ANALYSIS ON THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE OF OCCUPATIONAL SAFETY AND HEALTH AMONG HEALTHCARE EMPLOYEES IN KANOWIT HOSPITAL

SYLVESTER CHULA ANAK DANIEL

OPEN UNIVERSITY MALAYSIA

2021

ANALYSIS ON THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE OF OCCUPATIONAL SAFETY AND HEALTH AMONG HEALTHCARE EMPLOYEES IN KANOWIT HOSPITAL

SYLVESTER CHULA ANAK DANIEL

A Master's Project in fulfilment of the requirement for degree of Master of Occupational Safety and Health Risk Management

Open University Malaysia

2021

DECLARATION

Name: SYLVESTER CHULA ANAK DANIEL

Matric Number: CGS 01276230

I hereby declare that this Master's Project is the result of my own work, except for quotations and summaries that have been duly acknowledged.

Signature:  Date: 1st April 2021

ANALYSIS ON THE LEVEL OF KNOWLEDGE, ATTITUDE AND PRACTICE OF OCCUPATIONAL SAFETY AND HEALTH AMONG HEALTHCARE EMPLOYEES IN KANOWIT HOSPITAL

ABSTRACT

All industries especially government sectors are urged to practice Occupational Safety and Health Act (OSHA) 1994. They have to fulfil their responsibilities as an employer to ensure that employees have a safe and healthy workplace. National OSH Master Plan 2010- 2015 target to reduce death cases to 12.4 per 100,000 employees and injury case to 6.1 per 1,000 employees and National OSH Master Plan (OSHMP) 2016-2020 death target is review 4.36 per 100,000 employees and injury reduce to 2.53 per 1,000 employees. In 2020 DOSH reported that 6793 occupational accident cases happened. Public services and statutory authorities presented 1.2 % of the total cases. The OSHMP 2020 showed a remarkable positive improvement whereby 5960 occupational diseases and poisoning cases happened in 2015 compared to 1785 cases in 2019. The objective of this study is to analyse the level of Knowledge, Attitude and Practice of occupational safety and health (OSH) among Healthcare employees in Kanowit Hospital. The constructs of this study Personal Protective Equipment (PPE), Employer-Employee Safety and Health Responsibilities, Functions of Safety and Health Committee (HSC) and Employee Knowledge in OSH. 162 respondents are involved in this study. The data analysis concluded that level of knowledge; attitude and practice of occupational safety and health among healthcare employees in Kanowit Hospital were high**.** The research found that the level of knowledge of the healthcare employees on OSH is affected by the length of service and their age. This study contributes significantly in improving the level of OSH knowledge, attitude and practice.

Keywords: Healthcare employees, knowledge, attitude and practice

ANALISIS MENGENAI PENGETAHUAN, SIKAP DAN PRAKTIS KESIHATAN DAN KESELAMATAN PEKERJAAN DI KALANGAN PEKERJA PENJAGAAN KESIHATAN DI KANOWIT HOSPITAL

ABSTRAK

Semua industri terutamanya sektor kerajaan, digesa mempraktikkan Akta Keselamatan dan Kesihatan Pekerjaan (OSHA) 1994. Mereka harus memenuhi tanggungjawab majikan demi memastikan keselamatan dan kesihatan pekerja di tempat kerja. Pelan Master Kesihatan dan Keselamatan Pekerjaan Kebangsaaan 2010- 2015 mensasarkan pengurangan daripada 12.4 kematian daripada 100,000 pekerja kepada 6.1 kematian daripada 100,000 pekerja dan Pelan Master Kesihatan dan Keselamatan Kebangsaan 2016- 2020 mensasarkan 4.36 kematian daripada 100,000 pekerja dan kecederaan berkurangan kepada 2.53 daripada 1,000 pekerja. Pada 2020 menurut Jabatan Kesihatan dan Keselamatan Pekerjaan melaporkan sebanyak 6793 kemalangan pekerjaan berlaku. Sektor awam dan badan berkanun mewakili 1.2% daripada keseluruhan kes. Pelan Master Kesihatan dan Keselamatan Pekerjaan 2020 menunjukkan peningkatan positif apabila 5960 kes penyakit pekerjaan dan keracunan berlaku pada 2015 dan 1785 kes pada 2019. Objektif kajian ini adalah untuk menganalisa pengetahuan, sikap dan praktis mengenai Kesihatan dan Keselamatan Pekerjaan (KKP) di kalangan pekerja kesihatan di Kanowit Hospital. Pembinaan kajian adalah mengenai Kelengkapan Perlindungan Diri, Tanggungjawab Majikan- Pekerja Keselamatan dan Kesihatan, Fungsi Jawatankuasa Keselamatan dan Kesihatan dan Pengetahuan Pekerja di dalam OSH. 162 responden terlibat. Analisa data menyimpulkan bahawa tahap pengetahuan, sikap dan praktis keselamatan dan kesihatan pekerjaan di kalangan pekerja kesihatan di Kanowit Hospital adalah tinggi. Kajian mendapati bahawa pengetahuan pekerja kesihatan dipengaruhi oleh tempoh mereka telah bekerja dan umur mereka.Penemuan yang ketara dalam kajian ini meningkatkan tahap pengetahuan, sikap dan praktis mengenai keselamatan dan kesihatan pekerjaan.

Kata kunci: Pekerja kesihatan, pengetahuan, sikap dan praktis

ACKNOWLEDGEMENTS

In the name of GOD, the Most Gracious, the Most Merciful. Praise to Him the Almighty that in His will and given strength, author managed to complete the Final Year Project in partial fulfilment of the requirement for the Master of Occupational Safety and Health Risk Management. Special and heartfelt thanks to the beloved Supervisor Puan Suhaila Abdul Hamid for the valuable guidance and advice. No word could possibly describe how indebted the author was to his supervisor. Without his help, the author would face a great difficulty in completing this project. Deepest gratitude also goes to the names below, whose continuous support and proactive leadership have truly been a great inspiration to author:

- Minister of Health Malaysia
- Staffs of Kanowit Hospital, Sarawak

Not to forget, to all lecturers who have directly and indirectly lend a helping hand in completing this project. Finally, an honourable mention goes to the researcher's families and friends for their understandings and warm support that had made this Final Year Project a memorable and an enlightening project.

THANK YOU.

SYLVESTER CHULA AK DANIEL

1st April 2021

TABLE OF CONTENTS

TITLE PAGE			
DECLARATION			ii
ABSTRACT			iii
ABSTRAK			iv
ACKNOWLEDGEMENTS			v
TABLE OF CONTENTS			vi
LIST OF TABLES			xi
LIST OF FIGURES			xiii
LIST OF ABBREVIATIONS			xiv
CHAPTER 1	**INTRODUCTION**		
	1.1	Research Background	1
	1.2	Problem Statement	2
	1.3	General Objective	6
	1.4	Specific Objectives	6
	1.5	Research Questions	6
	1.6	Hypothesis Statement	7
	1.7	Significance of Research	8
	1.8	Definition of Terms	9
CHAPTER 2	**LITERATURE REVIEW**		
	2.1	Introduction	12
	2.2	Measuring the Safety and Health Knowledge	14
	2.3	Performance Measurement	15
	2.4	Socio- Demography Factors	16
	2.5	The Gap between Knowledge And Practice	16
	2.6	Factors Affecting Occupational Safety and Health Knowledge	17

	2.7	Theoretical Framework	20
		2.7.1 The Heinrich Domino Theory	20
		2.7.2 Frank Bird's Theory	20
		2.7.3 Dr William Haddon's Theory	22
	2.8	Conceptual Framework	24
		2.8.1 The Importance of PPE	24
		2.8.2 Employer- employee Safety and Health Responsibility	29
		2.8.3 Occupational Safety and Health Committee (OSHC)	31
		2.8.4 Knowledge of OSH among Healthcare employees	33
	2.9	Dependent Factor	40
		2.9.1 Level of Knowledge, Attitude and Practice of OSH	40
CHAPTER 3	**METHODOLOGY**		
	3.1	Introduction	42
	3.2	Research Design	43
		3.2.1 Quantitative	43
		3.2.2 Exploratory	43
		3.2.3 Descriptive Survey	43
	3.3	Pilot Study	44
		3.3.1 Selection of Survey Instrument	44
		3.3.2 Questionnaire Validity and Reliability	45
		3.3.3 The Final Survey Instrument	47
	3.4	Population and Sampling Methods	48
		3.4.1 Research Population	48
		3.4.2 Sampling Approach	48
	3.5	Data Collection Procedures	49
		3.5.1 Primary Data	49
		3.5.2 Secondary Data	49
	3.6	The Response Rate	50

	3.7	Data Collection	51
		3.7.1 Data Collection Instrumentation	51
		3.7.2 Administration of the Questionnaire	52
	3.8	The technique of Data Analysis	53
		3.8.1 Mean Analysis	54
	3.11	Summary	54
CHAPTER 4	**DATA ANALYSIS AND RESULTS**		
	4.1	Introduction	56
	4.2	Normality of the Data	56
	4.3	Demographic Background Of the Healthcare Employees	57
	4.4	Results for Research Objectives 1, 2, 3	59
		4.4.1 Result for Objective 1	60
		4.4.2 Result for Objective 2	61
		4.4.3 Result for Objective 3	62
	4.5	Result for Research Objective 4	63
		4.5.1 Level of Knowledge of the Healthcare Employees on OSH And their Education Level	64
		4.5.2 Level of Knowledge of the Healthcare Employees on OSH And their Length of Service	65
		4.5.3 Level of Knowledge of the Healthcare Employees on OSH And their Age	66
		4.5.4 Level of Knowledge of the Healthcare Employees on OSH And their Gender	67
CHAPTER 5	**DISCUSSION AND CONCLUSION**		
	5.1	Introduction	69

5.2	Summary of Main Findings		69
5.3	Discussion and Implications		71
	5.3.1	Discussion for Research Objective 1	72
	5.3.2	Discussion for Research Objective 2	73
	5.3.3	Discussion for Research Objective 3	74
	5.3.4	Discussion for Research Objective 4	75
5.4	Conclusions		76
5.5	Recommendations		77
	5.5.1	Promotion of Employer's Commitmen	77
	5.5.2	Encouraged Employees Involvement	78
	5.5.3	Enhancement Safety Prevention and Control	79
	5.5.4	Improvement of Safety Training and Education	79
	5.5.5	Recommendations For Practice	80
5.6	Limitation of the Study		81
5.7	Future Studies		83

REFERENCES 84

APPENDICES

A Permission to Conduct Research at Kanowit Hospital 109

B Ethical Approval from Ministry of Health, Malaysia 110

C Questionnaire of the study 112

D Designations of Respondents 116

E SPSS Output- Survey Instrument Reliability Test 117

F SPSS OUTPUT –Normality Test: Histogram, Skewness and Kurtosis 118

G SPSS OUTPUT- Computation of Frequency and Percent 119

for Demographic Backgrounds of the Healthcare Employees

H SPSS OUTPUT- Computation of Frequency and Percent 120

for Demographic Backgrounds of the Healthcare Employees

I SPSS OUTPUT –One Way ANOVA for the Knowledge of Healthcare 122

Employees on Occupational Safety and Health with Their Education Level

J SPSS OUTPUT – T- Test for the Knowledge of Healthcare 123

Employees on Occupational Safety and Health with Their

Length of Service (Junior and Senior)

K SPSS OUTPUT – One Way ANOVA for the Knowledge 125
of Healthcare Employees on Occupational Safety and
Health with Their Age

L SPSS OUTPUT – T-Test for the Knowledge of 126

Healthcare Employees on Occupational Safety and

Health with Their Gender

LIST OF TABLES

Table 1.1: Occupational Accidents Statistics by Sector January until November 2020 (Reported to DOSH only) 3

Table 1.2: Occupational Diseases and Poisoning Reported in 2019 (Until February) Statistics 4

Table 2.1: Factors and Issues that affect Safety and Health Knowledge 18

Table 2.2: The Heinrich Domino Theory 21

Table 2.3: ILO Occupational Safety and Health Management Systems (ILO-OSH 2001) main elements 38

Table 3.1: Likert's Five Point's Score 46

Table 3.2: Questionnaire Internal Validity of Cronbach Alpha for Each Each of OSH Knowledge 46

Table 3.3: Shown the Alignment of this Study 47

Table 3.4: Sample Population 48

Table 3.5: Response Rate 50

Table 3.6: Mean Score for Determining Level on Knowledge, Attitude and Practice of Occupational Safety and health 54

Table 4.1: Overall Knowledge, Attitude and Practice of OSH Skewness & Kurtosis 57

Table 4.2: Descriptive Summary of Respondent's Demographic Background 59

Table 4.3: Mean Score for Determining Level on KAP Of Occupational Safety and Health 60

Table 4.4: Knowledge of OSH – Personal Protective Equipment (PPE) 60

Table 4.5: Employer-Employee Safety and Health Responsibility 61

Table 4.6: Functions of the Safety and health Committee (SHC) 62

Table 4.7: Knowledge in OSH 63

Table 4.8: One Way ANOVA - Level of Knowledge of the Healthcare Employees on OSH based on Education Level 64

Table 4.9: T-test for Means Score of Level of Knowledge of the Healthcare Employees on OSH Based on Length of Service 65

Table 4.10: One Way ANOVA - Level of Knowledge of the Healthcare Employees on OSH based on Age 67

Table 4.11: T-test for Means Score of Level of Knowledge of the Healthcare Employees on OSH based on Gender 68

Table 5.1: Research objectives, questions, methodology and results and brief interpretation of the results 70

LIST OF FIGURES

Figure 2.1: Frank Bird's Theory	22
Figure 2.2: Conceptual Framework	39
Figure 3.1: Return rates of the survey	51
Figure 4.1: Knowledge of OSH – Histogram	57

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CDC	Centre for Disease Control and Prevention
CEO	Chief Executive Officer
COSH	Conference of Occupational Safety and Health
DOSH	Department of Safety and Health Malaysia
EPINet	Exposure Prevention Information Network
HSC	Safety and health Committee
HSO	Health Standards Organisation
HCW	Healthcare Employees
HIV	Human Immunodeficiency Viruses
ILO	International Labour Organisation
MMA	Malaysia Medical Association
MOH	Minister of Health
MREC	Medical Research and Ethics Committee
NMRR	National Medical Research Register
NSI	Needle Stick Injury
NIOSH	National Institute for Occupational Safety and Health
OH	Occupational Health
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Act
OSHC	Occupational Safety and Health Committee
OSHCR	The Occupational Safety and Health Consultants Register
OSHMP	Occupational Safety and Health Master Plan
OSHMS	Occupational Safety and Health Management System

PPE	Personal Protective Equipment
SHC	Safety and Health Committee
SIPE	School Insurance Programs for Employer
SME	Small Medium Enterprises
SOCSO	Social Security Organisation
USA	United State of America
USECHH	Use and Standard of Exposure Chemical Hazardous to Health
WHO	World Health Organisation

CHAPTER 1

INTRODUCTION

1.1 Research Background

The medical practice field has transformed from ancient style to modern approach, changing technological practices for more than two centuries. However, millions of employees die or sustained injuries due to workplace hazards, and it reported that more than 250 million work-related accidents happened every year. Alli (2008) revealed that over 160 million employees fall sick annually due to workplace hazards and exposures, while an estimated more than 1.2 million employees die due to occupational accidents and diseases. Those incidents caused an annual loss in compensation, lost workdays, interruptions of production, training, retraining, and medical expenses, which amount to over four per cent of the total gross national product (GNP) all-region the world. In the United States of America, the annual cost of accidents in the manufacturing sector is more than US190 billion. International Labour Organisation (2011) stated that more than 300 million occupational accidents and more than 150 million occupational-related diseases were reported yearly. Rampal et al. (2010) ascertained that an analysis according to a study conducted by the Social Security Organisation (SOCSO), workplace injuries in Malaysia increased by 4% from 57,639 cases in 2008 to 59,897 cases in 2009. Occupational problems were discovered by Anuar et al. (2008) in the Klang Valley's Hospital Kuala Lumpur, Hospital Universiti Kebangsaan Malaysia, and Pusat Perubatan Universiti Malaya expanding numbers from the year 2001 until 2005. Technically, when we think of occupational health, we focus only on occupational

diseases or injuries, workplace environments, and daily practices. Therefore, the evolution of healthcare mission and vision should emphasise the need for a global standard of safe practices and the most important in generating a safe environment by enhancing the level of knowledge on OSH among healthcare employees. The researcher conducted this study at Kanowit Hospital. The study carried out in the clinical and non-clinical areas such as Emergency and Trauma Department, Outpatient Department, Pharmacy, Laboratory, Maternity ward, Male and Female ward, Paediatric Ward, Haemodialysis Unit, Operation Theatre, Central Sterile Services Department, Physiotherapy Unit, Drugs Store, Mortuary and Infection Control Department. The data is collected using the questionnaire distributed by the researcher to departments and units, as stated. The researcher distributed 193 sets of questionnaires, and 162 respondents responded. Departments and units' heads collected the completed questionnaire, and the researcher collected it from them. Before started the data collection process, the researcher obtained approval from the Kanowit Hospital's Director and the Clinical Research Centre of Malaysia. Once permitted, the questionnaire sets distributed to all departments and units involved.

1.2 Problem Statement

The OSH Master Plan 2020 is a formula to improve OSH to an excellent level to guard the country's people, which is very important. In accordance with Malaysia's policy and evolution plan Vision 2020, excellent OSH levels would raise employee safety standards and provide superior efficiency and productivity in the Working Life Component Index of the Malaysian Well-being Index. This master plan builds on the previous two OSH master plans, which were launched in 2006 with the goal of instilling a safe and healthy work culture among management and employees. Through a

comprehensive strategy to intercept occupational injuries and diseases, a safe and healthy work culture is critical in creating workplaces that are safer and healthier in our country. The Preventive Culture in the Workplace is the key course of action in OSHMP 2020. The Preventive Culture emphasised employer and employee understanding, accountability, and dedication, as well as appreciation for employees' OSH rights, employee engagement in OSH activities, OSH knowledge and skills upgrading, and OSH management competency that can enforce successful risk management. The predicted outcome is that the workstation will be transformed into a secure and healthy environment, protecting the company's most valuable asset: its workers. The Master Plan 2020 outlined strategies for enhancing the safety and health culture at work.

Table 1.1: Occupational Accidents Statistics by Sector January until November 2020 (Reported to DOSH only)

OCCUPATIONAL ACCIDENT STATISTICS BY SECTOR UNTIL NOVEMBER 2020 (REPORTED TO DOSH ONLY)				
SECTOR	**NPD**	**PD**	**DEATH**	**TOTAL**
Hotel and Restaurant	144	2	1	147
Utilities (Electricity, Gas, Water and Sanitary Service)	228	3	4	235
Finance, Insurance, Real Estate and Business Services	303	6	14	323
Construction	160	4	58	222
Transport, Storage and Communication	343	6	10	359
Manufacturing	4027	209	58	4294
Wholesale and Retail Trade	123	3	1	127
Public Services and Statutory Authorities	77	2	3	82

Table 1.1, continued

Mining and Quarrying	32	1	2	35
Agriculture, Forestry and Fishery	907	20	42	969
TOTAL	**6344**	**256**	**193**	**6793**

Legends:
PD- Permanent Disability
NPD- Non Permanent Disability

Table 1.2: Occupational Diseases and Poisoning Reported in 2019 (Until February) Statistics

Disease Type	Case Reported
Occupational Lung Diseases (OLD)	17
Occupational Skin Diseases (OSD)	25
Occupational Noise Related Hearing Disorders (H.D.)	1612
Occupational Muscular -Skeletal Disorders (OMSD)	80
Occupational Poisoning	19
Disease caused by Physical Agent	0
Disease caused by Biological Agent	12
Occupational Cancer	2
Psychosocial Problem	2
Other Types of Occupational Diseases	2
Non-Occupational Diseases	14
Total	**1785**

Source: DOSH 2021
International Policy and Research Development Division

In addition, according to the Accident Iceberg Theory, the hidden or indirect costs of an accident are eight to thirty per cent, more than that of its apparent or direct costs. Based on this theory, one can imagine the massive amount of hidden fees spent yearly to finance accidents and occupational diseases. These costs include rehabilitation, retraining, loss of person-days, legal expense, reduced morale, all of which translate into reduced productivity. The implications and magnitude of occupational and occupationally related safety and health issues are beyond superficial injuries or accidents. Take, for example, an unfortunate staff nurse who, as a result of a

simple needle prick accident, becomes HIV positives. This incident could have happened as she was busy caring for her patients in a busy ward. This accident could affect her life, family, other dependents, relatives and how she suffers the stigma associated with it. To the government, this would mean loss of work, loss of productivity, retraining of a new worker, cost of hospitalisation and medication, rehabilitation, and of course, and a loss of a person's life.

Furthermore, that infection can accidentally spread too many of her patients in the ward. This study is essential to gauge occupational safety and health implementation and safety performance in the state. The researcher hopes information obtained from this study could provide a valuable indicator to evaluate and help formulate plans and programs to improve further and maintain safety and health performance at the highest level possible in all the health facilities in Sarawak specifically and Malaysia generally. A rise in accidents and mishaps due to a lack of OSH awareness has been identified as the primary contributor to Malaysia's current problem (Anuar et al., 2009). Previous research has concentrated chiefly on particular issues like needle stick injuries (Alamgir et al. 2008), universal precaution (Izegbu et al. 2006), and laboratory-acquired infections (Anuar et al. 2008), with less emphasis on issues like understanding, experience, and practice in OSH and danger management. As a result, OSH's awareness and knowledge are critical for healthcare employees to avoid injuries and mishaps. As a result, this study aims to see whether healthcare employees are well-versed in Occupational Safety and Health. Exploring employees' attitudes toward OSH regularly will help with evidence-based interventions that can change work conditions or even behaviour (Goh & Chua, 2016). Healthcare employees are exposed to various hazards daily, particularly in their daily practices. Healthcare employee that has a good

understanding of occupational safety would be able to complete their assignments safely. Knowing about workplace safety encourages personal accountability for ensuring that safety is incorporated into everyday activities. Being enthusiastic about safety-related tasks at work, such as safety training or following standard operating procedure, is one example of a positive attitude toward safety. Safe and secure job practises involved an intervention that could prevent an accident from occurring. Employee awareness, mind-set, and safety procedures are critical for mitigating and controlling hazards and danger and ensuring optimal safety and health at work (Onowhakpor et al., 2017).

1.3 General Objective

To analyse the level of knowledge, attitude and practice of Occupational Safety and Health among healthcare employees in Kanowit Hospital.

1.4 Specific Objectives

i. To determine the level of attitude on the usage of personal protective equipment;
ii. To assess the level of practice on the employer-employees OSH responsibility;
iii. To determine the level of practice on the functions of the safety and health committee; and
iv. To determine the relationship between OSH knowledge levels with the education level, length of service, age, and gender.

1.5Research Questions

i. What is the level of attitude on the usage of personal protective equipment?
ii. What is the level of practice on the employer-employees OSH responsibility?

iii. What is the level of practice on the functions of the safety and health committee?

iv. Is there any relationship between OSH knowledge levels with the education level, length of service, age, and gender?

1.6 Hypothesis Statement

$H1_0$: There is no significant difference between the healthcare employees' level of knowledge on Occupational Safety and Health and their education level.

$H1_A$: The higher the education level, the higher the level of knowledge of the healthcare employees on OSH

$H2_0$: There is no significant difference between the level of knowledge of the healthcare employees on Occupational Safety and Health and their length of service (junior and senior).

$H2_A$: The longer the services, the higher the level of knowledge of the healthcare employees on OSH.

$H3_0$: There is no significant difference between the level of knowledge of the healthcare employees on Occupational Safety and Health and their age.

$H3_A$: The increase the age, the higher the level of knowledge of the healthcare employees on OSH.

$H4_0$: There is no significant difference between the level of knowledge of the healthcare employees on Occupational Safety and Health and their gender.

$H4_A$: Gender differences affect the level of knowledge of the healthcare employees on OSH.

1.7 Significance of the Research

There is a lack of studies on the safety environment or safety culture (Glendon et al., 2006; Huang, 2010; Lu, 2007). As a result, this study's emphasis is on the level of OSH awareness among healthcare employees. This ground breaking research has never been performed before in Kanowit Hospital or even the Sibu division. In terms of scholarly publications, western researchers have mainly researched safety and health problems in western countries such as the United Kingdom, the United States of America, Australia, Canada, Scandinavian, and European countries. Eastern countries, especially Malaysia, continue to conduct less research on safety and health management (Bahari, 2011).

Furthermore, according to a literature review, the theoretical and empirical understanding of safety and health research performed in Malaysia or other eastern countries is focused on the ideas, conceptions, and contributions of western scholars. As a result, the current study's results are thought to be unique. It contributes to the advancement of safety and health management research, particularly in the area of safety and health awareness among healthcare employees research in an eastern developing country with a different culture than the United States. The results of this study have potentially added to a limited but increasing body of information on safety and health, as well as contributing factors. Although the effect of safety training on improving education, skill, and hazard perception is well documented, there is little research on safety and health knowledge among healthcare employees. The results of this study showed that major demographic factors influence workplace safety and health

awareness. The subgroup discrepancies mean that a large group within an organisation does not reflect the organisation's overall sense of safety, resulting in a lack of safety culture (Hopkins, 2006). As a result, the first section of this chapter discusses the results in relation to the four research goals discussed in this study. This study aims to determine the level of knowledge, attitude, and practice of occupational safety and health among hospital healthcare employees in Kanowit. Other factors include:

a) A lack of research into patient safety and health issues.

b) There has been very little study done by academics and clinicians on the Occupational Safety and Health (OSH) issues that healthcare employees face.

c) To provide information to assist the Kanowit Hospital management team in improving occupational safety and health management.

1.8 Definitions of Terms

This section covers definitions of the variables involved in this study:

i. The importance of PPE

Healthcare employees (HCW) are most exposed to hazards at their workplace, especially viruses, bacteria, hazardous substances, mental and physical abuse. According to Clarke et al. (2002), the availability of personal protective equipment (PPE), management commitment to safety, and employees' perceptions of how precautions interfere with job performance influence healthcare employees' compliance with universal precautions. As a result, the employer must have sufficient PPE stock, and employees must follow the PPE Standard Operating Procedure (SOP) specifications.

ii. Employer-Employee Safety and Health Responsibility

Many states have passed legislation that gave the employee the right to know about hazardous substances in their workplace. The employer must inform their employees regarding the dangerous material in the working environment (Anthony et al., 2007). The top management level leaders should have broad knowledge about Occupational Safety and Health. Therefore they can understand and rectify the OSH issue immediately. All employees have the safety and health's responsibility to practice the SOP applied in each sector.

iii. Functions of Occupational The Safety and Health Committee

Section 30 of the OSHA 1994 mandates the formation of a Safety and Health Committee in workplaces with forty or more employees (SHC). Furthermore, Regulation 5(2) of the Occupational Safety and Health (Safety and Health Committee) Regulations 1996 required SHC to have an equal number of management and non-management members, meaning that SHC is a joint committee. To discuss company safety issues, the SHC could meet four times a year, with two of those meetings open to all SHC members.

iv. Knowledge of OSH among healthcare employees

Wehmeier (2000) defined knowledge as a state of knowledge about a particular fact or situation. The level of understanding and information healthcare employees have regarding occupational hazards may put their occupational safety and health at risk. Levels of knowledge vary with the respondents' occupation. It may depend on an individual's background, including their types of profession or educational level. An individual's education level often correlates to their level of knowledge.

v. The attitude of OSH among healthcare employees

Attitude is the feeling or belief about something or a way of behaving, according to the Cambridge dictionary (Cambridge Dictionaries Online, 2015). Organizational factors that influence healthcare provider attitudes include safety atmosphere and morale, work environment factors such as staffing levels, and managerial support. Other aspects of an organization's safety culture include teamwork and supervision, as well as employee factors such as overconfidence and overconfidence (Sexton et al., 2006).

vi. The practice of OSH among healthcare employees

The request for guidance and information that leads to action is referred to as practise. A good practise is an ethically practised art related to the advancement of science and technology (Bano et al., 2013).

REFERENCES

Abdul Rahim, A. H., Muhd Zaimi, A. M., & Singh, B. (2008). Causes of Accident at Construction Sites. Malaysian Journal of Civil Engineering, 20(2), 242-259.

Abdul Razak, I., Ali Hussein, Z., & Veera Pandiyan, S. (2010). Supply Chain Management Practices and Firm Performance: An Empirical Study of the Electronics Industry in Malaysia. International Journal of Technology Diffusion, 1 (3), 56-63.

Abdelhamid, T., and Everett, J (2000). Identifying Root Causes of Construction Accidents. J. Constr. Eng. Manage, 126(1), 52-60.

Adams, D. (2002). Buying Imaging Equipment on your own. Needle Stick Injuries. Birmingham. http://www.hospital.be/hospital/1212002/features/needle.html.

Aiken, L. and Sloane, D.M. (1997). Hospital Nurses' occupational Exposure to Blood: Prospective, Retrospective, and Institutional Reports. American Journal of Public Health, 00900036, Jan 97, Vol. 87, Issue 1.

Aksorn, T., & Hadikusumo, B. H. W. (2008). Critical success factors influencing safety program performance in Thai construction projects. Safety Science, *46*(4), 709–727.

Alam, M. (2002). A Research Report on Knowledge, Attitude and Practices among Health Care Employees on Needle - Stick Injuries. Annals of Saudi Medicine, 22, 5 - 6.

Alamgir, H., Cvitkovich, Y., Astrakianakis, G., Yu, S., and Yassi, A., (2008). Needle stick and other potential blood and body fluid exposures among health care employees in British Columbia, Canada. American Journal of Infection Control, 36, 12-21.

Alli, B.O. (2008). Fundamental principles of occupational safety and health (2nd Ed.).International Labour Office – Geneva: ILO.Anthony, V., Mark, P., Michael, B., & Ajay, D. (2007). A data-based evaluation of the relationship between occupational safety and operating performance. The Journal of SH & E Research. Spring, 4 (1).

Al-Kilani, F. M. (2011). Improving Safety Performance In Construction Projects In Libya (Case Study: In Tripoli City). Master Thesis, Diponegoro University Indonesia, Semarang.

Al Haadir, S., and Panuwatwanich, K. (2011). Critical success factors for safety program implementation among construction companies in Saudi Arabia. Procedia Engineering, 14, 148-155.

Anthony, V., Mark, P., Michael, B., and Ajay, D. (2007). A data -based evaluation of the relationship between occupational safety and operating performance. The Journal of SH and E Research. Spring, 4(1).

Anuar, I., Zahedi, F., Kadir, A., and Mokhtar, A. (2008a). Laboratory-acquired injuries in medical laboratory: A survey of three referral medical laboratories from year 2001 to 2005. Journal of Community Health, 14(1), 32-37.

Anuar, I., Zahedi, F., Kadir, A., and Mokhtar, A. B., (2009). Occupational Safety and Health Risk Perception among Medical Laboratory Employees in Klang Valley. Journal of Community Health 2009, 15(2), 77-82.

Ariss, S. (2003). Employee involvement to improve safety in the workplace: An ethical imperative. Mid-American Journal of Business, 18(2, 9–16.

Bain, T. (1997). Safety and health: keep it together. England: Macmillan Beer, in M. Spector, B., Lawrence, P.R., Quinn Mills, D & Walt on, R. (1984). Managing Human Assets. New York: Free Press.

Bahari, S. F. (2011). An Investigation of Safety Training, Safety Climate and SafetyOutcomes: ALongitudinal Study in a Malaysian Manufacturing Plant. Doctor Philosophy, UniversityofManchester.

Bakri, A., Mohd Zin, R., Misnan, M. S. & Mohammed, A. H. (2006). "Occupational Safety and Health Management Systems: Towards Development of Safety and Health Culture," Proceedings of the 6th Asia- Pacific Structural Engineering and Construction Conference, Malaysia, 19- 28.

Bano, R., Al-Shammari, E., Fatima, SB., & Al-Shammari, N.A. (2013). A comparative study of knowledge, attitude, practice of nutrition and non-nutrition student towards a balanced diet in Hail University. Journal of Nursing and Health Science, 2(1), 29–36.

Baruch, Y. (1999). Response rates in academic studies: a comparative analysis. Human Relations (52), 421–434.

Belassi, W., and Tukel, O.I. (1966). A new framework for determining critical success/failure factors projects. International Journal of Project Management, 14(3), 141-151.

Bergh, M. (2011). An evaluation of the safety climate at Akzo Nobel Site Stenungsund. Master Thesis, Chalmers University of Technology, Sweden, Goteberg, Sweden.

Brink, H.I. (2002). Fundamentals of Research Methodology for Health Care

Professionals. Landsdowne. Juta & Co. Ltd.

Brown, K. A., Willis, P. G., & Prussia, G. E. (2000). Predicting safe employee behaviour in the steel industry: Development and test of a sociotechnical model. Journal of Operations Management, 18, 445– 465.

Burns, N., and Grove, S. (1993). The practice of nursing research: conduct, critique and utilization (2nd ed). W.B.Saunders: Philadelphia, Pennsylvania, USA.

Cambridge Dictionaries Online. (2015). Meaning of "attitude" in the English Dictionary. Retrieved from: http://dictionary.cambridge.org/dictionary/english/attitude

Che Hassan, C. R., and Basha,O (2007). Perception of Building Construction Employees towards Safety, Health and Environment." Journal of Engineering Science and Technology, 2(3), 271-279.

Cheah, Y. J. (2007). Construction Safety and Health Factors at the Industry Level: The case of Singapore. Journal of Construction in Developing Countries, 12(2), 81-99.

Christian, M.S., Bradley, J.C., Wallace, J.C., & Burke, M.J. (2009). Workplace safety: A meta-analysis of the roles of person and situation factors. Journal of Applied Psychology, 94(5), 1103-1127.

Chua, Y. P. (2006). Research Basic Statistic (Book 1-5). McGraw-Hill (Malaysia) Sdn.Bhd.

Chua, Y.P. (2012b). Mastering Research Methods. Malaysia: McGraw-Hill.

Cheyne, A., Oliver, A., Tomas, J. M., & Cox, S. (2002). The architecture of employee attitudes to safety in the manufacturing sector. Personnel Review, 31(6), 649 – 670.

Clarke, S.P.; Sloane, D.M. and Aiken, L.H. (2002). Effects of Hospital Staffing and Organisational Climate on Needle-stick Injuries to Nurses. American Journal of Public Health, 00900036, Jul 2002, Vol.92, Issue 7 Accessed on 18/4/2019.

Clarke, S. (2006). Safety climate in an automobile manufacturing plant: The effects of work environment, job communication and safety attitudes on accidents and unsafe behaviour. Personnel Review, 35(4), 413-430.

Cohen, A., & Colligan, M. (1998). Assessing occupational safety and health

training: A literature review. Cincinnati, OH: U.S. Department of Health and Human Services, Public Health Service, Centres for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication, 98-145.

Collins, D., & Baccarini,D. (2004). Project Success- A survey. Journal of Construction Research. Journal of Construction Research 5(2), 211-231.

Colak, B., Etiler, N., & Bicer, U. (2004). Fatal Occupational Injuries in the construction sector in Kocaeli,Turkey, 1990-2001. Industrial Health, 42(4), 424-430.

Cooper, D. R., and Schindler, S.P. (2001). Business Research Methods. (7th. Ed.) New York: McGraw- Hill Companies.

Cooper, M.A. and Cotton, D. (2000). Safety training: A special case? Journal ofEuropean Industrial Training, 24(9), 481.

Cudjoe, S., F. (2011). An assessment of occupational Safety and health practices on job performance at the Tetteh Quarshie Memorial Hospital, Mampong-Akuapem. KNUST-Ghana.

Department of Employment and Workplace Relations Office of Australian

Safety and Compensation, C. (2005). Guidance on the Use of Positive Performance Indicators to Improve Workplace Safety and health. Canberra.

Desaulniers, D.R. (1991). An examination of consequence probability as a determinant of precautionary intent. Unpublished doctoral dissertation, Rice University, Houston.

Dessler, G. (2010). Human resource management: International edition, 12th edition, New Jersey: Pearson Prentice Hall.

Eaton, A. & Nocerino, T. (2000). The effectiveness of health and committees: Results of a survey of public sector workplaces. Industrial Relations, 39, 265-90.

Evelyn, A. L. T., Florence, Y. Y. L., & Adrian, F. W. C. (2005). Framework for project managers to manage construction safety. International Journal of Project Management 23(4), 329- 341.

Fang, D. P., Chen, Y., & Wong, L. (2006). Safety climate in construction industry: a case study in Hong Kong. Journal of Construction Engineering and Management, 132(6), 573-584.

Flin, R., Mearns, K., O'Connor, P., & Bryden, R. (2000). Measuring safety

climate: identifying the common features. Safety Science, 34(1-3), 177-194.

Ford, M. T., & Tetrick, L. E. (2008). Safety motivation and human resource management in North America. The International Journal of Human Resource Management, 19(8), 1472-1485.

Gallagher, C., Underhill, E., & Rimmer, M. (2001). Occupational safety and health management systems: A review of their effectiveness in securing healthy and safe workplaces.

Gemma, Z. (1998). President's Advisory commission on consumer protection and quality in the health care industry. Building the Capacity to Improve Quality. Chapter 13: Engaging the Health Care Workforce.

Glendon, A. I., Clarke, S. G., & McKenna, E. (2006). Human Safety and risk management.(2ndEd.).Boca Raton:CRCPress.

Goh, Y. M., & Chua, S. (2016). Knowledge, attitude and practices for design for safety: A study on civil & structural engineers. Accident Analysis and Prevention, 93, 260–266.

Hanrahan, A. and Reutter, L. (1997). A critical review of the literature on sharp injuries: epidemiology, management of exposures and prevention. Journal of Advanced Nursing, 1997, 25,144 - 154. Blackwell science Ltd. Canada.

Hartman, F., and Ashrafi, R.A. (2002). Project management in the information systems and information technologies industries. Project Management Journal, 33(3), 5-15.

Hartman, F., Ashrafi, R., & Jergeas, G. (1998). Project management in the live entertainment industry: what`s different? International Journal of Project Management 16(5), 269- 281.

Hasle, P., & Langaa Jensen, P. (2006). Changing the internal safety and health organisation through organisational learning and change management: Research articles. Human Factors and Ergonomics in Manufacturing, 16, 269–284.

Hassan, A., Nor Azimah, C.A., & Chandrakantan, S. (2005). Reducing workplace injury through effective management practices: Some empirical evidence from Malaysian companies. Paper presented at the 18th Asian Conference on Occupational and Environmental Health, 11 – 13 May 2005, Wellington, New Zealand.

Hofman, D. A., and Stetzer,A. (1996). A cross-level investigation of factors influencing unsafe behaviours and accidents. Personnel Psychology, 49, 307-339.

Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content specific citizenship: Safety climate as an exemplar. Journal of Applied Psychology, *88*(1), 170–178.

Hopkins,A.(2006).Studyingorganisationalculturesandtheireffectsonsafety .SafetyScience,*44*,875-889.

Huang,Y.H.,Chen,P.Y.,&Grosch,J.W(2010).Safetyclimate:Newdevelopmentsi nconceptualization, theory, and research. Accident Analysis and Prevention, *42*, 1411-1422.

Hudson, P. (2007). Implementing a safety culture in a major multi-national. Safety Science, 45(6), 697-722.

Huiskamp, A.; King, L.J. and Hattingh, S. P. (2002). The Rationale behind Workplace. Health Promotion: UNISA. African Journal of Nursing and Midwifery, June 2002, 4(1).

Hughes, P., and Ferrett, E., (2011). Introduction to Safety and health at Work 5th ed. USA: Elsevier Ltd

.

Hofmann, D. A., Morgeson, F. P., & Gerras, S. J. (2003). Climate as a moderator of the relationship between leader-member exchange and content-specific citizenship behaviour: Safety climate as an exemplar. Journal of Applied Psychology, 88(1), 170- 178.

Hsu, S.H., Lee, C.C., Wu, M.C., & Takano, K. (2007). Exploring cross-cultural differences in safety climate of oil refinery plants in Japan and Taiwan. Paper presented at the International Conference on Business and Information, 11-13 July 2007, Tokyo, Japan.

Idrus, D., Ab. Rahman, H., Ashari, H., Zaini, F., Jamil, R., & Muktar, S. N. (2004). Level of Awareness of UTM Staff on Occupational Safety and Health at the Work Place. Johor: Department of Human Resources, University of Technology Malaysia.

International Labour Organisation, 2011. World Statistic. Retrieved from http://www.ilo.org/public/english/region/eurpro/moscow/areas/safety/statistic.htm (Accessed 10th October 2019).

Iyer, K. C., and Jha,K.N. (2005). Factors affecting cost performance; evidence from Indian construction projects. . International Journal of Project Management, 23, 283-295.

Izegbu, M., Amole, O. and Ajayi, G., (2006). Attitude, perception and practice of employees in laboratories in two college of medicine and their teaching hospitals in Lagos State, Nigeria safeguards universal precaution measures. Journal of Biomedical Research, 17(1), 49-54.

Jagger, J., & Bentley, M.B. (1996). A sticky issue: Do sharp containers protect Health care employees? Materials Management in Health Care, 5(8).

Jagger, J. and Bentley, M. (1999). Protecting yourself from High -risks I.V. Devices. Nursing, 29(10), 20.

Juni MH, Aiman AM, Nabilah AA, Ng JH, Wong SJ, Ibrahim F.(2015). Perception regarding needle stick and sharp injuries among clinical year medical students. Int J Public Health Clin Sci, 2(1).

Kamarudin, N., and Roslan, M.A. (1990). Kaedah Penyelidikan: Panduan mudah kerja luar. Petaling Jaya: Fajar Bakti.

Katram, N. A., Flood, I., & Koushki, P. (2000). Construction safety in Kuwait: issues, procedures, problems and recommendations. Safety Science, 36, 163-184.

Kho, M.E., Carbone, J.M., Lucas, J., & Cook, D.J. (2005). Safety climatesurvey: Reliability of results from a multicentre ICU survey. *Quality Safety Health Care*, *14*, 273 – 278.

Kinnear, T. C., & Taylor, J. R. (1996). Marketing research an applied approach 5th edition. Mc-GrawHill.

Kriner, P. (2000). A Healthy Me. Special Report: Hospital employees. Blue Cro Blue Shield. Consumer health interactive. Retrievedfromhttp: //www. Ahealthyme .com / topic/hospital

Kuenzi, M., & Schminke, M. (2009). Assembling fragments into a lens: A review, critique, and proposed research agenda for the organizational work climate literature. Journal of Management, *35*(3), 634–717.

Latief, Y., Nugroho, Y.S., Berawi, M.A., Suraji, A., Arifuddin, R. (2011) Modeling Non-Linierity of Fall Accident Causation in Construction Project With Dynamic System Approach: Theoritical Conceptual Framework, Proceeding of The 12th International Conferene on Quality in Research, Bali 4-7 July.

Lauver, K. J. (2007). Human resource safety practices and employee injuries. Journal of Managerial Issues, 19 (3), 397-413.

Law, W.K., Chan, A.H.S., & Pun, K.F. (2006). Prioritising the safety management elements: A hierarchical analysis for manufacturing enterprises. Industrial Management & Data Systems, 106(6), 778 – 792.

Lawrence (J.D.), Barnett (2000). Safety Management Handbook: CCH Safety Professional Series. 2, 9301-9307. Health and Human Resources, Chicago,IL

Leedy, P., and Ormrod, J. (2001). Practical Research: Planning and Design. 7th Edition, Merrill Prentice Hall and SAGE Publications, Upper Saddle River, NJ and Thousand Oaks, CA.

Likert, R. (1967). The human organization: its management and values. McGraw-Hill.

Lingard, H., and Wakefield,R. (2011). The development and testing of a hierarchical measure of project OSH performance. Engineering Construction Architect Management, 18(1), 30- 49

Loewenson, R. 1998. African Newsletter on occupational Safety and health 3 / 98. Zimbabwe. Retrieved from http://www.occuphealth.file/info/an/398/an/3.html.

Logasakthi, K. & Rajagopal, K. (2013). A study on employee health, safety and welfare measures of chemical industry in the view of Salem Region. International Journal of Research in Business Management 1(1), 1-10.

Lu,C.S.,andTsai,C.L. (2007).The effects ofsafety climate onvessel accidentsin thecontainershippingcontext.Accident Analysis &Prevention, 40, 594-601.

Lubega, H. A., Kiggundu, B. M., & Tindiwensi, D. (2000). An Investigation into the causes of Accidents in the Construction Industry in Uganda. Paper presented at the 2nd International Conference on Construction in Developing Countries: Challenges Facing the Construction Industry in Developing Countries., Botswana.

Lugah, V. (2010). Training of occupational safety and health: Knowledge among healthcare professionals in Malaysia. Singapore Medical Journal, 51(7), 586-591.

Milgate, N., Innes, E., &O'Loughlin, K. (2002). Examining the effectiveness of safety and health committees and representatives: A review. Work: A Journal of Prevention, Assessment and Rehabilitation, 19, 281–290.

Min Swe, K.M., Somrongthong, R., Bhardwaj A., & Lutfi A. A. (2014). Needle sticks injury among medical students during clinical training, Malaysia. Int J Collab Res Intern Med Public Health, 6, 12-31.

Mohamed, S. (2002). Safety climate in construction site environments. Journal of Construction Engineering and Management, 128(5), 375–384.

Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2006). Predicting safety performance: a meta-analysis of safety and organisational constructs. Paper presented at the 21st Annual SIOP Conference, Dallas, Texas.

Narayanan, S. (2013). Knowledge, Attitude and Practice on Occupational Safety and Health among Medical Laboratory Personnel in Hospital Raja Permaisuri Bainun Ipoh- Impact of Intervention [Scholarly project]. In Http://eprints.utar.edu.my/905/1/BM-2013-1000038-2.pdf.

Neal, A., Griffin, M.A., & Hart, P.M. (2000). The impact of organisational climate on safety climate and individual behaviour. Safety Science, 34(1-3), 99-109.

Nguyen, L. D., Ogunluna, S. O., &Lan, D. T. X. (2004). A study on project success factor in large construction projects in Vietnam. Engineering, Construction and Architectural Management 11(6), 404-413.

Nichols T., Walters, D. & Tafsiran A. (2007). Trade Unions, Institutional Mediation and Industrial Safety: Evidence from the UK. Journal of Industrial Relations, 49(2), 211-225.

Norusis, M. J. (1999a). SPSS regression model 10: Prentice Hall.

Official Website Department of Occupational Safety and Health - MAIN. Free statistics.(n.d.). http://www.dosh.gov.my/.

Onibokun, C. A., Akinboro, A. A., Adejumo, O. P. & Olowokere, E. A. (2012). Community health care employees' risk perception of occupational exposure to HIV in Ibadan, South-west Nigeria. Afr J Prm Healthcare Fam Med, 4(1), 1-9.

Oulton, J.A. (2000). Reducing the impact of HIV/AIDS on Nursing and Midwifery Personnel. Geneva. ICN.

Onowhakpor, A. O., Abusu, G. O., Adebayo, B., Esene, H. A., & Okojie, O. H. (2017). Determinants of Occupational Safety and health: Knowledge, Attitude, and Safety Practices toward Occupational Hazards of Sawmill Workers in Egor Local Government Area, Edo State. African Journal of Medical andHealth Sciences, 16(1), 58–58.

Orji, E.O., Fasubaa, O.B., Onwudiegwu, U., Dare, F.O. & Ogunniyi, S.O.

(2002). Occupational health hazards among health care employees in an obstetrics and gynaecology unit of a Nigerian teaching hospital. Journal of Obstetrics and Gynaecology, 22(1), 75-78. Nigeria. Taylor & Francis Limited.

Pipitsupaphol, T., & Watanabe, T. (2000). Identification of Root Causes of Labor Accidents in the Thai Construction Industry. Paper presented at the 4th Asia Pacific Structural Engineering and Construction Conference (APSEC 2000), Kuala Lumpur.

Polit, D.F., & Hungler, B.P. (1991). Nursing research principles and methods, 4th ed. Philadelphia: JB Lippincott.

Polit, D.F., Beck, C.T. and Hungler, B.P. (2001). Essentials of Nursing Research. Methods, Appraisal, and utilization. New York. Lippincott.

Pruss-Ustun A, Rapiti E, Hutin Y. (2003). Sharp's injuries: global burden of disease from sharps injuries to health-care employees. WHO Environmental Burden of Disease Series, No. 3. Geneva (Switzerland): World Health Organisation; 2003.

Pruss-Ustun, A., Rapiti, E., & Hutin, Y. (2005). Estimation of the global burden of disease attributable to contaminated sharp injuries among health-care employees. American Journal of Industrial Medicine, 48, 482-490.

Rampal, L., Zakariah, R., Sook, L. W. and Zain, A. (2010). Needle Stick and Sharps Injuries and Factors Associated Among Healthcare Employees in Malaysian Hospital. European Journal of Social Science, 13(3), 354-360.

Rowlinson, S. (2003). Hong Kong construction: Safety management and law, 2nd Ed. Hong Kong: Sweet and Maxwell Asia.

Sass, R. (1986). Workplace safety and health: report from Canada. International Journal of Health Services, 16 (4) 565-582 Ynze, Van Houten (Eds). (2012). Safety at work. Saxion research centre design and technology. Enscheda, the Netherlands.

Saksvik, P. O. & Quinlan, M. (2003). "Regulating Systematic Occupational Safety and Health Management: Comparing the Norwegian and Australian Experience," Industrial Relations, 58(1), 33-59.

Sattler, B., & Lippy, B. (1997, May 23). Hazard communication: A review of the science underpinning the art of communication for safety and health. Retrieved from http://www.osha.gov/SLTC/hazardcommunications/hc2inf2.html.

Saunders, M., Lewis, P. and Thornhill, A. (2009) Research Methods for Business Students. Pearson, New York.

Sekaran, U. (2000). Research methods for business. A skill-building approach.

New York: John Wiley and Sons.

Seo, D. C. (2005). An explicate model of unsafe work behaviour. Safety Science, 43, 187-211.

Sexton JB, Helmreich RL, Neilands TB, Rowan K, Vella K, Boyden J, Roberts PR, Thomas EJ. (2006). The Safety Attitudes Questionnaire: psychometric properties, benchmarking data, and emerging research. BMC Health Service Research, 6(44).

Simard, M., & Marchand, A. (1994). Tile behaviour of first-line supervisors in accident prevention and effectiveness in occupational safety. Safety Science, 17, 169-185.

Singla, A. K., Kitch, B. T., Weissman, J. S., & Campbell, E. G. (2006, September). Assessing patient safety culture: A review and synthesis of the measurement tools. Journal of PatientSafety, *2*(3), 105 – 115.

Smith, S. (2003). The top 10 ways to improve safety management. Occupational Hazards, 65(12), 33–36.

Soehod, K., & Lekha, L. K. P. (2007). Law on safety and health in Malaysia. Project Report Universiti Teknologi Malaysia. Stranks, J. (2000). The handbook of safety and health practice. 5th Edition. London:bPrentice Hall.

Steiler, C.B., Burns, M., Sander-Buscemi, K., Morsi, D., & Grunwald, E.

(2003). Use of Evidence for Prevention of work-Related Musculoskeletal injuries. Orthopaedic Nursing: Jan/Feb 2003, 22 (1), 32.

Subach, B.R. (2000). Back care for Nurses. USA. New York. Retrieved from http://www.spineuniverse.com/displayarticle.php/article1509.html.

Tam, C. M., Zeng, S. X., & Z.M., D. (2004). Identifying Elements of Poor Construction Safety Management in China. . Safety Science 1, 569-586.

Thomas, T. L. (1999). Evaluation of training technique as a means of influencing safetyknowledge, risk perception and proper respirator donning ability among respiratory protection users. Master Thesis. Faculty of the Virginia Polytechnic Institute and StateUniversity. Retrieved from http://scholar.lib.vt.edu/theses/available/etd-102599 151953/unrestricted/TraciThomas.pdf

Toole, T.M. (2002). Construction site safety roles. Journal of Construction Engineering and Management, 128(3), 203–210.

Trim JC &Elliot TS (2003). A review of sharps injuries and preventative strategies. J Hosp Infect 53, 237–242.

Vinodkumar, M.N., & Bhasi, M. (2010). Safety management practices andsafety behaviour: Assessing the mediating role of safety knowledge and motivation. Accident Analysis and Prevention, 42, 2082-2093.

Vlok, M.E. (1996). Manual of Community Nursing. Communicable Diseases. Kenwyn. Juta & Co. Ltd.

Von Thaden, T.L., Wiegmann, D.A., Mitchell, A.A., Sharma, G., & Zhang, H. (2003). Safety culture in a regional airline: Results from a commercial aviation safety survey.Paperpresented at the 12th International Symposium on Aviation Psychology, Dayton, OH.

Vredenburgh, A. G. (2002). Organisational safety: Which management practices are most effective in reducing employee injury rates? Journal of Safety Research, 33, 259-276.

Wadsworth, E. J. K., and Smith, A. P. (2009). Safety culture, advice and performance. Policy and Practice in Safety and health 2, 7(1).

Wales, W. C. N. S. (2001). Safety meter positive performance measurement tool. Sydney: Work Cover NSW.

Wang, H., Kristopher, F., Guoping, H.; Burgess, J. & Williams, A.B. (2003). A training program for prevention of occupational exposure to blood-borne pathogens: Impact on knowledge, behaviour and incidence of needle stick injuries among student nurses in Changsha, People's R. Blackwell Publishing. Journal of Advanced Nursing, Jan 2003, 41(187), 8.

Wehmeier, S. (2000). Oxford Advanced Learners' Dictionary of Current English. New York. Oxford University Press

Yule, S., Flin, R., & Murdy, A. (2007). The role of management and safety climate in preventing risk-taking at work. International Journal of Risk Assessment and Management, 7(2), 137-151.

Zacharatos, A., Barling, J., & Iverson, R. D. (2005). High-performance work systems and occupational safety. Journal of Applied Psychology, 90(1), 77-93.

Zhang, H., Wiegmann, D. A., & Von Thaden, T. L. (2002). Safety culture: A concept in chaos? Paper presented at the Annual Meeting of the Human Factors and Ergonomics Society, Santa Monica, CA, Santa Monica, CA.

Zigmund, W. G. (2000). Business research methods. Ohio: South Western.

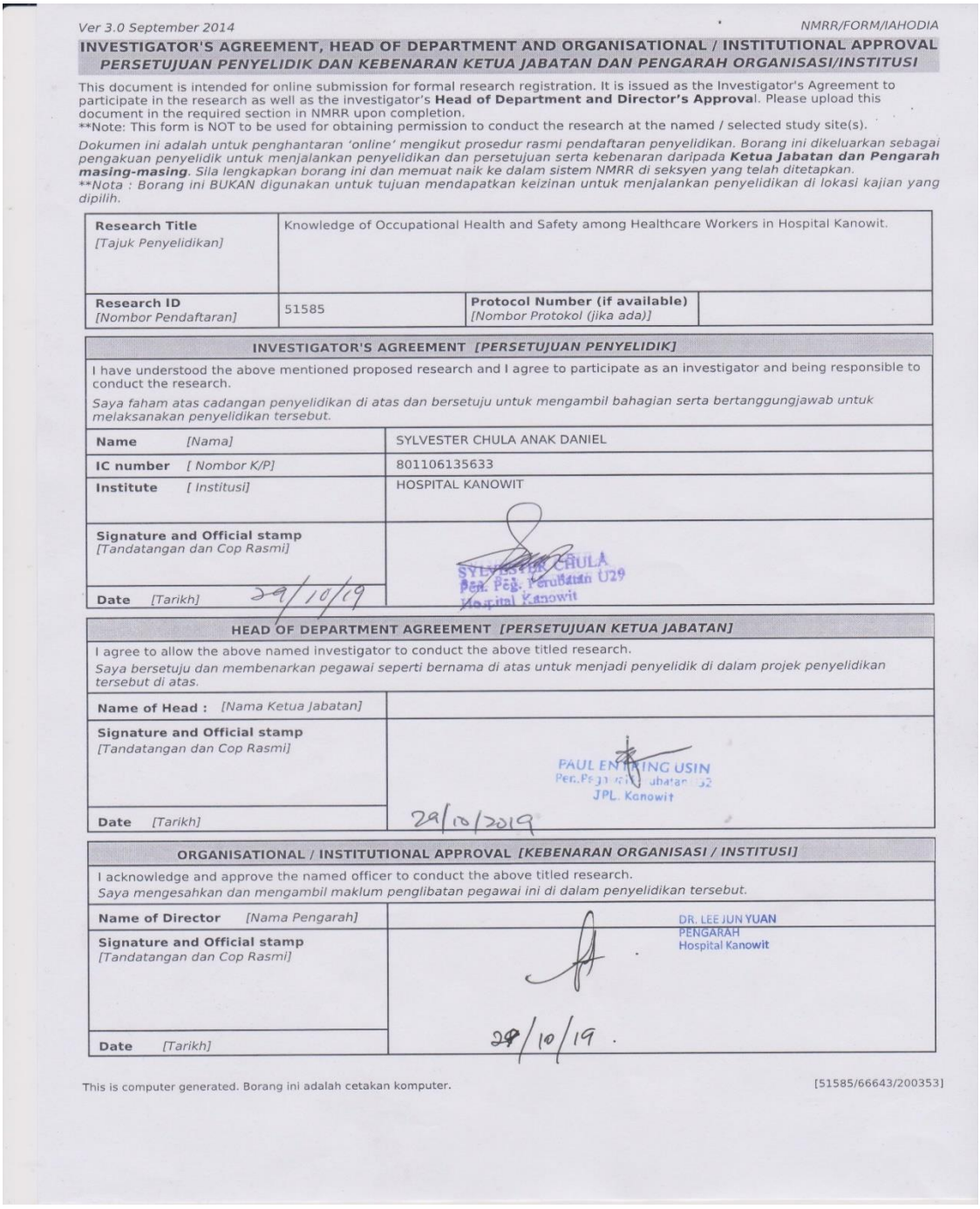
Zulkarnain, Z., and Hishamuddin, M.S. (2001). Analisis Data Menggunakan SPSS Windows. Johor: Universiti Teknologi Malaysia.

Zohar, D. (2000). A Group-level Model of Safety Climate: Testing the Effect of Group Climate on Micro-accidents in Manufacturing Jobs. Journal of Applied Psychology, 85, 587-596.

APPENDICES

Appendix A

Permission to Conduct Research at Kanowit Hospital



Ver 3.0 September 2014 *NMRR/FORM/IAHODIA*

INVESTIGATOR'S AGREEMENT, HEAD OF DEPARTMENT AND ORGANISATIONAL / INSTITUTIONAL APPROVAL
PERSETUJUAN PENYELIDIK DAN KEBENARAN KETUA JABATAN DAN PENGARAH ORGANISASI/INSTITUSI

This document is intended for online submission for formal research registration. It is issued as the Investigator's Agreement to participate in the research as well as the investigator's **Head of Department and Director's Approva**l. Please upload this document in the required section in NMRR upon completion.
**Note: This form is NOT to be used for obtaining permission to conduct the research at the named / selected study site(s).

*Dokumen ini adalah untuk penghantaran 'online' mengikut prosedur rasmi pendaftaran penyelidikan. Borang ini dikeluarkan sebagai pengakuan penyelidik untuk menjalankan penyelidikan dan persetujuan serta kebenaran daripada **Ketua Jabatan dan Pengarah masing-masing**. Sila lengkapkan borang ini dan memuat naik ke dalam sistem NMRR di seksyen yang telah ditetapkan.*
***Nota : Borang ini BUKAN digunakan untuk tujuan mendapatkan kelzinan untuk menjalankan penyelidikan di lokasi kajian yang dipilih.*

Research Title *[Tajuk Penyelidikan]*	Knowledge of Occupational Health and Safety among Healthcare Workers in Hospital Kanowit.		
Research ID *[Nombor Pendaftaran]*	51585	**Protocol Number (if available)** *[Nombor Protokol (jika ada)]*	

INVESTIGATOR'S AGREEMENT *[PERSETUJUAN PENYELIDIK]*

I have understood the above mentioned proposed research and I agree to participate as an investigator and being responsible to conduct the research.
Saya faham atas cadangan penyelidikan di atas dan bersetuju untuk mengambil bahagian serta bertanggungjawab untuk melaksanakan penyelidikan tersebut.

Name *[Nama]*	SYLVESTER CHULA ANAK DANIEL
IC number *[Nombor K/P]*	801106135633
Institute *[Institusi]*	HOSPITAL KANOWIT
Signature and Official stamp *[Tandatangan dan Cop Rasmi]*	SYLVESTER CHULA Pen. Peg. Perubatan U29 Hospital Kanowit
Date *[Tarikh]*	29/10/19

HEAD OF DEPARTMENT AGREEMENT *[PERSETUJUAN KETUA JABATAN]*

I agree to allow the above named investigator to conduct the above titled research.
Saya bersetuju dan membenarkan pegawai seperti bernama di atas untuk menjadi penyelidik di dalam projek penyelidikan tersebut di atas.

Name of Head : *[Nama Ketua Jabatan]*	
Signature and Official stamp *[Tandatangan dan Cop Rasmi]*	PAUL EN[illegible]ING USIN Per.Pe[illegible] Jabatan U32 JPL. Kanowit
Date *[Tarikh]*	29/10/2019

ORGANISATIONAL / INSTITUTIONAL APPROVAL *[KEBENARAN ORGANISASI / INSTITUSI]*

I acknowledge and approve the named officer to conduct the above titled research.
Saya mengesahkan dan mengambil maklum penglibatan pegawai ini di dalam penyelidikan tersebut.

Name of Director *[Nama Pengarah]*	DR. LEE JUN YUAN PENGARAH Hospital Kanowit
Signature and Official stamp *[Tandatangan dan Cop Rasmi]*	
Date *[Tarikh]*	29/10/19

This is computer generated. Borang ini adalah cetakan komputer. [51585/66643/200353]

Appendix B

Ethical Approval from Ministry of Health, Malaysia

JAWATANKUASA ETIKA & PENYELIDIKAN PERUBATAN
(Medical Research & Ethics Committee)
KEMENTERIAN KESIHATAN MALAYSIA
d/a Kompleks Institut Kesihatan Negara
Blok A, No 1, Jalan Setia Murni U13/52,
Seksyen U13, Bandar Setia Alam,
40170 Shah Alam, Selangor.
Tel: 03-3362 8888/8205

Ref : KKM/NIHSEC/ P19-2566 (6)
Date: 31-December-2019

SYLVESTER CHULA ANAK DANIEL
HOSPITAL KANOWIT

Dear Sir/ Mdm,

ETHICS INITIAL APPROVAL: NMRR-19-3082-51585 (IIR)
KNOWLEDGE OF OCCUPATIONAL HEALTH AND SAFETY AMONG HEALTHCARE WORKERS IN HOSPITAL KANOWIT.

This letter is made in reference to the above matter.

2. The Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (MOH) has provided ethical approval for this study. Please take note that all records and data are to be kept strictly **CONFIDENTIAL** and can only be used for the purpose of this study. All precautions are to be taken to maintain data confidentiality. Permission from the District Health Officer / Hospital Administrator / Hospital Director and all relevant heads of departments / units where the study will be carried out must be obtained prior to the study. You are required to follow and comply with their decision and all other relevant regulations, including the Access to Biological and Benefit Sharing Act 2017.

3. The investigators and study sites involved in this study are:

HOSPITAL KANOWIT
Sylvester Chula Anak Daniel (Principal Investigator)

4. The following study documents have been received and reviewed with reference to the above study:

Documents received and reviewed with reference to the above study:

1. Study Protocol_Version 3, dated 20-December-2019
2. Participation Information Sheet & Informed Consent Form (English)_Version 4, dated 20-December-2019
3. Participation Information Sheet & Informed Consent Form (Malay)_Version 1, dated 20-December-2019
4. Questinnaire_Version 2, dated 20-December-2019
5. Investigator's documents : Declaration of Conflict of Interest (COI), IA-HOD-IA, and CV:
   a) Sylvester Chula Anak Daniel (Principal Investigator)

5. Please note that ethical approval is valid until **30-December-2020**. The following are to be reported upon receiving ethical approval. Required forms can be obtained from the Medical Research Ethics Committee (MREC) website (http://www.nih.gov.my/mrec).
   I. **Continuing Review Form** has to be submitted to MREC within 2 month (60 days) prior to the expiry of ethical approval.
   II. **Study Final Report** upon study completion to the MREC.
   III. Ethical approval is required in the case of **amendments / changes** to the **study documents/ study sites/ study team**. MREC reserves the right to withdraw ethical approval if changes to study documents are not completely declared.

KKM/NIHSEC/ P19-2566 (6)

6. This study involves the following methods:

    I. **Questionnaire**

7. Please take note that the reference number for this letter must be stated in all correspondence related to this study to facilitate the process.

Comments (if any): **NIL**

Project Sites:
HOSPITAL KANOWIT

Decision by Medical Research & Ethics Committee:
(√) Approved
( ) Disapproved

Date of Approval : 31-December-2019

DR HJH SALINA ABDUL AZIZ
Chairperson
Medical Research & Ethics Committee
Ministry of Health Malaysia
MMC No: 27117

s.k. HRRC Hospital Sibu, Sarawak

KY/Approval/2019/Mrecshare

Appendix C

Questionnaire of the study

STUDY ON KNOWLEDGE OF OCCUPATIONAL SAFETY AND HEALTH AMONG HEALTHCARE EMPLOYEES IN KANOWIT HOSPITAL- SURVEY FORM

KAJIAN TAHAP PENGETAHUAN KESELAMATAN DAN KESIHATAN PEKERJAAN DI KALANGAN PEKERJA- PEKERJA KESIHATAN DI KANOWIT HOSPITAL

Thank you for consider to participate in this survey. Without your participation, the valuable information generated from this investigation would not be possible. There are no risks involves and you are under no obligation to participate in this research and should feel free to decline. Your participation will be anonymous and all information will be kept confidential.

Terima kasih kerana mengambil bahagian dalam kajian ini. Tanpa sokongan anda, informasi bermanfaat ini tidak mungkin diperolehi. Tiada risiko yang terlibat dan anda tidak dipaksa untuk mengambil bahagian dalam kajian ini. Informasi dan penglibatanan anda dalam kajian ini akan dirahsiakan.

Part A: Respondent's Background Information

Bahagian A: Informasi latarbelakang responden

Designation / Pekerjaan ☐

Unit ☐

Please tick (√) at appropriate column.

Sila tandakan (√) pada petak yang sesuai.

Age/ Umur ☐ Male ☐ Female ☐

Qualification Phd/ Master ☐ Degree ☐ Diploma ☐

Certificate/ Sijil ☐

Experience/ Pengalaman (Years/ Tahun)

0-1 ☐

1-4 ☐

5-9 ☐

10-14 ☐

15 above ☐

Feedback questionnaires Part B- Personal Protective Equipment (PPE)

Soal Selidik Bahagian B- Peralatan Perlindungan Peribadi (PPP)

Strongly disagree Sangat Tidak Setuju	Disgree Tidak Setuju	Neutral	Agree Setuju	Strongly agree Sangat Setuju
1	2	3	4	5

NO	Question/ Soalan	Scale
1	The personal protective equipment (i.e gloves, face mask, etc) for my job is always available. Peralatan Perlindungan Peribadi (PPP) seperti sarung tangan, kacamata, topeng muka dan peralatan lain bagi tugas saya boleh diperolehi sentiasa.	
2	I always wear my PPE even in busy situation. Saya sentiasa gunakan PPP walaupun dalam keadaan sibuk.	
3	Safety and health is a high priority when I am performing my job. Saya memberi keutamaan kepada keselamatan dan kesihatan semasa menjalankan tugas saya.	
4	If I saw another employee committing an unsafe practice without PPE, I would say something directly to him or her. Saya akan menegur secara terus jika mendapati ada kakitangan yang melakukan perbuatan yang tidak selamat.	
5	I don't handle any patient's specimen without wearing a glove. Saya tidak mengendalikan specimen pesakit tanpa memakai sarung tangan.	
6	I don't handle any chemicals without referring to the Material Safety Data Sheet (MSDS). Saya tidak menggunakan bahan kimia tanpa merujuk kepada Material Safety Data Sheet (MSDS).	

Feedback questionnaires Part C- Employer- Employee Safety and Health Responsibility

Soal Selidik Bahagian C- Tanggungjawab bersama Pekerja dan Majikan ke atas Keselamatan dan Kesihatan Pekerja

Strongly disagree Sangat Tidak Setuju	Disagree Tidak Setuju	Neutral	Agree Setuju	Strongly agree Sangat Setuju
1	2	3	4	5

NO	Question/ Soalan	Scale
7	My supervisor / department conduct frequent and effective safety meetings. Penyelia/ Jabatan sentiasa mengadakan mesyuarat keselamatan dan kesihatan berkesan.	
8	My supervisor often observes my work practices for the purpose of protecting my safety and health. Penyelia sentiasa memerhatikan perjalanan kerja saya bagi memastikan keselamatan dan kesihatan saya terjamin.	
9	I report every workplace injury or illness to my supervisor or safety officers regardless of severity. Saya membuat aduan tentang semua kecederaan dan penyakit kepada	

	penyelia atau pegawai keselamatan tanpa mengambil kira tahap keseriusan.	
10	When my supervisor is not around, I know whom to contact in case of emergency. Saya tahu pihak yang perlu dihubungi sekiranya berlaku kecemasan semasa ketiadaan penyelia.	
11	I always attend safety and health campaign/ courses conducted by my department. Saya sentiasa mengambil bahagian dalam kempen atau kursus keselamatan dan kesihatan yang dianjurkan oleh jabatan saya.	
12	In case I fall sick, I need to report to my supervisor. Sekiranya saya jatuh sakit, saya perlu maklumkannya kepada penyelia.	

Strongly disagree Sangat Tidak Setuju	**Disagree Tidak Setuju**	**Neutral**	**Agree Setuju**	**Strongly Agree Sangat Setuju**
1	**2**	**3**	**4**	**5**

NO	**Question/ Soalan**	**Scale**
13	Safe operating procedures for using equipment/ machines are reviewed and revised as necessary. Panduan keselamatan untuk penggunaan peralatan/mesin dikaji semula apabila diperlukan.	
14	My organisation considers employees to be valuable assets who should be protected from workplace hazards. Organisasi saya mempertimbangkan pekerja sebagai aset berharga yang perlu dilindungi daripada bahaya di tempat kerja.	
15	Employees are recognised and rewarded for working safely. Pekerja dikenal pasti dan diberi ganjaran kerana bekerja dengan selamat.	
16	Employees are encouraged to speak out when they have concerns about safety and health issues. Pekerja digalakkan untuk menyuarakan ketidak puasan apabila isu keselamatan dan kesihatan adalah membimbangkan.	
17	For a safety programme to succeed, employee- management participation and support is critical. Untuk memastikan program kesedaran keselamatan berjaya, penyertaan dan sokongan daripada pekerja dan pihak pengurusan adalah kritikal.	
18	Safety and health campaign is an effective way to promote and educate employees. Kempen kesedaran keselamatan dan kesihatan adalah satu cara berkesan untuk menggalakkan dan memupuk kesedaran keselamatan di kalangan pekerja.	

Feedback questionnaires Part D- Functions of Safety and health Committee (HSC)

Soal Selidik Bahagian D- Fungsi Jawatankuasa Keselamatan dan Kesihatan Pekerja (JKKP)

Strongly Disagree Sangat Tidak Setuju	**Disagree Tidak Setuju**	**Neutral**	**Agree Setuju**	**Strongly Agree Sangat Setuju**
1	**2**	**3**	**4**	**5**

NO	**Question/ Soalan**	**Scale**
19	Safety and health Committee (HSC) in my department conducts regular safety	

	audits. Jawatankuasa Keselamatan dan Kesihatan Pekerja (JKKP) di jabatan saya kerap menjalankan audit keselamatan.	
20	I like to participate/ support all activities carry out by HSC. Saya suka melibatkan diri/ memberi kerjasama dalam aktiviti yang dijalankan oleh JKKP.	
21	The membership in HSC should get renewed every year in order to everyone's participation. Keahlian JKKP perlu diperbaharui setiap tahun agar semua pekerja melibatkan diri.	
22	In order to be an active and effective body, HSC should accept and consider employees opinion and suggestions. Bagi memastikan JKKP berfungsi dengan aktif dan berkesan, ia harus menerima dan mempertimbangkan pendapat dan cadangan pekerja.	

Feedback questionnaires Part E- Employee- Knowledge in Occupational Safety and health

Soal Selidik Bahagian E- Pengetahuan Keselamatan dan Kesihatan Pekerja

Strongly Disagree Sangat Tidak Setuju	**Disagree Setuju**	**Neutral**	**Agree Setuju**	**Strongly Agree Sangat Setuju**
1	**2**	**3**	**4**	**5**

NO	**Question/ Soalan**	**Scale**
23	Fire drill often conducted as schedule. Latihan kebakaran dijalankan seperti dijadualkan.	
24	Patient's sample may contain pathogenic microorganisms. Sampel pesakit mungkin mengandungi mikroorganisma.	
25	Carcinogens are substances that can cause cancer. Karsinogen merupakan bahan yang boleh mengakibatkan kanser.	
26	Laboratory hazards vary according to the samples, equipment used and the environment. Bahaya makmal berbeza mengikut sampel.	
27	Worker's safety and welfare protected by Occupational Safety and health Act 1994. Keselamatan dan kebajikan pekerja dilindungi oleh Akta Keselamatan dan Kesihatan Pekerjaan 1994.	
28	There is specific Occupational Safety and Health Act available to protect medical personnel. Ada Akta Keselamatan dan Kesihatan khas untuk melindungi pekerja kesihatan.	
29	NIOSH (National Institute of Occupational Safety and Health) responsible to provide training, consultation and information in the area of OSH. Institut Keselamatan dan Kesihatan Pekerja Negara (NIOSH) bertanggungjawab untuk menyediakan latihan, rundingan dan informasi yang berkaitan dengan keselamatan dan kesihatan pekerjaan.	
30	A hazard is a situation that poses a level of threat to life, health, property, or environment. Bahaya adalah satu situasi yang mengancam nyawa, kesihatan, harta benda atau persekitaran.	

Appendix D

Designations of Respondents

DESIGNATION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Autoclave Operator	1	.6	.6	.6
	Doktor	7	4.3	4.3	4.9
	Juru X- ray	1	.6	.6	5.6
	Juru X-Ray	1	.6	.6	6.2
	Jurupulih Perubatan Carakerja U29	1	.6	.6	6.8
	Jurupulih Perubatan Fisioterapi	2	1.2	1.2	8.0
	Jururawat Masyarakat	30	18.5	18.5	26.5
	Jururawat terlatih	1	.6	.6	27.2
	Jururawat Terlatih	55	34.0	34.0	61.1
	Juruteknologi makmal	4	2.5	2.5	63.6
	Juruteknologi Makmal	4	2.5	2.5	66.0
	Pegawai Farmasi	6	3.7	3.7	69.8
	Pembantu Awam	5	3.1	3.1	72.8
	Pembantu Perawatan Kesihatan	23	14.2	14.2	87.0
	Pembantu Tadbir	1	.6	.6	87.7
	Pen Pegawai Farmasi	7	4.3	4.3	92.0
	Pen Pegawai Perubatan	12	7.4	7.4	99.4
	Pen Pegawai Peubatan	1	.6	.6	100.0
	Total	**162**	**100.0**	**100.0**	

Appendix E

SPSS Output- Survey Instrument Reliability Test

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.902	4

Item Statistics

	Mean	Std. Deviation	N
PPE	4.2250	.51661	20
EEESHRespon	4.0542	.47239	20
FunctHSCommittee	4.0125	.46222	20
EmployeeKnowledge	4.1438	.45211	20

Item-Total Statistics

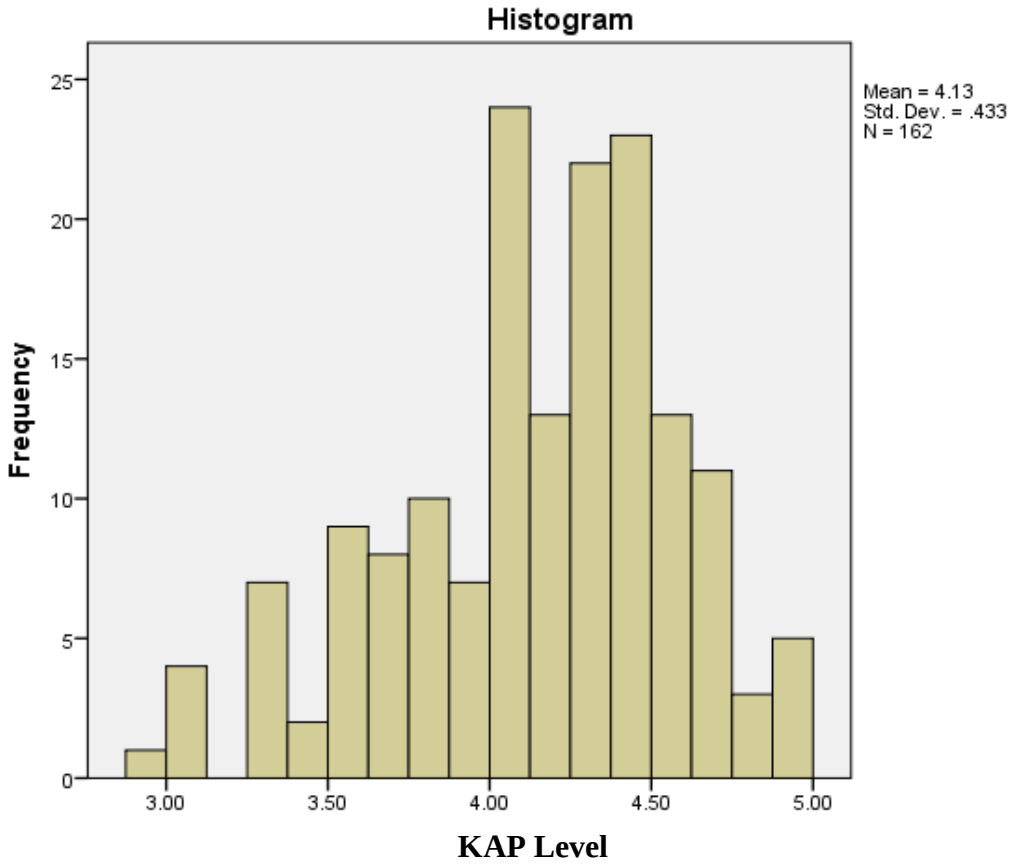
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PPE	12.2104	1.637	.685	.913
EEESHRespon	12.3813	1.651	.771	.878
FunctHSCommittee	12.4229	1.667	.779	.875
EmployeeKnowledge	12.2917	1.573	.910	.829

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.4354	2.810	1.67637	4

Appendix F

SPSS OUTPUT –Normality Test: Histogram, Skewness and Kurtosis



Descriptive				
			Statistic	Std. Error
KAP Level	Mean		4.1342	.03403
	95% Confidence Interval for Mean	Lower Bound	4.0670	
		Upper Bound	4.2014	
	5% Trimmed Mean		4.1495	
	Median		4.1823	
	Variance		.188	
	Std. Deviation		.43319	
	Minimum		2.96	
	Maximum		4.93	
	Range		1.97	
	Interquartile Range		.52	
	Skewness		**-.559**	.191
	Kurtosis		**-.053**	.379

Appendix G

SPSS OUTPUT- Computation of Frequency and Percent for Demographic Backgrounds of the Healthcare Employees

EXPERIENCE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LESS THAN 1 YEAR	2	1.2	1.2	1.2
	1 - 4 YEARS	14	8.6	8.6	9.9
	5 - 9 YEARS	44	27.2	27.2	37.0
	10 - 14 YEARS	40	24.7	24.7	61.7
	15 YEARS AND ABOVE	62	38.3	38.3	100.0
	Total	162	100.0	100.0	

GENDER					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	42	25.9	25.9	25.9
	FEMALE	120	74.1	74.1	100.0
	Total	162	100.0	100.0	

AGE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 29 YEARS	22	13.6	13.6	13.6
	30 - 39 YEARS	68	42.0	42.0	55.6
	40 - 49 YEARS	51	31.5	31.5	87.0
	50 YEARS AND ABOVE	21	13.0	13.0	100.0
	Total	162	100.0	100.0	

QUALIFICATION					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	CERTIFICATE	64	39.5	39.5	39.5
	DIPLOMA	80	49.4	49.4	88.9
	BACHELOR DEGREE	18	11.1	11.1	100.0
	Total	162	100.0	100.0	

Appendix H

SPSS OUTPUT- Computation of Mean and Standard Deviation for Level of Knowledge on Occupational Safety and health among Healthcare Employees

Descriptive Statistics				
	N	Mean	Std. Deviation	Variance
ITEM 1	162	4.3210	.73640	.542
ITEM 2	162	3.9444	.77420	.599
ITEM 3	162	4.4506	.59032	.348
ITEM 4	162	4.1543	.68317	.467
ITEM 5	162	4.3457	1.02346	1.047
ITEM 6	162	4.2716	.89182	.795
PPE	162	4.2479	.52908	.280
Valid N (list wise)	162			

Descriptive Statistics				
	N	Mean	Std. Deviation	Variance
ITEM 7	162	3.8025	.75461	.569
ITEM 8	162	3.9136	.79122	.626
ITEM 9	162	3.9259	.73557	.541
ITEM 10	162	4.1173	.62441	.390
ITEM 11	162	3.8642	.76008	.578
ITEM 12	162	4.3333	.63049	.398
ITEM 13	162	4.3086	.64301	.413
ITEM 14	162	4.2901	.85380	.729
ITEM 15	162	3.6481	.92227	.851
ITEM 16	162	4.3827	.71485	.511
ITEM 17	162	4.2778	.83592	.699
ITEM 18	162	4.4630	.70613	.499
EEESHRespon	162	4.1106	.47221	.223
Valid N (list wise)	162			

(Continued): SPSS OUTPUT- Computation of Mean and Standard Deviation for Level of Knowledge on Occupational Safety and health among Healthcare Employees

Descriptive Statistics				
	N	Mean	Std. Deviation	Variance
ITEM 19	162	3.7531	.81950	.672
ITEM 20	162	3.8704	.69728	.486
ITEM 21	162	3.9444	.70711	.500
ITEM 22	162	4.3580	.74448	.554
FunctHSCommittee	162	3.9815	.55487	.308
Valid N (list wise)	162			

Descriptive Statistics				
	N	Mean	Std. Deviation	Variance
ITEM 23	162	4.5494	.59032	.348
ITEM 24	162	3.8395	.67717	.459
ITEM 25	162	3.8765	.72030	.519
ITEM 26	162	4.0247	.74726	.558
ITEM 27	162	4.3519	.71776	.515
ITEM 28	162	4.4321	.67683	.458
ITEM 29	162	4.1852	.71560	.512
ITEM 30	162	4.3148	.61525	.379
Employee Knowledge	162	4.1968	.41254	.170
Valid N (list wise)	162			

Descriptive Statistics				
	N	Mean	Std. Deviation	Variance
PPE	162	4.2479	.52908	.280
EEESHRespon	162	4.1106	.47221	.223
FunctHSCommittee	162	3.9815	.55487	.308
Employee Knowledge	162	4.1968	.41254	.170
OVERALL knowledge	162	4.1342	.43319	.188
Valid N (list wise)	162			

Appendix I

SPSS OUTPUT –One Way ANOVA for the Knowledge of Healthcare Employees on Occupational Safety and Health with Their Education Level

	N	Mean	Std. Deviation	Std. Error
CERTIFICATE	64	4.2046	.38884	.04860
DIPLOMA	80	4.1141	.45030	.05035
BACHELOR DEGREE	18	3.9734	.47608	.11221
Total	162	4.1342	.43319	.03403

	95% Confidence Interval for Mean		Minimum	Maximum
	Lower Bound	Upper Bound		
CERTIFICATE	4.1075	4.3017	3.00	4.93
DIPLOMA	4.0139	4.2143	2.96	4.93
BACHELOR DEGREE	3.7366	4.2101	3.27	4.74
Total	4.0670	4.2014	2.96	4.93

Test of Homogeneity of Variances			
OVERALL knowledge			
Levene Statistic	df1	df2	Sig.
1.410	2	159	.247

ANOVA					
OVERALL knowledge					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.815	2	.408	2.204	.114
Within Groups	29.397	159	.185		
Total	30.212	161			

Appendix J

SPSS OUTPUT – T- Test for the Knowledge of Healthcare Employees on Occupational Safety and Health with Their Length of Service (Junior and Senior)

Group Statistics					
	EXPERIENCE JUNIOR OR SENIOR	N	Mean	Std. Deviation	Std. Error Mean
OVERALL knowledge	JUNIOR	60	3.9873	.50938	.06576
	SENIOR	102	4.2206	.35666	.03532

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
OVERALL knowledge	Equal variances assumed	17.422	.000
	Equal variances not assumed		

Independent Samples Test

		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
OVERALL knowledge	Equal variances assumed	-3.418	160	.001	-.23326	.06825	-.36805	-.09847
	Equal variances not assumed	-3.125	93.400	.002	-.23326	.07464	-.38148	-.08504

Descriptive

OVERALL knowledge

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
20 - 29 YEARS	22	3.8698	.59777	.12744	3.6048	4.1348	2.96	4.72
30 - 39 YEARS	68	4.1385	.43879	.05321	4.0323	4.2447	3.09	4.93
40 - 49 YEARS	51	4.2302	.33149	.04642	4.1370	4.3234	3.29	4.93
50 YEARS AND	21	4.1642	.33808	.07378	4.0103	4.3181	3.58	4.74
Total	162	4.1342	.43319	.03403	4.0670	4.2014	2.96	4.93

Appendix K

SPSS OUTPUT – One Way ANOVA for the Knowledge of Healthcare Employees on Occupational Safety and Health With Their Age

Tukey HSD

(I) AGE	(J) AGE	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
20 - 29 YEARS	30 - 39 YEARS	-.26869	.10359	.050	-.5377	.0003
	40 - 49 YEARS	-.36040*	.10773	.006	-.6401	-.0807
	50 YEARS AND ABOVE	-.29439	.12885	.106	-.6290	.0402
30 - 39 YEARS	20 - 29 YEARS	.26869	.10359	.050	-.0003	.5377
	40 - 49 YEARS	-.09171	.07824	.645	-.2949	.1114
	50 YEARS AND ABOVE	-.02571	.10544	.995	-.2995	.2481
40 - 49 YEARS	20 - 29 YEARS	.36040*	.10773	.006	.0807	.6401
	30 - 39 YEARS	.09171	.07824	.645	-.1114	.2949
	50 YEARS AND ABOVE	.06600	.10951	.931	-.2183	.3503
50 YEARS AND ABOVE	20 - 29 YEARS	.29439	.12885	.106	-.0402	.6290
	30 - 39 YEARS	.02571	.10544	.995	-.2481	.2995
	40 - 49 YEARS	-.06600	.10951	.931	-.3503	.2183

*. The mean difference is significant at the 0.05 level.

Appendix L

SPSS OUTPUT – T-Test for the Knowledge of Healthcare Employees on Occupational Safety and Health with Their Gender

Group Statistics

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
OVERALL knowledge	MALE	42	4.0347	.36490	.05631
	FEMALE	120	4.1690	.45088	.04116

Independent Sample Test

		Levene's Test for Equality of Variances	
		F	Sig.
OVERALL_knowledge	Equal variances assumed	2.524	.114
	Equal variances not assumed		

Independent Sample Test

t-test for Equality of Means						
					95% Confidence Interval of the Difference	
t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
-1.740	160	.084	-.13429	.07718	-.28671	.01813
-1.925	87.879	.057	-.13429	.06975	-.27290	.00432