A STUDY ON WORKPLACE VIOLENCE AGAINST HEALTHCARE PROVIDERS IN EMERGENCY DEPARTMENT HOSPITAL TENGKU AMPUAN RAHIMAH KLANG

DR AHMAD AMIRIN BIN JAMAL

Dissertation Submitted in Partial Fulfilment of the Requirements for

The Degree of Master of Medicine (Emergency Medicine)

UNIVERSITI SAINS MALAYSIA
2018

AKU JANJI

Diperakui bahawa disertasi yang bertajuk **A Study On Violence Against Healthcare Providers In Emergency Department Hospital Tengku Ampuan Rahimah Klang** merupakan kerja dan penyelidikan asli daripada **AHMAD AMIRIN BIN JAMAL,** no kad pengenalan: 840107-71-5017, No Matrik: PUM0146/14, dari tempoh 2014 hingga 2018 adalah dibawah penyeliaan kami. Disertasi ini merupakan sebahagian daripada syarat untuk penganugerahan **Sarjana Perubatan Kecemasan**, segala hasil penyelidikan dan data yang diperolehi adalah hak milik terpelihara Universiti Sains Malaysia,

…….

Tandatangan Pelajar

…….

Tandatangan Penyelia Utama

Pensyarah Jabatan Kecemasan

Pusat Pengajian Sains Perubatan

Universiti Sains Malaysia

……..

Tandatangan Penyelia Utama

Pensyarah Jabatan Kecemasan

Pusat Pengajian Sains Perubatan

Universiti Sains Malaysia

……

Tandatangan Ketua Jabatan

Jabatan Kecemasan

Universiti Sains Malaysia

ACKNOWLEDGEMENT

Alhamdulillah, all praise to the All- Mighty Allah for giving me the unwavering courage, good physical and mental health and vibrant energy to complete this dissertation.

First and foremost, I would like to express my sincerest gratitude to my supervisor, Associate Professor Dr Kamarul Aryffin Bin Baharudin for his support and guidance throughout my journey of completing this dissertation.

I would also like to thank all my fellow colleague in the same program of Master of Medicine (Emergency Medicine) for their support and help. I would also like to specially thank Dr Mohd Najib bin Abdul Ghani for his earnest moral and technical support during the writing of this dissertation.

Last but not least, I would like to thank my parents, Dr Hj Jamal bin Ali Johari and Hjh Susanti Pudjihastuti, parent in-laws Dato Hj Mat Yasir bin Mat and Datin Hjh Jariah binti Ngah, and especially to my dearest wife, Dr Azira binti Mat Yasir and my two loving daughters, Lilyany Sofea and Aileen Nadia for their never-ending support and encouragements during the completion of this dissertation.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ABBREVIATIONS

ED	Emergency Department
HTAR	Hospital Tengku Ampuan Rahimah Klang
ILO	International Labour Offices
WHO	World Health Organization
ICN	International Council of Nurses
PSI	Public Services International

ABSTRAK

KAJIAN SOAL SELIDIK KEGANASAN DI TEMPAT KERJA TERHADAP PEKERJA KESIHATAN DI JABATAN KECEMASAN HOSPITAL TENGKU AMPUAN RAHIMAH KLANG

Latar Belakang: Keganasan terhadap staf- staf yang bekerja di pusat kesihatan adalah satu perkara yang tidak asing lagi bagi kita, dan isu ini sering menjadi topik perbualan di media massa dan juga laman sosial. Namun yang demikian, tidak banyak data yang menunjukkan situasi sebenarnya masalah ini, terutamanya di dalam konteks negara kita Malaysia. Kajian ini dijalankan bagi menilai kekerapan keganasan terhadap pekerja kesihatan di Jabatan Kecemasan Hospital Tengku Ampuan Rahimah (HTAR) Klang dan mencari apakah faktor- faktor yang terlibat.

Metodologi: Satu kajian keratan rentas telah dijalankan pada bulan Mei 2018 di kalangan pekerja Jabatan Kecemasan HTAR Klang, menggunakan borang soal selidik Bahasa Melayu yang telah divalidasi. Kaedah persampelan sistematik dibuat. Sebanyak 160 borang kajian yang lengkap telah diperolehi daripada responden yang layak dan bersetuju mengikuti kajian. Borang soal selidik ini mengumpul maklumat sosio-demografi, pengalaman, saksi atau pembuat laporan tentang keganasan tempat kerja dalam masa 12 bulan sebelum kajian bermula.

Keputusan: 80.6% staf mengalami sekurang-kurangnya satu kejadian keganasan dalam masa 12 bulan sebelum kajian bermula, di mana kebanyakan mereka mengalami penderaan lisan (79.4%). Seseorang pekerja kesihatan yang sudah berkahwin mempunyai 3.25 kali lebih kebarangkalian untuk mengalami keganasan tempat kerja berbanding staf yang tidak berkahwin. Peningkatan satu bulan pengalaman bekerja juga akan meningkatkan kebarangkalian mengalami keganasan tempat kerja sebanyak 0.99 kali.

Kesimpulan: Terdapat banyak kewujudan keganasan tempat kerja di kalangan pekerja kesihatan di Jabatan Kecemasan Hospital Tengku Ampuan Rahimah Klang dan jika seseorang pekerja kesihatan itu telah berkahwin dan mempunyai pengalaman kerja yang kurang, beliau akan lebih dikaitkan dengan menjadi mangsa keganasan tempat kerja.

Kata kunci: Keganasan tempat kerja, Jabatan Kecemasan, Hospital Tengku Ampuan Rahimah.

ABSTRACT

A STUDY ON WORKPLACE VIOLENCE AGAINST HEALTHCARE PROVIDERS IN EMERGENCY DEPARTMENT, HOSPITAL TENGKU AMPUAN RAHIMAH, KLANG

Background: Violence towards staffs working in a healthcare facility is a norm, and it is common conversation topics in the news and social media. However, there is not much data that shows the extent of problem, especial in the Malaysian context. This research was done to gauge the frequency of violence towards healthcare providers working in the Emergency Department (ED) of Hospital Tengku Ampuan Rahimah (HTAR) Klang and to see the factors involved.

Methodology: A cross sectional prospective study was done in May 2018 among staffs of ED HTAR Klang using a validated Malay language questionnaire. Systematic sampling method was applied. One hundred and sixty completed questionnaires were collected from respondents who were suitable and consented to the questionnaire. The questionnaire collected respondent's sociodemographic data, their experience, witness or report of workplace violence within 12 months prior to the study.

Results: 80.6% of staff had experienced at least one episode of violence within the last 12 months prior to the study, with most of them experiencing verbal abuse (79.4%). A healthcare provider who is married has 3.25 times odds of experiencing workplace

violence compared to those who are still single and an increase of one month of working experience will increase the odds of having workplace violence by 0.99 times.

Conclusion: There was a high prevalence of workplace violence towards healthcare providers working in ED HTAR Klang and if a healthcare provider is married and has less working experience, he or she is more likely to be a victim of workplace violence.

Key words: Workplace violence, Emergency Department, Hospital Tengku Ampuan Rahimah Klang.

CHAPTER 1: INTRODUCTION

1.1 LITERATURE REVIEW

1.1.1 Background

Workplace violence has been recognized as a global threat and has gained a lot of attention(1). Although in general it could happen in all kinds of working fields, some working sectors seems to be particularly exposed and affected by it. In the health sector, workplace violence is a commonly occurring phenomenon, yet it is often seen as an issue that can be easily overlooked and accepted as a part and parcel in the life of a health care worker(2). The current figure of workplace violence among healthcare workers only shows us the tip of the iceberg, and the real size of the problem is still unknown(3).

In definition, violence means that any behaviour that aim to inflict harm or discomfort to its victims, which not only necessarily meant physical harm, but also emotional damage to the inner core of the victim's self. Violence can come in many forms, such as physical violence like beating or kicking, and psychological violence such as verbal, sexual, racial or harassment(3, 4). Workplace violence can cause immediate and long term detrimental effect to the overall working environment, interpersonal relationship and the organization as a whole. The direct effects can be seen as increasing number of absenteeism or turnover, accidents, disability, illness

and death, and the indirect effects such diminished performance, competitiveness, motivation, functionality and the organization's image (3).

The Centre for Disease Control and Prevention (CDC) released data that was obtained from the Bureau of Labour Statistics, which identifies that in 2014, 15980 workers were involved in non-fatal workplace violence. About 69% of them worked in the health care and social assistance industry(5). From various studies overseas, it has been identified that the Emergency Department (ED) is particularly exposed to workplace violence, and there are a few factors that contribute to it. Some of these factors includes increasing numbers of patients or visitor using drugs and alcohol, or having psychiatric illness or dementia, overcrowding in the ED and prolonged waiting time for patient and visitor(6, 7).

In Malaysia, there are very few data on workplace violence that specifically study the prevalence of it in the health sector, more specifically, within the ED. Two such studies were done in two important and big tertiary hospitals. According to an unpublished study by Dzulkhairi in 2010, 51.3% of respondent in ED Hospital Kuala Lumpur had experienced workplace violence in a period of 12 months prior to the study(8). Another similar findings were also found in an unpublished study by Zulraini in 2011. It showed that within the respondent in ED Hospital Universiti Sains Malaysia, 57.9% had become a victim of workplace violence within 12 months prior to the study, with a majority of them experienced verbal abuse (50.8%)(9).

Workplace violence can be prevented(4). However, for this to happen, we need to understand what the contributing factors are and identify who are at risk to experience it. Only then can we formulate a prevention strategy and develop appropriate policy to safeguard our health care workers against workplace violence. There is currently limited study in Malaysia that can provide a clear picture of the severity of violence occurring in the workplace. Such information is even more scarce when we focus the target subject to only those that works in an ED. In addition to that, there was no study ever done in Hospital Tengku Ampuan Rahimah (HTAR) Klang that looks into violence towards its staff. Without enough data about workplace violence in Emergency Department, it will be very challenging for the Ministry of Health of Malaysia to formulate an intervention plan to tackle this never-ending issue.

This study aims to understand the prevalence of workplace violence, to determine its magnitude and to describe workplace violence (physical or verbal abuse, bully, sexual harassment and racial harassment) among health care providers in ED specifically focusing on the population of ED workers in one of the busiest hospital in Malaysia, HTAR Klang. With data that can be obtained from this study, it could provide better understanding about the frequency of workplace violence and its associated factors and in the long run enable the Ministry of Health to develop policies to protect health care workers against workplace violence.

1.1.2 Workplace violence towards health care providers

The World Health Organization (WHO) published a document in 2002 titled The World Report on Violence and Health. This document provides the first comprehensive summary, on a global scale, of violence and its problem, its impact, causes, and recommendation of solutions(4). In the same year, WHO went into a collaboration with the International Labour Office (ILO), International Council of Nurses (ICN) and the Public Service International (PSI) to create a joint program to reduce the incidence of violence in the health care system and lessen its negative impact. In order to achieve these goals, a global survey was conducted to collect data on the enormity and nature of workplace violence, in which countries such as Brazil, Bulgaria, Lebanon, Portugal South Africa, Thailand and Australia took part. In a synthesis report of countries that took part in the survey, more than half of surveyed health care providers experienced at least one episode of violence within the 12 months prior to the study. This was a very shocking evidence of the prevalence of violence, specific to people who works at a health care facility(3).

1.1.3 Global experiences of workplace violence towards Emergency Department workers

Being the front door of a hospital for both patients and visitor alike, the ED is a particularly susceptible place for workplace violence to occur. A study by Asmaa A and Hana A, which studies workplace violence against nurses working in ED of 3 hospitals in Riyadh, 83.9% of the nurses were exposed to a form of workplace violence within the last 12 months, with a staggering 21.3% of them received more than 4 episodes of violence within the same time. Male nurses have more incidence of

physical violence, whereas female nurses have more incidence of verbal violence. Most of the incidents occurred during evening shift (55.6%), and the site where violent incidence occurs the most was at the nursing stations (37%). This study also identifies that common factors contributing to violent incidents to be misunderstandings, language barrier, and a lack of clearly specified patient rights(10).

In a study done in Karachi, it was revealed that within 12 months prior to the study completion, 80.8% and 25.8% of all ED employees, which includes emergency providers and non-providers, experienced verbal abuse and physical violence respectively. Within the emergency provider group, nurses were significantly more exposed to physical violence (34.6%) compared to physicians and trainee (27.8% and 13.2% respectively). Associated factors that could be instigating such violence were elicited, such as unrealistic family expectations, intoxication by alcohol or drugs, mental illnesses prolonged waiting time, staff attitude and lack of anti-violence policies in the institutions(11).

1.1.4 Malaysian experiences of workplace violence in the health care system

Health care providers in Malaysia is also affected by workplace violence. Ruth et all study the prevalence of workplace violence among nurses in Universiti Kebangsaan Malaysia Medical Centre over three months period. It was found that 3.7% of respondents experienced some form of workplace violence, which when put into context, was equivalent to one nurse being subjected to violence per day. The areas which such violence occurred mostly were the surgical ward (21.8%) followed

by the emergency department, the psychiatry ward and critical care areas (18.2% each). Most of the perpetrators were patients (40.6%) followed by patients' relatives (37.5%)(1).

In an unpublished study by Zulraini (2011), which study workplace violence among health care workers in ED of Hospital Universiti Sains Malaysia, it was found that 50.8%, 15.9%, 13.5%, 5.6% and 4% of respondents had experienced verbal abuse, physical abuse, bullying, sexual harassment and racial harassment respectively within the 12 months period prior to the study. It was also found out that a health care worker who works in shift have 2.78 times the odds to be a victim of workplace violence. In addition to that, those who are one-year younger will have 0.96 times the odds to experience workplace violence(9).

1.1.5 Physical versus psychological workplace violence

Di Martino described in his synthesis report on Workplace Violence in the Health Sector about the magnitude of physical violence exerted on health care providers from various countries. In Bulgaria, Brazil, Lebanon, Thailand and Portugal, the percentages of respondents reported to have been physically assaulted within the previous year were 7.5%, 6.4%, 5.8%, 10.5% and 3% respectively. In South Africa, 9% or respondents in the private sector and as high as 17% of respondent in the public sector experienced physical violence at work(3). Another study done by Waleed Z (2013) in Pakistan also reported a high percentage of

respondents who were physically attacked within 12 months prior of the study at 16.5%(12).

Compared to physical type of violence, psychological type of violence seems to be more prevalent, according to Di Martino. Taking the number one spot in psychological violence is verbal abuse, with percentages of 39.5%, 32.2%, 47.7%, 40.9% and 67% of respondents receiving verbal abuse at work place within 12 months in Brazil, Bulgaria, Thailand, Lebanon and Australia respectively. In South Africa, 52% of respondents experienced verbal abuse at work place, of which 60.1% of the cases happened to those working in the public sector whereas in Portugal, 51% respondents had verbal abuse in the health centre complex and 27.4% in the hospital(3). In Pakistan, 72.5% of respondent had been verbally abused(12).

Placing at the number two spot of psychological violence is bullying, which also showed significantly higher percentage of respondents experiencing it when compared to physical violence. From various countries that take part in Di Martino's synthesis report, about 30.9%, 20.6%, 10.7%, 22.1%, 10.5% and 15.2% respondents suffered from bullying in Bulgaria, South Africa, Thailand, Lebanon, Australia and Brazil respectively. In addition to that, 23% and 16.5% or respondents in Portugal experienced bullying in the health centre complex and the hospital respectively(3).

At a smaller percentage, respondents experiencing sexual harassment was at 0.8%, 2.3% and 1.9% in Bulgaria, Lebanon and Thailand respectively with 1% and

2% in the Portugal health centre complex and the hospital respectively. As for racial harassment, the percentages were at 2.2%, 4.7% and 0.7% in Bulgaria, Lebanon and Thailand respectively with 4% and 8% in the Portugal health centre complex and the hospital respectively. In South Africa however, there were higher percentage of sexual and racial harassment, at 4.6% and 22.5% respectively. This could possibly be attributed to the disharmony between various racial and ethnic groups in South Africa(3).

1.1.6 Effect of workplace violence

There was a research done in Pakistan that study the impact of workplace violence to the stress level among physicians and nurses. They found there was a substantial level of stress among the subject, which consist of physician and nurses. In a scale of 1 to 5 (with 5 being “very worried”), the mean for the entire sample of respondents was 3.57, suggesting a high level of worry about workplace violence. Respondents also reported being bothered by recurrent memories of the violence incidents, feelings of avoidance, super alertness and that everything is an effort(12).

Workplace violence can also cause a substantial impact to the organization as a whole. Violence can possibly account for an approximately 30% of the overall cost of ill-health and accidents, which translates to about 0.5% to 3.5% of GDP per year(3). A Canadian study found that 59% of nurses had been physically assaulted at one point during their career, and that their compensation claims represents about 10% of all claims arising from violence in their province(13). It also affects the

performance and efficiency of the organizations in various ways, such as unnecessary usage of resources due to being overcautious, increase number of sick leaves, turnover and absenteeism, lower motivation, professional dissatisfaction, poor performance and negative image to the organization(3).

1.1.7 Contributing factors to workplace violence

A study by Donna et all showed that contributing factors towards physical violence in the work place can be categorized first as the patients and visitor's factor, second as the staff factor, and third as the hospital and environment factor. Associated contributing factors for the first category includes drugs and alcohol usage, presence of psychiatric illness, dementia or organic brain disease, inability to deal with the crisis situation and involvement of gang. The second category includes lack of adequate staff, working in the night shift, lacking of information about patient or visitor with prior history of violence and long working hours. The third category includes long waiting times, lack of security, accessibility of patient area and triage to public, delayed security response when being called and feasibility to bring weapons into the Emergency Department(6).

In the unpublished study by Zulraini (2011), a health care provider working in shift have 2.78 times the odds to be a victim of workplace violence. Furthermore, a staff whose age is one-year younger have 0.96 times the odds to be a victim of workplace violence(9).

1.1.8 Hospital Tengku Ampuan Rahimah Klang

Hospital Tengku Ampuan Rahimah Klang (HTAR) is one of eleven government hospitals within the state of Selangor, excluding Federal Hospital Putrajaya and Federal Hospital Kuala Lumpur. It has been operating since 1985 and has about 800 beds and has 20 clinical departments, with ED being one of them. HTAR also acts as the main reference centre for hospitals in other districts such as Sabak Bernam, Petaling, Kuala Langat, Kuala Selangor, Banting and Sepang. In addition to that, it is also a teaching hospital, catering for medical student from Universiti Malaya. According to HTAR local statistic, in 2011, there were a total of 208,558 ED visit, with about 90,742 resulted in hospital admission(14, 15). Within the same year, there are a total of 984,988 number of ED visit within the state of Selangor(16). This calculates to a whopping 21% of all ED visit in Selangor concentrated in HTAR alone, making it the busiest ED in Selangor. Considering the high volume of patients seeking treatment in ED HTAR, there is more chance for its healthcare providers to experience violence while working there, making HTAR the ideal centre for research into workplace violence. In addition to that, ED HTAR also have more personnel working at the front line who could be drafted into this study, which is 220 people, compared to only 174 and 126 respondents in Dzulkhairi's Hospital Kuala Lumpur study and Zulraini's Hospital Universiti Sains Malaysia study(8, 9).

1.2 METHODOLOGY

1.2.1 Study design and participants

This was a cross-sectional study. The study was performed from April to May 2018 in ED HTAR Klang. All health care providers who fulfilled the inclusion and exclusion of the study criteria were included in this study.

1.2.2 Inclusion and exclusion criteria

1.2.2.1 Inclusion criteria

1. Healthcare providers who were working in ED HTAR Klang, such as Nurses, Sisters, Assistant Medical Officer, House Officers, Medical Officers, Specialist, Drivers and Porters.

2. At least 3 months of working experience in ED HTAR prior to the study.

1.2.2.2 Exclusion criteria

1. Has been absent for a period of 1 month during the study period, such as sick leaves, confinement leaves, annual leave, further study or training.

2. Known to have psychiatric disorders.

1.2.3 Sampling method and sampling size

From each objectives of this study, the sample size was then derived.

Sample size from objective 1: Using a single proportion formula, the sample was then calculated(17). 54% of healthcare providers in Thailand had experienced workplace violence 12 months prior to the study(18). Total sample size was 50 samples after calculating another 20% dropout rate. From single proportion formula, where $n = \left(\frac{z}{\Delta}\right)^2 \mathrm{p}(1 - p)$, z is 1.96, Δ is 0.15 (precision 15%), p is prevalence of workplace violence in Thailand, which is 54%. The n obtained was 42, plus 8 from the 20% dropout rate which finally calculated as 50 samples.

Sample size from objective 2: In a study by Dzulkhairi (2010) found that the significant associated factor was the association between workplace violence and age of health care workers who became a victim of violence, with p-value equal to 0.001. The mean and standard deviation for age of victims of physical violence was 29.3 and 4.91 respectively. On the other hand, the mean age for respondent who did not experienced physical violence at the workplace was 32.2 years old (8). Sample size was then calculated using independent t-test method in PS Software(19), where α is 0.05, power is 80%, δ is 2.9 (the detectable difference between the means of population who had and who did not had physical violence), σ is 4.91 (the standard deviation for age of healthcare workers providers who experience violence), and m is the ratio of control to cases (control was a number of healthcare providers who not experienced violence and case was a number who had experienced violence)(8). From the calculation, it was revealed that 92 samples were needed. Considering drop rate of

20%, a total sample of 110 samples was then calculated. Based on both sample size calculations, the higher number of samples is taken, which is 110 samples.

At the time the study was conducted, there were a total of 220 staff from various job categories working in the ED of HTAR Klang who fulfilled the inclusion and exclusion criteria. They then were assigned an identification number and were then entered into Excel. Systematic sampling was then generated using Excel, and potential participants were approached to enter the study. A total of 160 staff completed the questionnaire and all their responses were taken into the study.

1.2.4 Research tools and Data collection

1.2.4.1 Research tools

The self-administered Malay language version of workplace violence questionnaire that was used in this study was originally derived from the English language version of Workplace Violence in the Health Sector (Country Case Study) which was developed by the Joint Committee of International Labour Office, International Council of Nurses, World Health Organization and Public Services International (ILO,ICN,WHO,PSI)(3). The English version questionnaire was designed and reviewed by experts from the joint committee of ILO/ICN/WHO/PSI and it was used globally as a confidential and standardized questionnaire. However, there was no documentation on how it was validated. The Malay version questionnaire was the

result of a translation process from the English version, and was validated in term of face and content validity in a study done by Zulraini (2001)(9). The approval to use the Malay version questionnaire was obtained from the researcher in Zulraini (2001) study and the joint committee of ILO/ICN/WHO/PSI representatives (Emails of approval was attached in Appendix A). The questionnaire will gather information based on what the respondent experienced 12 months prior to the study. It consists of four parts as described below:

Part A: Socio-demography and job profiles of the respondents

This part asks respondent to identify their age, gender, marital status, race, job category, work experience, whether they work in shift, have direct interaction with patients, number of colleagues working together, their perception of worry about workplace violence and knowledge regarding reporting on workplace violence.

Part B: Physical violence at workplace

This part ask respondent to recollect their experience of physical violence that they had 12 months prior to the study, the nature of the attack, perpetrator, site of incident, day and time of incident, whether they think the incident is a norm, respondent's reactions to the incident, injury sustained, treatment or sick leaves taken, whether they think the incident could be prevented and their satisfaction on how the incident was handled, post traumatic symptoms they may have, outcomes of the incident, any support they received after the incident, respondents attitudes on incident reporting and whether they have been a witness to physical violence incident.

Part C: Psychological violence at workplace

This part consists of four subtypes of psychological violence, which were verbal abuse, bullying, sexual and racial harassment. For each subtypes, respondents were asked to recollect their experience of psychological violence that they may had 12 months prior to the study, the frequency of such incident, perpetrator, site of incident, whether they think the incident is a norm, respondent's reactions to the incident, whether they think the incident could be prevented, post traumatic symptoms they may have, outcomes of the incident, any support they received after the incident, respondents attitudes on incident reporting. and their satisfaction on how the incident was handled.

Part D: Employer at workplace

This part asks respondent about their knowledge on the existence of any policies on health, safety, workplace security and workplace violence that were prepared by their employer. Respondent was also asked about any preventive measures that were already in place, their awareness of any change in the working environment because of such preventive measures and their opinion on viable preventive measures,

1.2.4.2 Data collection

Following the approval from the Human Research Ethical Committee Universiti Sains Malaysia, a meeting was arranged with the Head of ED HTAR Klang, where the details about the study was explained. Then, presentations about the study were

conducted during Continuous Medical Education (CME) sessions several times, with staff from various job categories attended. After that, participants that fulfilled the study criteria and consented to participate were personally approached by the researcher after they finished their shift, and the Malay version questionnaire was given by hand them. The questionnaire was given in a sealable envelope and the respondent then returned the completed questionnaire to the researcher with the enveloped properly sealed. This was done to ensure confidentiality was maintained. Respondents were sincerely thanked for participating in the study and no honorarium was given. The questionnaires collected were then analysed.

1.2.5 Data entry and data analysis

Statistical Packages for Social Science (SPSS) version 24.0 was used for the purpose of making statistical analysis. The data was analysed using Multiple Logistic Regression, as explained by the steps below:

1. Data exploration and cleaning
2. Variable selection - Simple logistic regression
3. Variable selections - Multiple logistic regression
4. Variable selection - checking for multicollinearity and interaction for Preliminary final model
5. Model fit assessment for final model
6. Interpretation and data presentation

For step 1, data was entered into SPSS, checked and cleaned. Simple data exploration such as descriptive statistics was done and presented in appropriate tables, graph and charts. All categorical data was expressed in percentage (%) and frequencies, whereas all numerical data was expressed in mean and standard deviations (SD). For categorical data, some combination was done when there were small cells noted in the categories that can resulted in imbalance cells. For example, in the job category, ambulance drivers, health attendants and clerks were regrouped into support group, nurses and medical assistants were regrouped into paramedic group and specialists and medical officers were regrouped into doctor group. The new groups formed are more meaningful for statistical reason. Demographic characteristic of the respondents was analysed using descriptive statistics. The proportion of workplace violence was analysed based on the different types available, which is physical violence, verbal violence, bullying, sexual harassment and racial harassment.

For step 2, Simple Logistic Regression method was done for univariable analysis to determine significant associated factors for workplace violence towards healthcare providers of ED HTAR Klang(20). All independent variables were analysed manually using Enter method. Independent variables that were statistically significant (have a *p* value of less than 0.25) and were clinically important as identified by other studies were taken as potential predictors to workplace violence, which is shown below:

1. Age with *p* value of 0.004
2. Work experience with *p* value of 0.001
3. Race with *p* value of 0.069
4. Marital status with *p* value of 0.003

5. Job category with *p* value of 0.152
6. Working in shift with *p* value of 0.116
7. Number of staff working with *p* value of 0.14
8. Encouragement to report with *p* value of 0.149

For step 3, the eight potential variables were analysed further using Multiple Logistic Regression(20). The variables were analysed using Forward LR and Backward LR in the SPSS program. From the analysis, only work experience and marital status were retained in the preliminary main effect model, with *p* value of 0.016 and 0.031 respectively.

For step 4, multicollinearity was checked for the remaining two variables, and there was no multicollinearity as the Tolerance value was more than 0.10. Interaction between the two variables were also checked, and it was found that there was no interaction, as the *p* value was 0.300 (*p* value more than 0.05). With the completion of step 4, work experience and marital status were selected to be in the preliminary final model(20).

For step 5, the preliminary final model was then entered for goodness-of-fit assessment. This was done by employing three assessment methods, which were Hosmer-Lemeshow test, Classification Table and area under the Receiver Operating Characteristics (ROC) curve. The Hosmer-Lemeshow test compares the observed probability with the expected probability within each decile and the model is

considered a good fit if the *p* value is more than 0.05. For the Classification Table, if the overall percentage was more than 80% correctly classified by the model, it is then considered as a good model fit. For the area under the ROC curve, a value of more than 0.7 is considered as a good model fit(20). From the goodness-of-fit assessment, the Hosmer-Lemeshow test was significant (*p* value 0.034) which means it was not a good fit. However, the overall percentage of the Classification Table was 81.3%, which means it was a good fit, and the area under the ROC curve was 0.726, which also means that it was a good fit. The final model was then analysed using Enter method in Multiple Logistic Regression.

For step 6, the findings were interpreted and presented with crude odds ratio (OR) for Simple Logistic Regression and adjusted odds ratio (OR) for Multiple Logistic Regression together with 95% confidence interval (CI), *p* value and Wald statistics.

1.2.6 Ethical Approval

Ethical approval was obtained from the Human Research Ethical Committee, Universiti Sains Malaysia on 28th December 2017 (Ref: USM/JEPeM/17090411).

CHAPTER 2: OBJECTIVES

The general objective was to study about workplace violence against health care providers working in the Emergency Department Hospital Tengku Ampuan Rahimah Klang.

The specific objectives were

1. To determine the proportion of workplace violence against health care providers in Emergency Department Hospital Tengku Ampuan Rahimah Klang, in terms of physical abuse, verbal abuse, sexual harassment and racial harassment.

2. To determine the factors associated with workplace violence against health care providers in Emergency Department Hospital Tengku Ampuan Rahimah Klang.

CHAPTER 3: MANUSCRIPT

The prepared manuscript is included in the following pages. The manuscript was prepared following the Malaysian Journal of Medicine and Health Sciences as attached at the end of the manuscript.

3.1 Manuscript

3.1.1 Title Page

A Study On Workplace Violence Against Healthcare Providers In Emergency Department, Hospital Tengku Ampuan Rahimah, Klang

Ahmad Amirin Jamal[1], Kamarul Aryffin Baharudin[1]

1. *Emergency Department, Pusat Pengajian Sains Perubatan, Universiti Sains Malaysia, 12150, Kubang Kerian, Kelantan, Malaysia*

***Correspondence Author**

Associate Professor Dr Kamarul Aryffin bin Baharudin. MD, MMed (Emergency Medicine)

Emergency Department, Pusat Pengajian Sains Perubatan, Universiti Sains Malaysia, 12150, Kubang Kerian, Kelantan, Malaysia

E-mail: amararyff@usm.my

Mobile: +60179887300

Fax: +6087673219

3.1.2 Abstract

ABSTRACT

A STUDY ON WORKPLACE VIOLENCE AGAINST HEALTHCARE PROVIDERS IN EMERGENCY DEPARTMENT, HOSPITAL TENGKU AMPUAN RAHIMAH, KLANG

Background: Violence towards staffs working in a healthcare facility is a norm, and it is common conversation topics in the news and social media. However, there is not much data that shows the extent of problem, especial in the Malaysian context. This research was done to gauge the frequency of violence towards healthcare providers working in the Emergency Department (ED) of Hospital Tengku Ampuan Rahimah (HTAR) Klang and to see the factors involved.

Methodology: A cross sectional prospective study was done in May 2018 among staffs of ED HTAR Klang using a validated Malay language questionnaire. Systematic sampling method was applied. 160 completed questionnaires were collected from respondents who were suitable and consented to the questionnaire. The questionnaire collected respondent's sociodemographic data, their experience, witness or report of workplace violence within 12 months prior to the study.

Results: 80.6% of staff had experienced at least one episode of violence within the last 12 months prior to the study, with most of them experiencing verbal abuse (79.4%). A healthcare provider who is married has 3.25 times odds of experiencing workplace violence compared to those who are still single and an increase of one month of working experience will increase the odds of having workplace violence by 0.99 times.

Conclusion: There was a high prevalence of workplace violence towards healthcare providers working in ED HTAR Klang and if a healthcare provider is married and has less working experience, he or she is more likely to be a victim of workplace violence.

Key words: Workplace violence, Emergency Department, Hospital Tengku Ampuan Rahimah Klang.