocial factors with WPV. Significance level was set to be at $p < 0.05$.

Research ethic approval

Ethical approval was granted by the Medical Research and Ethics Committee (MREC) of Ministry of Health with identification code of NMRR-17-2947-38856 prior data collection commenced. All of the study methodology were approved by the Hospital Kuala Lumpur. Every respondent filled in informed consent forms and all the respondent's information remained private and confidential.

RESULTS

The total number of respondents were 136 and the

response rate was 91%. The majority of respondents were female (73.5%), aged 30 years old and below (53.7%), married (58.8%), Malay (70.6%), held Diploma or Bachelor's with 49.3% and 41.3% respectively. The median household income was RM5000 which ranged from RM1500 to RM30000, and over half of the respondents had household income from RM2001 to RM6000 (58.8%). The median of number of dependent was 1 and 55.9% of them have 1 to 3 dependents (Table 1). For work characteristics, 65 (47.8%) were doctors and 71 (52.2%) were nurses. The healthcare workers involved in this study were 48.5% from Accident and Emergency (A&E) Department, while 51.5% from Pediatric Department. The median of working experience among the respondents was 4 years, in which most of them had working experience less than 10 year (80.9%) and majority working in shift (86.8%). For average working hours per day and working days per week, the median value were 9 hours and 6 days

Table 1: The distribution of socio-demographic characteristics among respondents (n=136)

Variables	f (%)
Age of respondent (Range:24-53 years old)	
<30	73 (53.7)
31-40	50 (36.8)
41-50	10 (7.4)
51-60	3 (2.2)
Gender	
Male	36 (26.5)
Female	100 (73.5)
Marital Status	
Single	56 (41.2)
Married	80 (58.8)
Race	
Malay	96 (70.6)
Chinese	15 (11.0)
Indian	22 (16.2)
Other	3 (2.2)
Education Level	
Certificate	3 (2.2)
Diploma	67 (49.3)
Bachelor's	57 (41.3)
Master's	9 (6.6)
Household Income (RM) (Range RM1500-30000)	
<RM2000	17 (12.5)
RM2001-RM6000	80 (58.8)
>RM6001	39 (28.7)
Number of dependent	
0	48 (35.3)
1-3 members	76 (55.9)
>4 members	12 (8.8)

respectively.

Prevalence of Workplace Violence (WPV)

Overall, 71.3% of the respondents reported of being exposed to at least one of the four types of violence; verbal abuse had the highest prevalence (70.6%), followed by bullying/mobbing (29.4%), physical violence (11.0%) and the least common type was sexual harassment (6.6%). The one-year prevalence of WPV was found higher among nurses (73.2%) than doctors (69.2%) (Figure 1). The highest prevalence of violent incidents in the past 12- months occurred in A&E Department (87.9%) while 55.7% was reported in Pediatric Department (Figure 1 & 2).

Perpetrators of Workplace Violence

Seven groups of perpetrators were assessed; patients, relatives of patients/visitors, staff, management/superior, external colleague/worker, public and others. For verbal

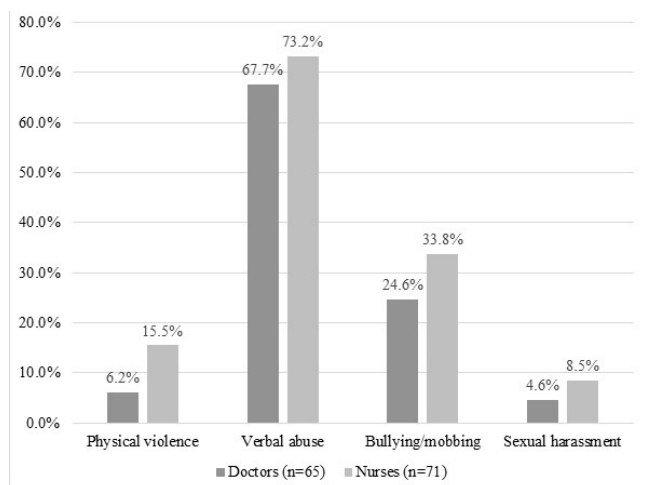


Figure 1: The comparison on prevalence of WPV between doctors and nurses (n=136)

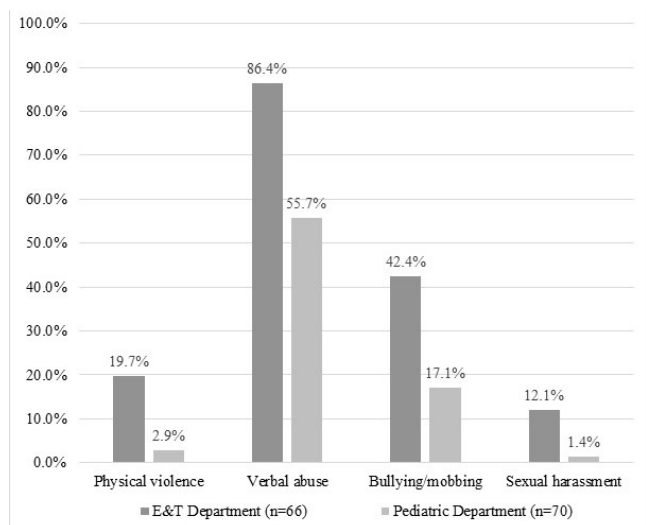


Figure 2: The comparison on prevalence of WPV between departments (n=136)

abuse, the most common perpetrators were relatives of patients/visitors followed by patients, hospital staffs, and management/superior and public. For bullying/mobbing, the most common perpetrators were hospital staffs followed by relatives of patients/visitors and patients. Physical violence mostly executed by relatives of patients/visitors. Sexual harassment was mostly done by patients (Figure 3).

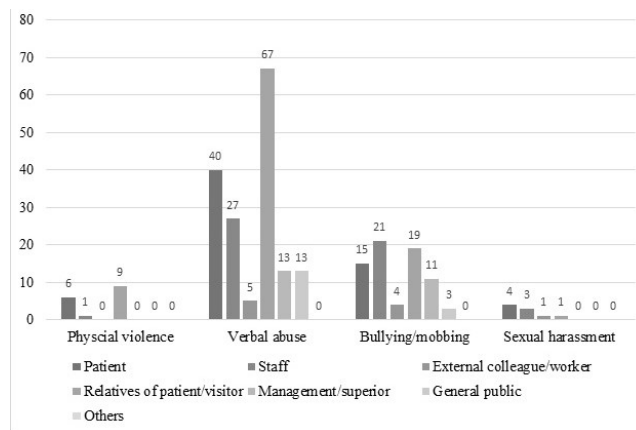


Figure 3: Distribution of perpetrator for WPV among respondents (n=136)

Psychosocial factors

The highest mean score was decision latitude (73.15), followed by job demand (37.00), social support (24.18) and job insecurity (5.81). Over half of the respondents reported high decision latitude (52.9%), high job demand (59.6%), high social support (63.2%) and high job insecurity (54.4%). Almost half of them (49.3%) were classified as having job strain (Table II).

Table II: The distribution of psychosocial factors among respondents (n=136)

Domains	Psychosocial factors			
	f (%)	Mean (±SD)	Median	Min - Max
Decision latitude		73.15 (±9.09)	74.00	42 – 90
Low	64 (47.1)			
High	72 (52.9)			
Job demand		37.00 (±5.26)	36.00	24 – 48
Low	55 (40.4)			
High	81 (59.6)			
Social support		24.18 (±4.42)	24.00	13 – 32
Low	50 (36.8)			
High	86 (63.2)			
Job insecurity		5.81 (±2.32)	5.00	3 – 11
Low	62 (45.6)			
High	74 (54.4)			
Job strain				
No	69 (50.7)			
Yes	67 (49.3)			

Association between socio-demographic characteristics, work characteristics and psychosocial factors with WPV

Further statistical analyses which was chi-square tests were executed to explore the association between three independent study variables; socio-demographic characteristics, work characteristics, and psychosocial factors at work with WPV and the phi-value was indicated the strength for each association between independent variable with dependents variable. In terms of socio-demographic characteristics, only age ($p < 0.001$) was significantly associated with WPV which means that younger age group has higher exposure towards WPV. There were no significant association found between gender, marital status, race, educational level, household income and number of dependent with WPV. As per work characteristics, department ($p < 0.001$) and years of employment ($p = 0.002$) were significantly associated with WPV. The results demonstrated that Department of Accident and Emergency has higher prevalence of WPV than Department of Pediatric. In terms of years of employment, those respondents with less working experience reported higher prevalence of workplace violence than those with more working experience. Other characteristics such as occupation, working hours/day, and shift work were not significantly associated with WPV. For psychosocial factors, results showed that respondents with low social support ($p = 0.004$), high job insecurity ($p = 0.018$) and high job demand ($p = 0.043$) associated with higher reported WPV. Decision latitude and job strain were not significantly associated with WPV (Table III).

Multiple Logistic Regression

A multiple logistic regression tests was performed to explore the contribution of nine independent variables on the likelihood that respondents would report of experiencing workplace violence. The variables included in the analyses were age, department (Accident and Emergency versus Pediatric), years of employment, occupation (nurses versus doctors), decision latitude, job demand, social support, job insecurity and job strain. The full model containing all nine independent variables was significant, $\chi^2 (9, N = 136) = 42.57$, $p < 0.01$, which indicates that this model able to distinguish between respondents who experienced and who did not experienced violence at the workplace. The model as a whole explained between 26.9% (Cox and Snell R square) and 38.5% (Nagelkerke R squared) of the variance in workplace violence, and correctly classified 79.4% of cases. In the model, only age and department significantly contribute to workplace violence. The most significant independent variable was department which indicated that respondents working in A&E Department was 17 times more likely to report workplace violence than those working in Pediatric Department controlling eight other independent variables. For age, for every 1 year younger, respondents were 5 times more likely to experience workplace violence controlling for other

Table III: The association between socio-demographic characteristics, work characteristics, and psychosocial factors with workplace violence (WPV) (n=136)

Risk Factors	WPV		χ^2	p-value
	No (N=39) f (%)	Yes (N=97) f (%)		
Age			11.54	$p < 0.001^*$
≤30 years old	12 (16.4)	61 (83.6)		
>30 years old	27 (42.9)	36 (57.1)		
Gender			2.04	0.153
Male	7 (19.4)	29 (80.6)		
Female	32 (32.0)	68 (68.0)		
Marital Status			1.39	0.239
Single	13 (23.2)	43 (76.8)		
Married	26 (32.5)	54 (67.5)		
Race			0.37	0.541
Malay	29 (30.2)	67 (69.8)		
Non-Malay	10 (25.0)	30 (75.0)		
Highest Education Level			0.10	0.749
≤Bachelor	36 (28.3)	91 (71.7)		
≥Master	3 (33.3)	6 (66.7)		
Household Income (RM)			0.18	0.672
≤10 000	34 (28.1)	87 (71.9)		
>10 000	5 (33.3)	10 (66.7)		
No. of dependent			2.56	0.110
0-2	24 (24.7)	73 (75.3)		
>2	15 (38.5)	24 (61.5)		
Occupation			0.27	0.606
Doctors	20 (30.8)	45 (69.2)		
Nurses	19 (26.8)	52 (73.2)		
Department			17.18	$p < 0.001^*$
E&T Department	8 (12.1)	58 (87.9)		
Pediatric Department	31 (44.3)	39 (55.7)		
Years of employment			9.96	0.002*
≤10 years	25 (22.7)	85 (77.3)		
>10 years	14 (53.8)	12 (46.2)		
Working hours/day			1.004	0.316
8hours/day	16 (24.6)	49 (75.4)		
> 8 hours/day	23 (32.4)	48 (67.6)		
Shift work			2.52	0.112
Yes	31 (26.3)	87 (73.7)		
No	8 (44.4)	10 (55.6)		
Decision latitude			0.799	0.371
Low	16 (25.0)	48 (75.0)		
High	23 (31.9)	49 (68.1)		
Job demand			4.079	0.043*
Low	21 (38.2)	34 (61.8)		
High	18 (22.2)	63 (77.8)		
Social support			8.327	0.004*
Low	7 (14.0)	43 (86.0)		
High	32 (37.2)	54 (62.8)		
Job insecurity			5.608	0.018*
Low	24 (38.7)	38 (61.3)		
High	15 (20.3)	59 (79.7)		
Job Strain			2.553	0.110
No	24 (34.8)	45 (65.2)		
Yes	15 (22.4)	52 (77.6)		

* Significant when p-value < 0.05 , χ^2 = Chi-square test

factors (Table IV).

Table IV: Multiple Logistic Regression predicting workplace violence (WPV) among respondents (n=136)

Predictors	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for Exp(B)	
							Lower	Upper
Age	-0.23	0.10	5.03	1	0.02	0.80*	0.65	0.97
Department	-2.32	0.57	16.69	1	<0.01	0.10*	0.03	0.30
Years of employment	0.10	0.11	0.90	1	0.34	1.11	0.90	1.37
Occupation (Nurses/Doctors)	0.29	0.56	0.27	1	0.60	1.34	0.44	4.05
Decision latitude	-0.47	0.52	0.79	1	0.38	0.63	0.22	1.76
Job demand	-1.06	0.72	2.15	1	0.14	0.35	0.08	1.43
Social support	-0.22	0.48	0.20	1	0.65	0.81	0.31	2.07
Job insecurity	0.17	0.53	0.11	1	0.75	1.19	0.42	3.33
Job strain (yes/no)	0.25	0.56	0.19	1	0.66	1.28	0.43	3.85
Constant	11.62	3.73	9.69	1	<0.01	110777.45		

DISCUSSION

Findings of the presence study indicated that the prevalence of WPV was 71.3% indicating that 97 respondents out of 136 healthcare workers involved in this study had been exposed to at least one of four types of violence in their workplace during the previous 12 months. This results is lower than that found among nurses in Chinese Psychiatric Hospital (82.4%) (18) but much higher than those healthcare workers found in a University Medical Centre in Malaysia (3.7%) (7), in a Psychiatric Hospital in Taiwan (25%) (19), and in primary health care in Saudi Arabia (28%) (20). The prevalence of WPV violence was much higher than that observed in the same country, University Medical Centre in Malaysia (7). These difference is because that study used different instrument and the prevalence of violence taken was only for a three-months period whereas it was one-year prevalence for the present study. Hospital Kuala Lumpur is the principal tertiary hospital in Malaysia with the highest number of patients and it is located in an urban high population density area and these factors were identified previously to be significant in predicting workplace violence (21).

In terms of types of violence, results of the present study showed that verbal abuse (70.6%) was the most common type of violence followed by bullying/mobbing (29.4%), physical violence (11.0%) and least common was sexual harassment (6.6%). These results are consistent with many of those observed in earlier studies (13, 17, 22). Verbal abuse is usually reported far more common than others because it is also an initial phase of subsequent physical violence and bullying/mobbing. The effects of verbal abuse should not be underestimated as it can be more damaging than the other types of violence.

This study was also set out to compare the prevalence of WPV between the A&E and Pediatric Department. The prevalence of workplace violence was higher in Accident and Emergency (A&E) Department (87.9%) than Pediatric Department (55.7%). This factor was continue to be significant in predicting workplace violent even after controlling for other study variables in which respondents working in A&E Department was 17 times more likely to report workplace violence than those working in Pediatric Department. The result obtained was similar with the previous findings (3, 14, 23). In the Netherlands, it was also reported that in the department of Accident and Emergency, several local risk factors of WPV were identified which were frustration at being kept waiting, not satisfied with treatment, under the influence of alcohol or drugs, short of number of staffs, and poor waiting areas and treatment rooms (3). In Malaysia, a possible explanation may be due to waiting period of more than 20 minutes, refusal of referred services, persistent and untreated pain, patients' anxiety and misunderstandings related to professional language barrier or difference tradition, or uncondusive work environment.

Moreover, results from multiple logistic regression also presented that younger doctors and nurses were more vulnerable group to workplace violence exposure than their older counterparts. The findings observed in this study is similar to those found in several of the previous studies (13, 22, 23). Also, in South Korea, workplace violence is found to be experienced mostly by new nurses (24). Younger age may reflect lack of work experience and lower education, resulting in less ability to dealing with violence (22). In Malaysia particularly in public hospital with overtime demand and overwhelmed number of patients, working as doctors and nurses is already stressful and lack of skills in dealing with workplace violence definitely will worsen the subsequent effects.

In terms of psychosocial factors, results of this study showed that job demand, social support and job insecurity were significantly associated with workplace violence but after controlling for the other study variables, these psychosocial factors were no longer significant. Instead, age and departments are more dominant and significant. Thus, the present's study hypothesis is rejected. However, these results might be explained because the overall level of all psychosocial factors studied is high in which almost half of the respondents were classified as having job strain. Studies involving two different groups with significant difference of job strain prevalence might yield different results.

CONCLUSION

In summary, the prevalence of workplace violence (WPV) is high (71.3%). All four types of workplace

violence occurs in the public hospital and verbal abuse was the commonest type of violence reported. Majority of the perpetrators are among patients' relatives and visitors. The most significant risk factors of WPV was department and age after controlling for other socio-demographical factors, psychosocial factors and other work characteristics. Evidence from this study suggests that younger workers and working in Accident and Emergency Department, significantly associated with an increased reported cases of workplace violence. Findings of the present study add in scientific evidence on the factors of workplace violence among healthcare workers. Since the prevalence of workplace violence was high among respondents, prompt intervention strategies such as providing training to improve coping skill in dealing with workplace violence particularly among newly licensed doctors and nurses are therefore seems to be necessary. Further study on the development of a better working environment for healthcare workers appears to be required.

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