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KNOWLEDGE, ATTITUDE AND PRACTICE ON OCCUPATIONAL INJURIES AMONG SMEs WORKERS IN KUALA TERENGGANU

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BY,

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Thesis submitted in fulfilment of the requirement for the degree of Bachelor Science (Environmental and Occupational Health) from the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

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ABSTRACT

KNOWLEDGE, ATTITUDE AND PRACTICE ON OCCUPATIONAL INJURIES AMONG SMEs WORKERS IN KUALA TERENGGANU

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Introduction: Industrial workers are more prone to be exposed to numerous of workplace injuries from their working activities such as slip disc, burn, falling object, hearing impairment, radiation exposure and even death. The lacking in knowledge, poor attitude and practice may contribute to the occurrence of the injuries. However, the level of knowledge, attitude and practice may also be affected by the sociodemographic factors such age, gender and level of education. **Objective**: A cross-sectional study was carried out to determine the level of knowledge, attitude and practice of the industrial workers and the associations with the demographic variables and the employment duration. **Methods**: This study applied a convenience sampling. A total of 113 workers participated in this study. The data collection was done through questionnaire distribution using self-administered questionnaire on knowledge, attitude and safe practice towards occupational injuries. **Results and discussion**: The results showed that most of the respondents have good level of knowledge, satisfactory level of attitude and good level of preventive towards occupational injuries. From the Independent t-test, the results showed that there was no statistical significant difference for knowledge, attitude and practice between young and older worker. However, there was a correlation between the level of knowledge with attitude ($p = 0.011$), knowledge with practice ($p = 0.003$) and attitude with practice ($p < 0.000$). Meanwhile, the results from Chi square test showed that there was no significant difference between the level of knowledge, attitude and practice with the socio-demographic factor while there is a significant difference between knowledge with employment duration. **Conclusion**: Most of the respondents have adequate knowledge regarding the factors, effects and preventive measures on occupational injuries. In general, this research has identified that the level of knowledge and practice are good while the level of attitude is satisfactory. A specific safety education programmes could improve the KAP level of the industrial workers towards occupational injuries. The following recommendations are suggested based on the findings in this research which are effective safety education, provision of supportive mechanical tools and provision of suitable personal protective equipment (PPE).

Keywords: Knowledge, Attitude, Practice, Occupational Injuries, Sociodemographic Variables, Industrial Workers, Small and Medium-sized Enterprises

ABSTRAK

PENGETAHUAN, SIKAP DAN AMALAN TERHADAP KECEDERAAN PEKERJAAN DI KALANGAN PEKERJA SMEs DI KUALA TERENGGANU

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Pengenalan: Pekerja industri lebih cenderung untuk terdedah kepada kecederaan di tempat kerja daripada aktiviti-aktiviti seperti disk tergelincir, kebakaran atau kelecuran, ditimpa objek, masalah pendengaran, pendedahan terhadap radiasi dan juga kematian. Pengetahuan, sikap dan amalan yang lemah boleh menyumbang kepada berlakunya kecederaan. Namun, tahap pengetahuan, sikap dan amalan juga boleh dipengaruhi oleh faktor sosiodemografi seperti umur, jantina dan tahap pendidikan. **Objektif**: Kajian keratan rentas telah dijalankan untuk menentukan tahap pengetahuan, sikap dan amalan pekerja-pekerja industri dan hubungannya dengan faktor-faktor sosiodemografi. **Metodologi**: Kajian ini menggunakan persampelan sukarela. Seramai 113 pekerja mengambil bahagian dalam kajian ini. Pengumpulan data adalah melalui pengedaran borang soal selidik mengenai pengetahuan, sikap dan amalan pencegahan kecederaan pekerjaan. **Hasil kajian dan perbincangan**: Hasil kajian menunjukkan kebanyakkan pekerja mempunyai tahap pengetahuan yang bagus, sikap yang memuaskan dan amalan pencegahan yang bagus. Daripada analisis *'Independent t-test'*, tiada perbezaan yang signifikan di antara pengetahuan, sikap dan amalan bagi pekerja muda dan tua. Namun, terdapat kolerasi di antara pengetahuan dan sikap ($p = 0.011$), pengetahuan dan amalan ($p = 0.003$), dan sikap dan amalan ($p < 0.000$). Hasil analisis Chi square menunjukkan tiada perbezaan signifikan di antara pengetahuan, sikap dan amalan dengan faktor-faktor sosiodemografi namun terdapat perbezaan signifikan di antara pengetahuan dan tempoh bekerja. **Kesimpulan**: Kebanyakan responden mempunyai pengetahuan yang mencukupi tentang faktor, kesan dan langkah pencegahan bagi kecederaan pekerjaan. Umumnya, kajian ini telah mengenalpasti tahap pengetahuan dan amalan adalah pada tahap bagus manakala tahap sikap adalah memuaskan. Program pendidikan keselamatan mampu meningkatkan tahap KAP pekerja industri terhadap kecederaan pekerjaan. Cadangan berikut dicadangkan berdasarkan hasil kajian ini iaitu pendidikan keselamatan yang berkesan, penyediaan alat bantuan mekanikal dan penyedian PPE yang bersesuaian.

Kata kunci: Pengetahuan, Sikap, Amalan, Kecederaan Pekerjaan, Faktor Sociodemografi, Pekerja Industri, Perusahaan Kecil dan Sederhana

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LIST OF ABBREVIATIONS

SMEs	Small and Medium-sized Enterprises
NSDC	National SME Development Council
PC-GNI	Gross national income per capita
MITI	Ministry of International Trade and Industry
SPM	Sijil Pelajaran Malaysia
STPM	Sijil Tinggi Pelajaran Malaysia
STAM	Sijil Tinggi Agama Malaysia
PPE	Personal Protective Equipment

CHAPTER 1

INTRODUCTION

1.1 Background of study

A study on the determinants of industrial accidents in the Malaysian manufacturing sector reported that the total accidents reported from 1993 to 2008 has been decreasing (Said et al. 2012). Another study showed that older workers seemed to have the highest incidence of fatal occupational injury compared to young worker (Cs & Krishnan, 2016).

However, some other studies shown that young workers had a higher injury rate than the older workers. Specifically, Samien (2004) in his study found that 56% of the non-fatal injuries are among young workers. Another studies also mentioned that young workers had a higher injury rate than the overall rate (Rhodes. 1983; Laflamme & Menckel. 1995; Salminen. 1996).

In a study of an overview on small and medium enterprises (SMEs) in Malaysia, it was stressed that SMEs play an important role in the growth and development of the economies (Khan & Khalique, 2014). The main purposes of SMEs are to create desired services and goods in order to make sure that the firm investment is converted to cash as soon as possible, and also to provide services and

goods to ensure that customers' needs is well-managed so that they will continue to use and recommend the firms' services and goods (Reider, 2008).

Pedersen et al. (2011), in his study, assumed that the injuries rate among workers is not influenced by the size of the enterprise. However, Pedersen (2011) stated that workers that works in micro enterprise may have a closer contact to the management (or owner) compared to workers who works in large enterprise. In the close proximity, it is easier for the management to detect any risky behaviour in the workplace and remove it before the occurrence of any injuries. The findings from the study showed that workers who works in micro enterprises were more open to share any problem arise at workplace to the management.

1.2 Problem statement

The outcomes of the accident and injuries at workplace can be very serious and eventually cause death. A study conducted by Said et al. (2012) showed that the fatal accidents and disablement in manufacturing sectors reported increased from 1998 to 2008. Even though the number of accidents reported were showing a decreasing trend, the workers who get a serious injuries were increasing. This means that from all of the reported accidents, the accidents that is not serious were decreasing yet the serious injuries were increasing.

The factors that can influence the rate of the accidents occurred can be various. In a study conducted by Aluko et al. (2016), workers with higher knowledge

are linked with a positive attitude towards safety practices and are more aware of the prevention of occupational hazards. Aluko also stated that the positive attitude towards safe work practices also due to the fear of infections and illnesses in occupation which can be life threatening and terminal in certain conditions. Hence, it is clear that some of the factors affecting the occurrence of accidents and injuries at workplace are knowledge, attitude and practice.

Adinegara et al., (2016) has conducted to identify the rate of occupational injuries in Malaysia where the results showed that a total of 2822 of fatal occupational injuries was reported in Malaysia with the average of 9.2 fatal occupational injuries per 100, 000 workers. The rate was higher than the rate reported in the United State (4.0 per 100, 000) and Great Britain (0.71 per 100, 000). This shows that the rate of occupational injuries in Malaysia is a big concern.

The level of knowledge, attitude and practice can also be influenced by the sociodemographic variables. This study was conducted to evaluate the level of knowledge, attitude and behaviour towards occupational health safety with the sociodemographic variables. There is a significant different between the level of knowledge with the level of education, the level of attitude with the workers' age group and job duration and also an association between the safe behaviour with the age group (Nasab et al., 2009). Thus, the level of knowledge, attitude and practice can be influenced by the socio-demographic status of the worker.

1.3 Study justification

This study is to identify which variables from the socio-demographic data that can affect the level of knowledge, attitude and practice of the workers. Besides, this study can also provide a baseline data for future study that want to study more about the factors affecting the rate of accidents and injuries occurrence at workplace.

From this study, the workers can also enhance a better knowledge on occupational injuries. For the workers who had never heard of occupational injuries, this study can help provide additional information for them regarding occupational injuries. The statement given from the questionnaire set may provide an information on occupational injuries to the workers.

1.4 Objectives

1.4.1 General objectives

a) To identify the associations of socio-demographic status with the level of knowledge, attitude and safe practice towards occupational injuries among industrial workers.

1.4.2 Specific objectives

a) To determine the socio-demographic status (gender, age and education level) of the industrial workers.

b) To determine the level of knowledge, attitude and safe practice towards occupational injuries among industrial workers.

c) To compare the level of knowledge, attitude and safe practice towards occupational injuries between young and older worker.

d) To determine the correlation between knowledge, attitude and safe practice towards occupational injuries among industrial workers.

e) To assess the association between demographic variables and duration of employment with the level of knowledge, attitude and practice of the industrial workers.

1.5 Research questions

a) Are the level of knowledge, attitude and practice on occupational injuries different between the young and older workers in the small and medium-sized industries?

b) Is there any correlation between the level of knowledge, attitude and practice variables towards occupational injuries among the industrial workers?

c) Is there any associations between the sociodemographic variables and the level of knowledge, attitude and practice towards occupational injuries among the industrial workers?

1.6 Hypothesis

a) There is a difference in level of knowledge, attitude and safe practice towards occupational injuries between young and older workers.

b) There is a significant correlation between the level knowledge, attitude and safe practice towards occupational injuries.

c) There is a significant associations between the level of knowledge, attitude and safe practice towards occupational injuries with the sociodemographic variables among the industrial workers.

1.7 Variables

1.7.1 Independent variables

Sociodemographic variables

The type of variables such as age, sex and level of education will determine the level of knowledge, attitude and practice of the industrial workers.

1.7.2 Dependent variables

Knowledge

The level of knowledge is how much information that the workers have about occupational injuries.

Attitude

The level of attitude of the workers towards working activity that involve low or high risk.

Practice

The level of practice is the safe or unsafe behaviour of the workers when performing a task at workplace.

1.8 Conceptual framework

Figure 1.1 shows the conceptual framework of this study. The yellow boxes indicates the variables while the blue boxes indicates the confounder in this study. The independent variables in this study would be the socio-demographic variables and the duration of employment of the workers. The dependent variables of the study are the level of knowledge, attitude and practice of the industrial workers. From this conceptual framework, it can be seen that the types of industry and the sociodemographic variables would influence the level of knowledge, attitude and practice. A study conducted by Nasab et al. (2009) showed that there is a significant difference between the workers' knowledge with their level of education. The respondents from the study scored the highest mean of knowledge at higher

education which is at degree level and further education level. The outcome of the study also showed that the attitude and the practice was associated with the workers' age and their job duration. The highest mean of attitude was scored by respondent with the age of 35+ while the highest mean for practice was scored by respondents with job duration of more than 3 years. In a study conducted by Kalghatgi et al. (2014), the results also showed that there was an associations between knowledge, attitude and behaviour with the duration of employment.

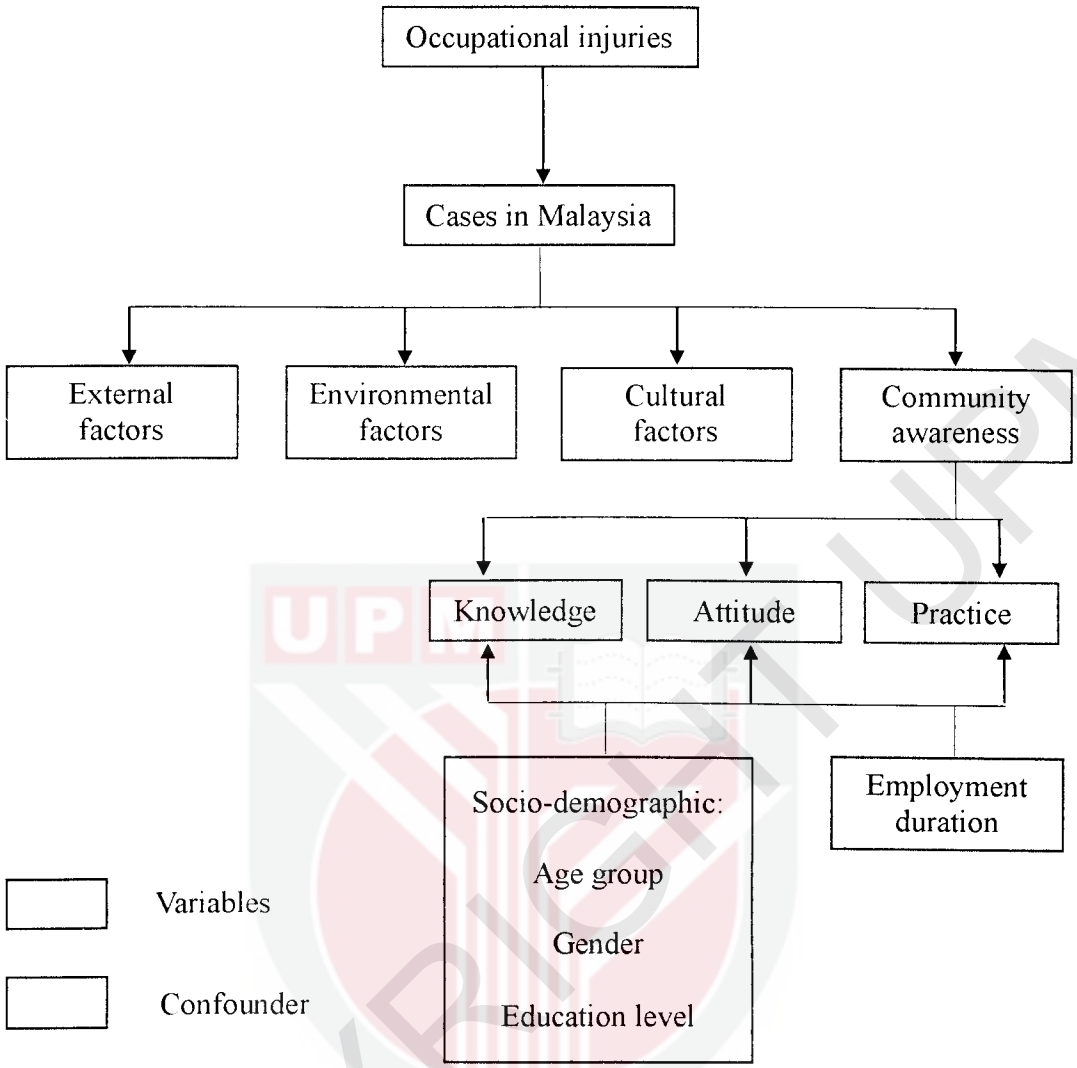

Figure 1.1. The Conceptual Framework of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 Knowledge

Knowledge can be defined as a "person's range of information" that impose the knowledge acquisition as an active process. It is further defined by defining information as data that has been translated (either by the perceiver or someone else) so that it is understandable to the perceiver (Sajama and Kamppien, 1987). However, in a study by Biggam (2001), the definition of knowledge contradicts with the problem of the truth and falsehood. Means that even though we perceive as much knowledge, it can be a true information or can also be a wrong information. Either true or wrong, the information obtained is still considered as knowledge.

2.2 Attitude

Attitude can be defined into three aspects which are an attitude object, a set of beliefs and a tendency to behave. In attitude object, it may range from a very high status person to high-school dropouts. It is not described as an object but as an abstract, such as communism. Attitude is also described as a set beliefs whether one

thing is either good or bad. Lastly, it can be defined as a tendency to behave upon an object in which to keep or get rid of it (Culberston. 1968).

2.3 Practice

In a study conducted by Joh et al. (2015), practice can be categorized into three groups; motor practice, mental practice and modelling practice. Practice can also be defined as a repetition of an activity or action which to improve the skills to perform certain activity by enhancing the accuracy and knowledge transfer (Barch & Lewis, 1954; Hughes et al., 2013). Wright and Richard (1999) define practice as the repetition of activity in order to improve skills by reducing the reaction time.

2.4 Risks

Risk is the results of the chance of occurrence of an event, with the impact that the event would cause if it occurred. Risk comprised of two elements; the chance of an event occurring and the impact associated with the event. The result of the event could be desirable or undesirable. In some cases, the convenient measure for risk is given by: Risk = Probability x Consequences (Sayers et al. 2002).

2.5 Occupational injuries

Workplace injury and illness resulting 10% of work disability in U.S. population throughout the time. In addition, 2.7 million of work-related injuries that cause disability qualified the workers for compensation indemnity benefits in 1992 (Stover & Seixas. 2009).

The notification regarding occupational diseases, injuries and poisonings is prepared by the hospitals and clinics under the Ministry of Health. For non-government employees, they have been provided with the socioeconomic security by the establishment of Malaysia's Social Security Organization (SOCSO), which is also known as Pertubuhan Keselamatan Sosial (PERKESO).

2.6 Small-medium enterprises (SMEs)

The definition of SMEs is not globally fixed and no established definition to it (Hooi, 2006; Omar and Ismail, 2009). Most of researcher are using their own definition of the SMEs according to the objective of their study (Abdullah & Bakar, 2002). In Malaysia, some researcher define SMEs according to the number of employee which less than 200 and have less than RM2.5 million of fixed assets (Aziz, 1981; Chee, 1986; Abdullah, 2002; Salleh, 1991). A few years after that, the National SME Development Council has approved the standard definition of SMEs in the primary agriculture, manufacturing, manufacturing-related services and service

sectors. There are to criteria for the definition of SMEs; the total sales turnover/revenue in a year and the number of full-time employees (NSDC, 2011/12).

In the fourteenth century, the Malayan economic development involved directly with the trading of some commodities such as porcelain and spices. After achieving independence in 1957 to 1970s, the economy of Malaysia continued to be commodity-based. During that time, SMEs is largely involved in Malaysia especially in agricultural and small services like retailing, wholesaling and restaurants (Ahmad, 2012). Today, the number of SMEs in Malaysia has rose rapidly, with various activities.

2.7 Employment duration and level of KAP

A study conducted by Tadesse and Kumie (2007) found that the factors that is most contributing to work-related injuries in small and medium-sized industry were the duration of employment or the service duration. The results from the study showed that workers who have worked or employed for five years and less are found to be the one who contribute the most to the accidents and injuries at workplace.

2.8 Young and older workers

Age can be defined in many ways. Kooij et al. (2007) referred older worker based on the worker's chronological age, where the worker aged 40-50 years old and

forwards. Another definition proposed that aging refers to the social and psychological functioning through time, the changes that occur in biological and the effects on the person at personal, organizational or societal level. Ahmad (2012), in one of his study, mentioned that the age group have two attributes which is young (up to 40 years) and middle age and older (more than 40 years).

A review on occupational injuries research in Malaysia showed that workers in the age group of 40-49 year old have the highest incidence. As the age decrease, the incidence rate also decrease. However, the incidence rate is lower for workers aged 60 year old forwads (Adinegara et al. 2013). Adinegara suggested that the worker who hold the senior position had a lower risk of incidence.

2.9 Factors of industrial injuries

The factors to the occurrence of industrial injuries can be various. The first researcher that investigated on the relationship of business cycle and industrial injuries for U.S. manufacturing industry from 1929. The findings showed that the injuries rate was related to the trend of industrial employment which has provided an early indication for the pro-cyclic behaviour of industrial accident towards business cycle. A study conducted by Cooke and Gautschi (1981) showed that the rate of accident increases during economic upswings. This study was supported by studies conducted by Viscusi (1986) and Robinson and Shor (1989) with the same findings. The occurrence of industrial accidents is one of the cause that can lead to occupational injuries.

A higher claim rates by adolescents and young adults which is for permanent impairment due to injuries at workplace (Breslin et al., 2003). Male workers are independently associated with the occupational accidents and injuries (Wardsworth et al., 2003). Unsafe behaviour and attitude are a good indicator to occupational accidents and injuries (Mearns et al., 1997).

2.10 Sociodemographic factors

Age of workers, gender, level of education and type of employment were some of the demographic factors that is commonly concerned (Parker, 2007; Seixas, 2008; Carpenter, 2002). A study by safety experts, Lardner and Fleming (1999) have found that 80 – 90% of all industrial accidents is caused by personal factors. The personal factors mentioned is the demographic factors of workers. The main reason for the industrial accidents occurred is due to incorrect procedures in conducting jobs. Thus, that reason can be related to lack of knowledge among the workers.

CHAPTER 3

METHODOLOGY

3.1 Study design

This study applied a cross-sectional study design which the level of knowledge, attitude and behaviour, and the demographic variables were assessed simultaneously in a point of time. The study was conducted from January to June 2017.

3.2 Study location

The study was carried out in two industrial areas in Kuala Terengganu. The industrial areas that were chosen are Kawasan Perindustrian Chendering and Kawasan Perindustrian Gong Badak. The two industrial areas were chosen because it has the most manufacturing enterprises and industries in Kuala Terengganu. It is the main point or the centre for manufacturing enterprises and industries. Both industrial areas have the same industrial category which involved foods and beverages, machinery and engineering, electrical and electronics, paper and printing, paper products, wood and wood products and also chemical products. However, the size and number of industries are different for each industrial area. Kawasan Perindustrian Chendering have more industries compared to Kawasan Perindustrian

Gong Badak while the size of industries in Kawasan Perindustrian Gong Badak is bigger than in Kawasan Perindutrian chendering.

3.3 Study population

The population that are involved in this study are the industrial workers from small and medium-sized enterprises and industries in Kuala Terengganu. Workers from the selected category were involved in this study (Refer Table 3.1). The workers are involved in the production line of the industry.

3.4 Sampling

3.4.1 Sampling frame

The sampling frame for this study was based on the name list of the workers in the industrial area which was obtained from the supervisors who are responsible for their subordinate's workers. However, only the workers who fulfil the selection criteria were being included in this study.

3.4.2 Sampling method

This study was conducted by using a convenience sampling. Two industrial areas were chosen with similar criteria which is the same industry category. Nine

industries were selected from Kawasan Perindustrian Gong Badak and 11 industries were from Kawasan Perindustrian Chendering (Refer Table 3.1). A simple random sampling was used to select the sample which was by using Fishbowl method. The list of name of the workers was gathered and placed in a bowl and the researcher asked the supervisors in-charge to pick out the list name randomly from the bowl at predetermined quantity.

Table 3.1: Selection of SMEs by category and industrial area.

Industrial area	No. of SMEs	Category of SMEs
Kawasan Perindustrian Chendering	11	Foods and beverages Machinery and engineering Electrical and electronics Paper and printing
Kawasan Perindustrian Gong Badak	9	Paper products Wood and wood products Chemical products

The number of SMEs selected was slightly unequal which due to the distribution of the SMEs between both industrial areas. The number of SMEs in Kawasan Perindustrian Chendering is more compared to in Kawasan Perindustrian Gong Badak. The number of the SMEs selected was also limited to only 20 SMEs.

3.4.3 Sampling unit

Workers from selected small-medium sized industries were chosen as the sampling unit based on the criteria below:

Selection criteria:

1. Malaysian.
2. SMEs workers with age group of 18 – 60 years.
3. Male and female worker.

3.4.4 Sampling size

The sample size are calculated by using the following formula (Krejcie and Morgan, 1970).

The population size for this study is 140 of industrial workers involved in the production line in their work task. A walk-through survey was conducted prior to data collection. Only 20 SMEs with a total of 140 workers who agreed and willing to participate in this study.

$$S = \frac{X^2 N P (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$

Where,

s = sample size required

x^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.8416)

N = the population size (140)

P = the population proportion (0.529) (Nasab et al., 2009)

d = the degree of accuracy expressed as a proportion (0.05)

The population proportion (P) for was obtained based on the previous study with the same objective and characteristics as this study. The population proportion from a study by Nasab et al., (2009) for knowledge is 52.9%. The population proportion value will be used in determining the sample size of the industrial workers.

The total of 20 enterprises and industries were selected based on the criteria mentioned in the inclusion criteria. The total population for the workers is 140 with the average of seven workers from each of 20 selected enterprises and industries. Based on the number of worker population, the sample size calculation of industrial workers is as below:

$$s = \frac{X^2 \, N \, P \, (1 - P)}{d^2 \, (N - 1) \, + \, X^2 \, P \, (1 - P)}$$

$$s = \frac{(1.96)^2\,(140)\,(0.529)\,(1-0.529)}{(0.05)^2\,(140-1)\;+\;(1.96)^2\,(0.529)\,(1-0.529)}$$

$$s = \frac{134.00}{1.30}$$

s = 102.7 @ 103

To overcome any missing data during data collection process, 10% of the sample size was added, which;

10% x 103

= 10.3

= 103 + 10.3

= **113 respondents**

3.5 Study instrument, data collection and quality control

3.5.1 Study instrument

3.5.1.1 Questionnaire

A set of self-administered questionnaire was used to collect the descriptive data in this study. The respondents was given a questionnaire in Malay language. The questionnaire consists of four sections as following:

i. Section A: Sociodemographic information

This part consists of a few questions such as gender, age, level of education, race and duration of employment.

ii. Section B: Knowledge on occupational injuries

This part of questionnaire consists of 12 questions. Each item of this part have multiple choice of answers; "Yes", "No" and "Don't know".

iii. Section C: Attitude on occupational injuries

This part of questionnaire consists of 10 questions. Each item of this part have multiple choice of answers; "Strongly agree", "Agree", "Not sure", "Not agree" and "Strongly not agree".

iv. Section D: Practice on occupational injuries

This part of questionnaire consists of 12 questions. Each item of this part have multiple choice of answers; "Always", "Often", "Sometimes", "Seldom" and "Never".

The classification method used for the score of knowledge, attitude and practice level was by using Bloom's Cut Off point method. From the total score of knowledge, attitude and practice, 80-100% of the score was categorized as in good level, 60-79% as satisfactory and less than 60% of the total score was categorized as in poor level.

The questionnaire was prepared in Bahasa Malaysia. It has been tested by test-retest reliability among the respondents who had the similar sociodemographic background as the study population (Refer Section 3.5.2).

The respondents who fulfil the selection criteria had been briefed on the study objective by using the subject information sheet and suggest signing for the consent form (Refer Appendix III) as an acknowledgement of participation.

3.5.2 Quality control

Since the questionnaire was developed by the researcher and prepared in Bahasa Malaysia, reliability test was performed in order to ensure that the degree to which the test is consistent and stable in measuring what is intended to measure. In this context, two reliability test was performed; i) test-retest reliability and ii) internal consistency reliability test.

Alternatively, internal consistency reliability test was performed to determine how well the items on the test measure the same construct or idea. Cronbach's alpha is the most common measure of internal consistency ("reliability"). The following guidelines below had been used:

$\alpha \geq 0.9$	Excellent reliability
$0.9 > \alpha \geq 0.8$	Good reliability

$0.8 > \alpha \geq 0.7$	Acceptable reliability
$0.7 > \alpha \geq 0.6$	Questionable reliability
$0.6 > \alpha \geq 0.5$	Poor reliability
$0.5 > \alpha$	Unacceptable reliability

The data was tested for internal consistency reliability test by using Cronbach's alpha coefficient. The results for knowledge was 0.927, attitude was 0.542 and lastly practice was 0.836.

Table 3.2: The result of reliability test to determine the internal consistency reliability.

Component of test	**Cronbach's alpha result**
Knowledge	0.927
Attitude	0.542
Practice	0.836

For the quality control, the distribution of the questionnaire has been assisted by the supervisors who are responsible for their subordinate's workers. All of the workers who participated in this study are Malay which they have no problem to understand the item for each section of the questionnaire. Since the data collection was done face-to-face between the respondents and the researcher, the respondents can refer to the researcher for any unfamiliar terms used in the questionnaire.

3.6 Data analysis

Statistical method for analysing data in this was carried out by using IBM SPSS Statistics 22.0. The level of significance study was set at $p<0.05$. The data analysis used for each objective was shown in Table 3.3 below.

Table 3.3 List of statistical analysis according to objectives.

No	Objectives	Statistical analysis
1	To determine the socio-demographic status (gender, age and education level).	Descriptive analysis
2	To determine the level of knowledge, attitude and safe practice towards occupational injuries among industrial workers.	Descriptive analysis
3	To compare the level of knowledge, attitude and safe practice towards occupational injuries between young and older worker.	Independent t-test
4	To determine the association between knowledge, attitude and safe practice towards occupational injuries among industrial workers.	Parametric: Pearson's correlation analysis
5	To assess the association between demographic variables and other variable with the level of knowledge, attitude and practice of the industrial workers.	Chi-square test

3.7 Study ethics

This study had been approved by ethics committee members of University Putra Malaysia (UPM/TNCPI/RMC/JKEUPM/1.4.18.2/U026). This study has been

conducted on a voluntary basis where all the respondents had been briefed on how the study will be conducted (Refer Appendix III). The approval from each SME was obtained through the consent form that was given prior to the questionnaire distribution. The details about the methodology of this study was explained in the consent form.

3.8 Ethical consideration

A few matters that were taken into considerations in this study are:

- The respondents were briefed about the purpose of the study.
- The information obtained from the respondents was kept confidential.
- Approval letter was given to each respondent to get their consent.
- Respondents are not obligated to answer the questionnaire, which they can choose not to answer the questionnaire.

3.9 Study limitation

As this study apply a cross-sectional study design, it is just a snapshot of the current condition. The variables in socio-demographic may be changed over time which is the duration of employment. Other than that, recall bias may also occur among the respondents when answering the questionnaire set given to them.

The study also not fully involve the whole population of the industrial workers due to the permission from the person in charge of the industries and also due to the time constraint.

CHAPTER 4

RESULTS

Respondents Background:

A total of 113 respondents were involved in this study and were given a self-administered questionnaire to be filled. Of the research subjects, there were 41 (36%) males and 72 (64%) females (Table 4.1). In this study, all of the respondents were Malay and full-time worker. Most of the respondents (82.3%) were young worker (18-40 years old) while only 17.7% are older worker (41-60 years old). More than half of the respondents (60.2%) have work experience of 1-5 years. The rest of them (39.8%) have work experience of 6-30 years.

Objective 1: To determine the socio-demographic status (gender, age and education level).

The socio-demographic data in this study consist of gender, age and education level. Table 4.1 shows about the socio-demographic data of the respondents.

TABLE 4.1: Socio-demographic status of respondents.

Variable	Mean (SD)	Frequency	Percentage (%)
Gender	1.64 (0.483)		
Male		41	36.3
Female		72	63.7
Age	31.7 (8.697)		
Young (18-40)		93	82.3
Older (41-60)		20	17.7
Education level			
SPM		65	57.5
STPM/STAM		18	15.9
Matriculation/Certificate		2	1.8
Diploma/Degree		27	23.9
Others		1	0.9
Employment duration (years)	6.59 (5.846)		
1-5		68	60.2
6-10		24	21.2

11-15	11	9.7
16-20	2	1.8
21-25	6	5.3
26-30	2	1.8

Out of the 113 respondents, 93 (82.3%) aged in the range of 18-40 years old, which is considered as young worker while the other 20 (17.7%) of them aged in the range of 41-60 which is considered as older workers. The mean for age of the workers is 31.6 (8.697). For education level, 65 (57.5%) are educated until upper secondary (SPM) while 18 (15.9%) of them have formal education until STPM/STAM and 2 (1.8%) of them are until Matriculation/Certificate. In addition, there are 27 (23.9%) of the respondents are a diploma or degree holder while only 1 (0.9%) of them did not have a formal education or other.

In term of employment duration, 68 (60.2%) are respondents with work experience of 1-5 years while 24 (21.2%) have 6-10 years of work experience and 11 (9.7%) respondents have 11-15 years of work experience. Employment duration of 16-20 years have 2 (1.8%) respondents as well as for 26-30 years, which is also 2 (1.8%) respondents. About 6 (5.3%) of the respondents have 21-25 years of work experience.

Objective 2: To determine the level of knowledge, attitude and practice towards occupational injuries among industrial workers.

Table 4.2 shows about the knowledge, attitude and practice level of the respondent on occupational injuries. To analyse the level of knowledge, attitude and practice, a descriptive analysis was conducted.

TABLE 4.2: Knowledge, attitude and preventive practice towards occupational injuries among respondents.

	N = 113		
	Minimum	Maximum	Mean(±SD)
Knowledge score	5	24	20.58(±3.879)
Attitude score	29	46	36.42(±4.295)
Practice score	31	59	49.80(±7.444)

The mean for knowledge is 20.58 (±3.879) while the maximum score is 24 and the minimum score is 5. Meanwhile, the attitude score is 36.42 (±4.295) while the maximum score is 46 and the minimum score is 29. For attitude, the mean is 49.80 (±7.444) while the maximum score is 59 and the minimum score is 31. The category of knowledge, attitude and practice score is shown in Table 4.2.1.

Table 4.2.1: The category of knowledge, attitude and practice level towards occupational injuries according to the score range.

	Score range	Category for level of KAP	Frequency (%)
Knowledge	>19.2	Good	82 (72.6%)
	≥14.4 ≤19.1	Satisfactory	19 (16.8%)
	<14.4	Poor	12 (10.6%)
Attitude	>39.9	Good	35 (31.0%)
	≥30 ≤39.9	Satisfactory	74 (65.5%)
	<330	Poor	4 (3.5%)
Practice	>47.9	Good	73 (64.4%)
	≥36 ≤47.9	Satisfactory	34 (30.1%)
	<36	Poor	6 (5.3%)

From Table 4.2, most of the respondents 82 (72.6%) have good knowledge. 19 (16.8%) of the respondents have satisfactory knowledge while 73 (64.6%) have poor knowledge. For attitude score, 35 (31.0%) of the respondents have good attitude, 74 (65.5%) are satisfactory and only 4 (3.5%) of the respondents have poor attitude. Meanwhile, 73 (64.6%) of the respondents have good practice, 34 (30.1%) are satisfactory and only 6 (5.3%) have poor practice.

Table 4.2.2 shows the total of 12 items in knowledge section the multiple choice of answers. The total score of knowledge which represents the summation of knowledge acquired by each of the industrial workers who take part in this study is shown in Table 4.2.2.1. The results shows that 82 (72.6%) of the respondents have a high knowledge towards occupational injuries, 19 (16.8%) of them have satisfactory

level of knowledge and 12 (10.6%) of them have poor knowledge regarding occupational injuries.

Table 4.2.2 Knowledge on occupational injuries among the SMEs workers (N=113).

Knowledge	Choice of answer	Frequency (%)
1. Occupational injuries can be fatal.	Yes	80 (70.8%)
	No	25 (22.1%)
	Don't know	8 (7.1%)
2. The degree of burn due to occupational injuries can be categorized into three; 1st degree, 2nd degree and 3rd degree.	Yes	71 (62.8%)
	No	33 (29.2%)
	Don't know	9 (8.0%)
3. Position such as bending forward, reaching over the head, and prolonged standing or sitting can cause injuries.	Yes	73 (64.4%)
	No	32 (28.3%)
	Don't know	8 (7.1%)
4. Comply with the standard operating procedures (SOP) or the correct work procedures can prevent the occurrence of injuries at workplace.	Yes	104 (92.0%)
	No	3 (2.7%)
	Don't know	6 (5.3%)
5. The Code of Practice (COP) is a documented rules and regulations that serves as guidelines for a safe work practice.	Yes	50 (44.2%)
	No	57 (50.4%)
	Don't know	6 (5.3%)
6. Sufficient lighting can prevent workplace injuries.	Yes	105 (92.9%)
	No	5 (4.4%)
	Don't know	3 (2.7%)
7. Unorganized working environment can be a cause to occupational injuries.	Yes	102 (90.3%)
	No	

	Don't know	7 (6.2%)
		4 (3.5%)
8. All electrical appliance should be maintained by a competent person only.	Yes	84 (74.3%)
	No	24 (21.2%)
	Don't know	5 (4.4%)
9. Wearing a bright attire can prevent the occurrence of accident and injuries especially during a night shift.	Yes	99 (87.6%)
	No	4 (3.5%)
	Don't know	10 (8.8%)
10. Machine that is not maintained regularly can cause accident and injuries at workplace.	Yes	91 (80.5%)
	No	16 (14.2%)
	Don't know	6 (5.3%)
11. A good and clear communication among workers is very important to avoid accident and injuries at workplace.	Yes	107 (94.7%)
	No	5 (4.4%)
	Don't know	1 (0.9%)
12. Any obstruction in the exit or entry point such stack of boxes or piles of files can lead to accident and cause injuries.	Yes	86 (76.1%)
	No	11 (9.7%)
	Don't know	16 (14.2%)

Table 4.2.2.1: Total score for knowledge on occupational injuries among the industrial workers.

Level of knowledge	**Frequency (n)**	**(%)**
Good	82	72.6
Satisfactory	19	16.8
Poor	12	10.6
Total		100

In general, most of the respondents (72.6%) have good knowledge on occupational injuries. For instance, 94.7% of them are aware that a good and clear communication among the workers is important in preventing the occurrence of any accidents and injuries. Besides, they are also aware that the factors that can lead to occupational injuries are prolonged sitting or standing (64.4%), working environment (90.3%), machine that is not maintained regularly (80.5%) and any obstruction in the hallway (76.1%). Meanwhile, most of them know that the prevention for occupational injuries includes following the standard operating procedures (SOP) (92.0%), sufficient lighting (92.9%), electrical appliances should be maintained by a competent person (74.3%), choosing a proper working attire (87.6%) and have a good and clear communication among the workers (94.7%).

Table 4.2.3 shows the total of 10 items in attitude section the multiple choice of answers. The total score of attitude which represents the summation of practice acquired by each of the industrial workers who take part in this study is shown in Table 4.2.3.1. The results shows that 35 (31.0%) of the respondents have good attitude towards occupational injuries, 74 (65.5%) of them have satisfactory level of attitude and 4 (3.5%) of them have poor attitude regarding occupational injuries.

Table 4.2.3 Attitude on occupational injuries among the SMEs workers (N=113).

Attitude	Choice of answer	Frequency (%)
1. It is better for me to finish my work quickly and not chatting or joking around with colleague while performing any task at workplace.	Strongly agree	87 (77.0%)
	Agree	23 (20.4%)
	Not sure	3 (2.7%)
	Not agree	0 (0.0%)
	Strongly not agree	0 (0.0%)
2. If any accident occurred at my workplace, I will try to solve it first without reporting it to my employer.	Strongly agree	98 (86.7%)
	Agree	11 (9.7%)
	Not sure	2 (1.8%)
	Not agree	0 (0.0%)
	Strongly not agree	2 (1.8%)
3. I can do the works by myself, I don't need any helps.	Strongly agree	12 (10.6%)
	Agree	23 (20.4%)
	Not sure	23 (20.4%)
	Not agree	42 (37.2%)
	Strongly not agree	13 (11.5%)

4. Employer is fully responsible for the safety of the working environment.	Strongly agree	51 (45.1%)
	Agree	14 (12.4%)
	Not sure	22 (19.5%)
	Not agree	17 (15.0%)
	Strongly not agree	9 (8.0%)
5. I always do work with my own way, I don't think that I would get involved in any accident since I've never experienced one.	Strongly agree	2 (1.8%)
	Agree	2 (1.8%)
	Not sure	2 (1.8%)
	Not agree	27 (23.9%)
	Strongly not agree	80 (70.8%)
6. I can finish any work with my own way, and I know what I'm doing.	Strongly agree	0 (0.0%)
	Agree	2 (1.8%)
	Not sure	2 (1.8%)
	Not agree	29 (25.7%)
	Strongly not agree	80 (70.8%)
7. I know a shortcut to finish my work faster.	Strongly agree	3 (2.7%)
	Agree	6 (5.3%)
	Not sure	11 (9.7%)
	Not agree	45 (39.8%)
	Strongly not agree	48 (42.5%)
8. If the working environment is not safe, I will not say anything and just wait until it was improved.	Strongly agree	12 (10.6%)
	Agree	14 (12.4%)
	Not sure	12 (10.6%)
	Not agree	41 (36.3%)
	Strongly not agree	34 (30.1%)
9. Personal Protective Equipment (PPE) is not needed if the risk or the danger is too	Strongly agree	13 (11.5%)

low.	Agree	17 (15.0%)
	Not sure	16 (14.2%)
	Not agree	47 (41.6%)
	Strongly not agree	20 (17.7%)
10. Every new worker should receive a proper training first and know the best safe work practice before performing any work task.	Strongly agree	79 (68.9%)
	Agree	24 (21.2%)
	Not sure	9 (8.0%)
	Not agree	0 (0.0%)
	Strongly not agree	1 (0.9%)

Table 4.2.3.1: Total score for attitude on occupational injuries among the industrial workers.

Level of attitude	**Frequency (n)**	**(%)**
Good	35	31.0
Satisfactory	74	65.5
Poor	4	3.5
Total		100

In general, the findings shows that most of workers' attitude are at satisfactory level. About 77.0% of the respondents agreed that it is better to finish their work without chatting or joking around with their colleagues while doing a task. Among the respondents, 68.9% of them also agreed that every new worker that was assigned to any task should receive a proper training before start working. Meanwhile, 70.8% of them did not agree that any task should be done by their own

way and doing it alone. 59.3% of the respondents did not agree that personal protective equipment (PPE) is not needed if the risk or the danger is too low. In addition, 96.4% of them agreed that they should solve any accident occurred at workplace by their own first without reporting it to the employer while 57.5% of the respondents agreed the employer is fully responsible in keeping the working environment safe from any risk or danger. In this study, 66.4% of the respondents did not agree that they should stay silent if the working environment is not safe for them. Most of the respondents (82.3%) did not agree that they should use a shortcut in order to finish their work faster. In addition, 94.7% of the respondents did not agree that they should do any task in their own way even if they had never been involved with any accident.

Table 4.2.4 shows that a total of 12 items in practice towards occupational injuries section the multiple choice of answers.

Table 4.2.4 Practice on occupational injuries among the SMEs workers (N=113).

Practice	Choice of answer	Frequency (%)
1. Wearing a Personal Protective Equipment (PPE) during every work task especially the one that have risk.	Always	75 (66.4%)
	Often	28 (24.8%)
	Sometimes	5 (4.4%)
	Seldom	2 (1.8%)
	Never	3 (2.7%)
2. Make sure that the working environment is safe for performing any work task.	Always	98 (86.7%)
	Often	13 (11.5%)
	Sometimes	2 (1.8%)
	Seldom	0 (0.0%)
	Never	0 (0.0%)
3. Read the safety manual/ procedure provided before performing any work task.	Always	73 (64.6%)
	Often	23 (20.4%)
	Sometimes	13 (11.5%)
	Seldom	3 (2.7%)
	Never	1 (0.9%)
4. Report any risk or danger at workplace to the employer or the person in charge.	Always	55 (48.7%)
	Often	26 (23.0%)
	Sometimes	11 (9.7%)
	Seldom	13 (11.5%)
	Never	8 (7.1%)
5. Performing a risky and dangerous work task without any supervision or helps from	Always	7 (6.2%)

someone else.	Often	6 (5.3%)
	Sometimes	16 (14.2%)
	Seldom	26 (23.0%)
	Never	58 (51.3%)
6. Report any injuries experienced at the workplace to the employer or supervisor immediately.	Always	68 (60.2%)
	Often	23 (20.4%)
	Sometimes	12 (10.6%)
	Seldom	4 (3.5%)
	Never	6 (5.3%)
7. Smoking or joking around with colleagues at workplace.	Always	0 (0.0%)
	Often	0 (0.0%)
	Sometimes	9 (8.0%)
	Seldom	16 (14.2%)
	Never	88 (77.9%)
8. Make sure that any tools that will be used is safe and not damaged before using it.	Always	78 (69.0%)
	Often	13 (11.5%)
	Sometimes	7 (6.2%)
	Seldom	8 (7.1%)
	Never	7 (6.2%)
9. Lifting or carrying a heavy load all at once to finish the work early.	Always	8 (7.1%)
	Often	17 (15.0%)
	Sometimes	16 (14.2%)
	Seldom	37 (32.7%)
	Never	35 (31.0%)
10. Make sure that the Personal Protective Equipment (PPE) is safe to use before using it.	Always	65 (57.5%)
	Often	20 (17.7%)
	Sometimes	8 (7.1%)
	Seldom	9 (8.0%)
	Never	11 (9.7%)

11. Working in unwell condition or sick (coughing, fever, flu, etc.)	Always	17 (15.0%)
	Often	9 (8.0%)
	Sometimes	17 (15.0%)
	Seldom	17 (15.0%)
	Never	53 (46.9%)
12. Use of mechanical tool to perform any work if the work is too difficult to handle alone.	Always	22 (19.5%)
	Often	35 (31.0%)
	Sometimes	30 (26.5%)
	Seldom	5 (4.4%)
	Never	21 (18.6%)

The total score of practice which represents the summation of practice acquired by each of the industrial workers who take part in this study is shown in Table 4.2.4.1. The results shows that 73 (64.4%) of the respondents have a good practice towards occupational injuries, 3 (30.1%) of them have satisfactory level of practice and 6 (5.3%) of them have poor practice regarding occupational injuries.

Table 4.2.4.1: Total score for preventive practice towards occupational injuries among the industrial workers.

Level of practice	**Frequency (n)**	**(%)**
Good	73	64.4
Satisfactory	34	30.1
Poor	6	5.3
Total		100

From the Table 4.2.4, 86.7% of the respondents claimed that they always make sure their working environment is safe to be working in while 91.2% of them claimed they always and often wearing the personal protective equipment (PPE) provided during each task. 60.2% and 48.7% of the respondents are always reporting any injuries occurred and also reporting for any risk or danger arise at the workplace to the employer. About 69.0% of the respondents always make sure any equipment is safe before using it and 57.5% of them are always make sure that the PPE provided is safe to use before using it. In addition, 63.7% of the respondents claimed that they never or seldom performing task such as lifting or carrying a heavy load all at once and 77.9% of them claimed that they never smoke or joking around at the workplace when they are performing any task. However, 15.0% of the respondents claimed that they always, sometimes and seldom working while they are not feeling well or sick. Only 46.9% of them claimed that they will never work when they are not feeling well or sick.

Objective 3: To compare the level of knowledge, attitude and practice towards occupational injuries between young and older worker.

Table 4.3 shows the results of the comparison on the level of knowledge, attitude and practice towards occupational injuries between young and older workers that was analysed by using independent t-test analysis.

Table 4.3: Comparison on the level of knowledge, attitude and practice towards occupational injuries between young and older workers.

	Mean(±SD)		Mean difference (95%CI)	t-statistics (df)	p-value
	Young	Older			
Knowledge	20.49	21.00	-0.505	-0.527	0.599
	(±3.787)	(±4.365)	(-2.406, 1.395)	(111)	
Attitude	36.33	36.85	-0.517	-0.486	0.628
	(±4.264)	(±4.522)	(-2.621, 1.588)	(111)	
Practice	49.59	50.75	-1.159	-0.630	0.530
	(±7.521)	(±7.181)	(-4.804, 2.487)	(51.455)	

According to Table 4.3, the mean for level of knowledge for both young and older worker are 20.49 (± 3.787) and 21.00 (±4.365). The value for the test equality of variance for knowledge is 0.683 which is more than 0.05. Hence, the assumption is met. The p-value for level of knowledge from the Independent t-test is 0.599 which is more than 0.05. Thus, there is no significant difference for the level of knowledge between young and older workers.

The mean of attitude level for young and older worker are 36.33 (±4.264) and 36.85 (±4.522) respectively. The value for the test equality of variance for attitude is 0.543 which is more than 0.05. Hence, the assumption is met. The p-value from the test for level of attitude is 0.628 which is more than 0.05. Thus, there is no significance difference for the level of attitude between young and older workers.

In the level of practice, the mean for both young and older workers are 49.59 (±7.521) and 50.75 (±7.181). The value for the test for equality of variance for practice is 0.643 which is less than 0.05. Hence, the assumption is not met. The p-value from the Independent t-test for level of practice is 0.503 which is higher than 0.05. Thus, there is no significant difference for the level of practice between young and older workers.

Objective 4: To determine the correlation between knowledge, attitude and practice towards occupational injuries among industrial workers.

Table 4.4 shows the results on the correlation between knowledge, attitude and practice towards occupational injuries among industrial workers.

Table 4.4: Correlation between knowledge, attitude and practice among industrial workers.

	Knowledge		**Attitude**		**Practice**	
	r value	p	r value	p	r value	p
Knowledge	1					
Attitude	0.239	0.011	1			
Practice	0.282	0.003	0.576	<0.000	1	

Based on Table 4.4, the Pearson's correlation analysis shows that there was a statistical significant difference between level of knowledge and attitude ($r = 0.239$, $p = 0.011$) as well as between knowledge and practice ($r = 0.282$, $p = 0.003$). The correlation between level of attitude and practice also shows that there is a statistical significant correlation ($r = 0.576$, $p = 0.000$). In conclusion, the level of knowledge, attitude and practice are correlated.

Objective 5: To assess the association between demographic variables and employment duration with the level of knowledge, attitude and practice of the industrial workers.

Table 4.5.1: Results on the association between the levels of knowledge with the gender, education level and employment duration. From Table 4.5.1, the Chi square value for knowledge and gender is 1.250 with the p value of 0.535. Since the p value is more than 0.05, there is no significant difference between gender and the levels of knowledge of the workers.

Table 4.5.1: Association between the levels of knowledge with the gender, education level and employment duration of the workers.

	Knowledge					
Variable	Poor	Moderate	Good	Total	x^2	p value
Gender					1.250	0.535
Male	9 (8.0%)	2 (10.6%)	20 (17.7%)	41		
Female	10 (8.8%)	22 (19.5%)	40 (35.4%)	72		
Total	19 (16.8%)	34 (30.1%)	60 53.1%)	113		
Education level					10.311	0.244
SPM	14 (12.4%)	18 (15.9%)	33 (29.2%)	65		
STPM/STAM	4 (3.5%)	5 (4.4%)	9 (8.0%)	18		

Matriculation /Certificate	0 (0.0%)	2 (1.8%)	0 (0.0%)	2		
Diploma/ Degree	1 (0.9%)	9 (8.0%)	17 (15.0%)	27		
Others	0 (0.0%)	0 (0.0%)	1 (0.9%)	1		
Total	19 (16.8%)	34 (30.1%)	60 (53.1%)	113		
Employment duration					22.605	0.012
1-5	17 (15.0%)	26 (23.0%)	25 (22.1%)	68		
6-10	2 (1.8%)	4 (3.5%)	18 (15.9%)	24		
11-15	0 (0.0%)	3 (2.7%)	8 (7.1%)	11		
16-20	0 (0.0%)	1 (0.9%)	1 (0.9%)	2		
21-25	0 (0.0%)	0 (0.0%)	6 (5.3%)	6		
26-30	0 (0.0%)	0 (0.0%)	2 (1.8%)	2		
Total	19 (16.8%)	34 (30.1%)	60 (53.1%)	113		

From Table 4.5.1, the Chi square value for knowledge and education level is 10.311 with the p value of 0.244. Since the p value is more than 0.05, there is no significant difference between education level and the levels of knowledge of the workers. Meanwhile, the Chi square value for knowledge and employment duration is 22.605 with the p value of 0.05. Since the p value is less than 0.05, there is a significant difference between employment duration and the levels of knowledge of the workers.

Table 4.5.2: Results on the association between the levels of attitude with the gender, education level and employment duration of the workers. From Table 4.5.2, the Chi square value for attitude and gender is 3.469 with the p value of 0.177. Since the p value is more than 0.05, there is no significant difference between gender and the levels of attitude of the workers.

	Attitude					
Variable	Poor	Moderate	Good	Total	x^2	p value
Gender					3.469	0.177
Male	4 (3.5%)	17 (15.0%)	20 (17.7%)	41		
Female	16 (14.2%)	21 (18.6%)	35 (31.0%)	72		
Total	20 (17.7%)	38 (33.6%)	55 (48.7%)	113		
Education level					14. 186	0.077
SPM	13 (11.5%)	23 (20.4%)	29 (25.7%)	65		
STPM/STAM	3 (2.7%)	4 (3.5%)	11 (9.7%)	18		
Matriculation /Certificate	2 (1.8%)	0 (0.0%)	0 (0.0%)	2		
Diploma/ Degree	2 (1.8%)	11 (9.7%)	14 (12.4%)	27		
Others	0 (0.0%)	0 (0.0%)	1 (0.9%)	1		
Total	20 (17.7%)	38 (33.6%)	55 (48.7%)	113		
Employment duration					8.189	0.610
1-5	11 (9.7%)	26 (23.0)	31 (27.4%)	68		

6-10	5 (4.4%)	6 (5.3%)	13 (11.5%)	24
11-15	4 (3.5%)	3 (2.7%)	4 (3.5%)	11
16-20	0 (0.0%)	0 (0.0%)	2 (1.8%)	2
21-25	0 (0.0%)	2 (1.8%)	4 (3.5%)	6
26-30	0 (0.0%)	1 (0.9%)	1 (0.9%)	2
Total	20 (17.7%)	38 (33.6%)	55 (48.7%)	113

From Table 4.5.2, the Chi square value for attitude and education level is 14.186 with the p value of 0.077. Since the p value is more than 0.05, there is no significant difference between education level and the levels of attitude of the workers. Meanwhile, the Chi square value for attitude and employment duration is 8.189 with the p value of 0.610. Since the p value is more than 0.05, there is no significant difference between employment duration and the levels of attitude of the workers.

Table 4.5.3: Results on the association between the levels of practice with the gender, education level and employment duration of the workers. From Table 4.5.7, the Chi square value for practice and gender is 2.081 with the p value of 0.353. Since the p value is more than 0.05, there is no significant difference between gender and the levels of practice of the workers.

	Practice					
Variable	Poor	Moderate	Good	Total	x^2	p value
Gender					2.081	0.353
Male	7 (6.2%)	10 (8.8%)	24 (21.2%)	41		
Female	7 (6.2%)	25 (22.1%)	40 (35.4%)	72		
Total	14 (12.4%)	35 (31.0%)	64 (56.6%)	113		
Education level					12.163	0.144
SPM	10 (8.8%)	16 (14.2%)	39 (34.5%)	65		
STPM/STAM	0 (0.0%)	10 (8.8%)	8 (7.1%)	18		
Matriculation /Certificate	1 (0.9%)	1 (0.9%)	0 (0.0%)	2		
Diploma/ Degree	3 (2.7%)	8 (7.1%)	16 (14.2%)	27		
Others	0 (0.0%)	0 (0.0%)	1 (0.9%)	1		
Total	14 (12.4%)	35 (31.0%)	64 (56.6%)	113		
Employment duration					9.721	0.465
1-5	10 (8.8%)	25 (22.1%)	33 (29.2%)	68		

6-10	2 (1.8%)	4 (3.5%)	18 (15.9%)	24
11-15	2 (1.8%)	4 (3.5%)	5 (4.4%)	11
16-20	0 (0.0%)	0 (0.0%)	2 (1.8%)	2
21-25	0 (0.0%)	1 (0.95)	5 (4.4%)	6
26-30	0 (0.0%)	1 (0.95)	1 (0.9%)	2
Total	14 (12.4%)	35 (31.0%)	64 (56.6%)	113

From Table 4.5.3, the Chi square value for practice and education level is 12.163 with the p value of 0144. Since the p value is more than 0.05, there is no significant difference between education level and the levels of practice of the workers. Meanwhile, the Chi square value for practice and employment duration is 9.721 with the p value of 0.465. Since the p value is more than 0.05, there is no significant difference between employment duration and the levels of practice of the workers.

CHAPTER 5

DISCUSSION

5.1 Socio-demographic

More than a half of them have an average education background which 57.7% of the respondents have formal education until SPM level. 15.9% of the respondents with formal education until STPM/STAM and 1.8% are until Matriculation/Certificate. Respondents with education background until diploma and degree level are 23.9% while only 0.9% of the respondents who haven't received formal education which means that they will have no difficulties for safety education programmes. It can be assumed that all the respondents are able to read, write and understand the safety precautions procedures that were provided at their workplace.

5.2 Knowledge, attitude and preventive practice on occupational injuries among industrial workers

5.2.1 Knowledge

From the findings, it was found that most of the workers have a relatively high level of knowledge. The high level of knowledge among the workers could be due to the education status of the workers. Most of the workers have received a formal education at least until SPM level. Some of the workers are also have received a formal education until degree level.

The respondent's level of knowledge on occupational injuries was similar with other studies (Aliyu & Ibrahim, 2015; Ahmed & Newson-Smith, 2010), such that, majority of the respondents know the factors that can lead to accident and injuries at workplace and the preventive measure can prevent the occurrence of accident and injuries at workplace.

From the results, it was observed that the industrial workers with good level of knowledge are more to perform their work based on the standard operating procedures provided at work. Meanwhile, most of them claimed that the usage of personal protective equipment (PPE) is important to prevent the risk and occurrence of any injuries at the workplace. A study conducted by Magoro (2012) showed that

only 47.09% of the study respondents have knowledge on the use of PPE as preventive practice.

5.2.2 Attitude

The questions in this section is to determine the level of attitude towards occupational injuries among the industrial workers. The results from this study shows that majority of the workers have satisfactory attitude which is at moderate level. In a study conducted by Aluko et al. (2016), the findings showed that most of the respondents (80%) have a good attitude towards occupational hazards and safety. The high score of the positive attitude in that study could be due to the high level of knowledge of the workers.

Most of the workers agreed that they should solve any accident or injury occurred at the workplace instead of reporting it to the employer. Form the result, we can see that relationship between workers and employer is very important. Workers who have a good relationship and communication with management are more open to share any problem occurred at the workplace. However, most of them also did not agree that they should keep quiet and not informing the employer if the working environment is not safe. In addition, majority of the workers agreed that employer is fully responsible for the safety of the working environment.

With the knowledge obtained from the training, information sheets and instruction provided at the workplace, most of the industrial workers agreed that training is compulsory for them, especially for the new workers, in order to understand better the safe way of performing their work.

5.2.3 Practice

The questions in this section is to determine the level of preventive safe practice towards occupational injuries among the industrial workers. Most of the workers answered that they always or often report any accident or injuries that occurred at the workplace. Not only that, most of the workers also answered that they always or often make sure that any tools or equipment that will be used is safe and not damaged before using it. However, only half of the workers answered that they always and often use a mechanical tools to help performing any difficult task such as lifting heavy load. In addition, most of the workers answered that they are seldom or never lifting or carrying a heavy object or load all at once to finish the work early.

In this study, almost all of the workers always and often wearing the PPE provided while performing any task assigned to them. In a study conducted by Magoro (2012) , the findings shows that, among all respondents, less than a half of them are practicing on the use of PPE. This shows that the practice on the use of PPE among respondents in this study is slightly better compared to the study. In addition, another study by Aliyu and Ibrahim (2015) reported that more than half of the

respondent have a good practice on the use of PPE, which the result is similar to the result of this study.

Almost all of the workers claimed that they always make sure that their working environment is safe before they start working. Most of them also answered that they always and often read the safety manual or procedures provided at the workplace before performing any work task. The safety precaution practice can also be related to the job satisfaction of the workers (Gyekye, 2015). This shows that most the workers in this are satisfied with their job.

5.3 A comparison of the level of knowledge, attitude and practice towards occupational injuries between young and older worker.

The results obtained from this study shows that there was no significant difference on the level of knowledge between young and older workers. With the p value 0.599, which is more than 0.05, it was found that age factor does not affect the level of knowledge between the young and older workers. Meanwhile, the level of attitude between young and older workers also does not have any significant difference. In a previous study by Sui et al., (2003), the results shows that older worker have a more positive attitude towards occupational injuries compared to young worker. In addition, a study by Nasab et al., (2009) reported that there was a significant difference on attitude of workers with their age. With the p value 0.013, it was concluded that the age factor can influence the level of attitude of the worker in that study.

For the level of practice, the results from this study showed that there is no significant difference between young and older worker as well. It can be concluded that the age factor does not influence the level of practice of the young and older worker. The results contradicts with the results from a study conducted by Nasab et al., (2009) where there is a meaningful relation between the age factor with their attitude and behaviour at work. From the study, it was found that older worker have a higher level of attitude and behaviour. Few studies have been conducted (Arvey & warren, 1976; Huddleston et al., 2002; Lord, 2004) on age factor and worker's motivation to find the relation between age factor and workers' performance and attitude. It was found that older worker tend to get attached to job security and security which indirectly has increased their awareness and positive attitude towards the environment of the workplace.

5.4 Correlation between knowledge, attitude and practice towards occupational injuries among industrial workers.

5.4.1 Correlation between Knowledge and Attitude

Knowledge is very important so that workers are able to understand any instruction given clearly and know the best or safest way of performing any work task. In this study, the findings shows that there is a significant correlation between knowledge and attitude of the workers (0.011). This result shows that the changes in

level of knowledge will also affect the level of attitude towards occupational injuries among the workers. This result is similar to a study by Kalghatgi et al., (2014), which reported a significant correlation analysis between knowledge and attitude.

5.4.2 Correlation between Knowledge and Practice

The findings in this study shows that there is a significant correlation between knowledge and practice towards occupational injuries. This result contradict with the result from previous study by Kalghatgi et al., (2014). The result from the previous study showed that there is no correlation between knowledge and practice on occupational injuries among the workers. From the study, it was discussed that even though the respondents have awareness and positive attitude towards occupational injuries, the respondents were lack in practice. In this study, it can be assumed that the high level of practice could be due to the level of knowledge which is also high.

5.4.3 Correlation between Attitude and Practice

Practice is very important since it is the action performed by the workers at workplace. Their action will determine the occurrence of accidents and injuries or not. In this study, it was found that there is a significant correlation between attitude and practice. Based on the study conducted by Ahmad et al., (2012), the results shows that there is a significant correlation between attitude and practice. The same

result was also found in a study conducted by Truong (2008) where the level of attitude is significantly correlated with the level of practice of the workers.

5.5 Association between demographic variables and other variable with the level of knowledge, attitude and practice of the industrial workers.

5.5.1 Association between knowledge, attitude and practice with gender.

Gender is one of the most common element in sociodemographic variables. The findings in this study shows that there is no significant association between the levels of knowledge with the gender factor among the workers. The same result was also found in the association of attitude and practice with gender factor which the result was consistent with previous study (Kalghatgi et al., 2014).

5.5.2 Association between knowledge, attitude and practice with education level.

Different level of education is one of the element in sociodemographic variables that may differentiate the level of knowledge, attitude and practice of workers. In this study, it was found that there was no significant association between the levels of knowledge with the education level factor. With the p value of 0.244, which is more than 0.05, the result indicates that the level of education factor does not contribute to the level of knowledge of the workers. Likewise, the result for

association attitude and practice with the factor of education level also showed no significant association. However, the result of association of knowledge with education level in this study is contradict to a study by Nasab et al., (2009), where the association between knowledge and education level is significantly associated.

5.5.3 Association between knowledge, attitude and practice with employment duration.

Employment duration is important to determine the experience of workers with their work in term of safety precaution and preventive action that should be taken under certain circumstances. In this study, the findings shows that there is a significant association between the levels of knowledge with employment duration. This indicates that workers with higher duration of employment are having higher knowledge towards occupational injuries.

However, the association is not significant in the level of attitude and practice of the workers with the employment duration factor. The employment duration which is also associated with work experience indicates that the employment duration does not influence the level of attitude and practice of the worker. This is yet contradicts to the results reported in a study by Nasab et al., (2009), where the results from that study shows a significant association between the level of attitude with the employment duration.

CHAPTER 6

CONCLUSION

From this study, the overall findings showed that the level of knowledge for most of the respondents is adequate which includes the factors that might cause occupational injuries, the good practice at workplace and the actions to be taken when any accident or injuries occurred at workplace. Furthermore, the level of attitude towards occupational injuries among the workers is satisfying where the respondents showed a satisfactory attitude. Meanwhile, there was a significant number of respondents that showed a good level of safe practice towards occupational injuries.

In addition, most of the workers are aged between 18-40 years old which can be classified as young worker. In this study, more than half of the workers have received a formal education until SPM level. Furthermore, some of the workers are even a diploma or degree holder. Based on their level of education, it can be concluded that safety training or programmes and safety education would be necessary to enhance their knowledge in occupational injuries.

RECOMMENDATIONS:

Based on the findings from this study, the author would like to suggest the following recommendations that can be a platform to provide additional information and enhance the level of knowledge among the industrial workers.

Education programmes:

The level of knowledge, attitude and practice among the workers are good, satisfactory and good respectively. Hence, the Ministry of International Trade and Industry (MITI), NGO's and the employer can contribute in improving the awareness and knowledge of the industrial workers towards occupational injuries. Safety education programmes should be assigned with the aim of improving the awareness and knowledge. Thus, it can prevent the occurrence of accident and reducing the rate of injuries among the industrial workers.

The education programmes can also focuses on the use of supporting tools that was provided in order to ease the work and as a preventive measures towards occupational injuries. This is due to the results of the study where not all of the workers are always performing task without using the tools provided. Not only that, education program on the important of the use of PPE can also be useful for industrial workers.

Provision of suitable PPE:

Personal protective equipment (PPE) is the most recommended measure to prevent accidents and injuries. It is the less cost-consuming way in protecting us from getting harmed while performing task with either low or high risk. However, the selection of the PPE should also be considered as it can also affect the comfort of the user. In addition, wrong selection of PPE can cause discomfort to the user, thus reducing the productivity of the performance.

REFERENCES

Ahmad, I., Qadir, S., Muhammad, Yasir, M., Irfanullah, M., Khan, M. A., Aslam, S. Z., Alam, J., Iqbal, J., Sikandar, I., & Waqas, M. (2012). Knowledge, attitude and practice related to occupational health and safety among textile mills workers in Dera Ismail Khan. Gomal Journal of Medical Sciences, 10 (2), 222-226.

Ahmed, H. O., & Newson-Smith, M. S. (2010). Knowledge and practices related to occupational hazards among cement workers in United Arab Emirates. *Journal of Egypt Public Health Association*, 85(3&4), 1-20.

Aluko, O. O., Adebayo, A. E., Adebisi, T. F., Ewegbemi, M. K., Abidoye, A. T., & Popoola, B. F. (2016). Knowledge, attitudes and perceptions of occupational hazards and safety practices in Nigerian healthcare workers. *BMC Research Notes*, *9*, 71. https://doi.org/10.1186/s13104-016-1880-2

Aliyu, S. U., & Ibrahim, A. M. (2015). Occupational risks and hazards exposure, knowledge of occupational health and safety practice. *Journal of Harmonized Research in Medical & Health Science*, 2 (3), 92-101.

Armstrong, C. E., & Drnevich, P. L. (2009). Small Business Strategies: Refining Strategic Management Theory for the Entrepreneurial and Small Business Contexts. *SSRN Electronic Journal*, 1–29. https://doi.org/10.2139/ssrn.1348632

Berisha, G. and, & Pula, J. . (2015). Defining Small and Medium Enterprises: a critical review. *Academic Journal of Business, Administration, Law and Social Sciences*, *1*(1), 17–28.

Biggam, J. (2001). Defining knowledge: an epistemological foundation for knowledge management. *Proceedings of the 34th Annual Hawaii International Conference on System Sciences*, *0*(c), 1–7. https://doi.org/10.1109/HICSS.2001.927102

Bureau Of Labor Statistics. (2016). Nonfatal occupational injuries and illnesses with days away from work 2015, (202), 1–28. https://doi.org/USDL 15-2205

Cs, G., & Krishnan, R. (2016). A review of occupational injury research in Malaysia, *71*, 100–104.

Fallis, A. . (2013). Knowledge, attitude and practice regarding needle stick injuries

(NSI) among nursing students in Faculty of Medicine and Health Sciences, UNIMAS. *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699. https://doi.org/10.1017/CBO9781107415324.004

Foundation, C., & Division, T. (n.d.). Burn clinical practice guideline. Retrieved from http://tetaf.org/wp-content/uploads/2016/01/Burn-Practice-Guideline.pdf

Gyekye, S. A. (2005). Workers' perceptions of workplace safety and job satisfaction. *International Journal of Occupational Safety and Ergonomics*, 11(3), 291-302. Retrieved from http://dx.doi.org/10.1080/10803548.2005.11076650

Hashim, J. (2012). Competence as a moderator of older workers' trainability and performance, 1–22.

Hee, O. C. (2014). Factors contribute to safety culture in the manufacturing industry in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, *4*(4), 63–69. https://doi.org/10.6007/IJARBSS/v4-i4/753

Kalghatgi, S., Prasad, K. V. V., Chhabra, K. G., Deolia, S., & Chhabra, C. (2014). Insights into Ergonomics Among Dental Professionals of a Dental Institute and

Private Practitioners in Hublie-Dharwad Twin Cities, India. Journal of Safety and Health at Work, 181-185.

Karim, H. A. (1997). The elderly in Malaysia: demographic trends. *Medical Journal of Malaysia*, *52*(3), 206–212. https://doi.org/10.5430/jnep.v6n5p100

Kielerstajn, R. (2008). Age and work motivation: : The view of older employees' Retrieved from http://hig.diva-portal.org/smash/record.jsf?pid=diva2:120140

Kooij, D., Lange, A. De, Jansen, P., & Dikkers, J. (2007). Older workers ' motivation to continue to work : five meanings of age. https://doi.org/10.1108/02683940810869015

Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, *38*(1), 607–610. https://doi.org/10.1177/001316447003000308

Kushnir, K. (2010). How Do Economies Define Micro , Small and Medium Enterprises (MSMEs)? *Companion Note for the MSME Country Indicators*, 1–136. Retrieved from http://www.ifc.org/wps/wcm/connect/624b8f804a17abc5b4acfddd29332b51/ms

me-ci-note.pdf?mod=ajperes

Khan, M. W. J. & Khalique, M. (2014). An overview of small and medium enterprises in Malaysia and Pakistan: Past, present and future scenario. *Business and Management Horizons*, *2*(2), 38–49. https://doi.org/10.5296/bmh.v2i2.5792

Leiter, M. P., & Zanaletti, W. (2009). Occupational risk perception , safety training , and injury prevention : Testing a model in the Italian printing industry, *14*(1), 1–10. https://doi.org/10.1037/1076-8998.14.1.1

Magoro, F. M., (2012). Knowledge, attitude and practices regarding personal protective equipment amongst Stevens Lumber Mills employees in the Capricor district of Limpopo province, South Africa, 1-83.

Nakata, A., Ikeda, T., Takahashi, M., Haratani, T., Hojou, M., Swanson, N. G., Fujioka, Y., & Araki, S. The prevalence and correlates of occupational injuries in small-scale manufacturing enterprises. *Correlates of Occupational Injury in Small Business*, 48(1), 366-376.

Oginski, A., Gozdziela, R., & Steelworks, T. S. (2000). Internal and external factors influencing time-related injury risk in continuous shift work, *6*(3), 405 421.

Pedersen, B. H., Hannerz, H., Christensen, U., & Tüchsen, F. (2011). Enterprise size and risk of hospital treated injuries among manual construction workers in Denmark: a study protocol. *Journal of Occupational Medicine and Toxicology (London, England)*, *6*(1), 11. https://doi.org/10.1186/1745-6673-6-11

Rahim, M. S., Nazri, M. S., & Rusli, M. A. (2012). Town service workers' knowledge, attitude and practice towards Leptospirosis. *Brunei Darussalam Journal of Health*, *5*, 1–12.

Rus, R. M., Daud, A., Musa, K. I., & Naing, L. (2008). Knowledge, attitude and practice of sawmill workers towards noise-induced hearing loss in Kota Bharu, Kelantan. *Malaysian Journal of Medical Sciences*, *15*(4), 28–34.

Said, S. M., Said, F., & Halim, Z. A. (2012). The determinants of industrial accidents in the Malaysian manufacturing sector, *6*, 1999–2006. https://doi.org/10.5897/AJBM11.2439

Salminen, S. (2004). Have young workers more injuries than older ones? An international literature review. *Journal of Safety Research*, *35*(5), 513–521. https://doi.org/10.1016/j.jsr.2004.08.005

Sanaei Nasab, H., Ghofranipour, F., Kazemnejad, A., Khavanin, A., & Tavakoli, R.

(2009). Evaluation of knowledge, attitude and behavior of workers towards occupational health and safety. *Iranian J Public Health*, *38*(2), 125–129.

Tadesse, T., & Kumie, A. (2007). Prevalence and factors affecting work-related injury among workers engaged in Small and Medium-Scale Industries in Gondar wereda , north Gondar zone , Amhara Regional State , Ethiopia. *Ethiopian Journal of Health Development*, *21*(1), 25–34. https://doi.org/10.4314/ejhd.v21i1.10028

Vaz, K., Mcgrowder, D., Crawford, T., Alexander-lindo, R. L., & Irving, R. (2010). Prevalence of injuries and reporting of accidents among health care workers at the university hospital of the west indies, *23*(2), 133–143. https://doi.org/10.2478/v10001-010-0016-5

Wok, S., & Hashim, J. (2011). Perception of young employees on communicating and sharing working relationships with older employees in higher learning institutions in Malaysia. *Malaysian Journal of Communication*, *28*(2), 51–71. Retrieved from http://core.kmi.open.ac.uk/download/pdf/11494734.pdf

Zakaria, N. H., Mansor, N., & Abdullah, Z. (2012). Workplace Accident in Malaysia: Most Common Causes and Solutions. *Workplace Accident in Malaysia: Most Common Causes and Solutions*, *2*(5), 75–88.

Zein, R. M., Halim, I., Azis, N. A., Saptari, A., & Kamat, S. R. (2015). A survey on working postures among Malaysian industrial workers. *Procedia Manufacturing*, *2*, 450–459. https://doi.org/10.1016/j.promfg.2015.07.078

APPENDIX I:

LETTER

ETHICS COMMITTEE FOR RESEARCH INVOLVING HUMAN SUBJECTS (JKEUPM)
UNIVERSITI PUTRA MALAYSIA

Research title	:	**A Comparison Of Knowledge, Attitude And Practice On Occupational Injuries Among Vocational-Technical Students And Industrial Workers In Terengganu**
Study Site	:	**Terengganu**
JKEUPM Ref No.	:	**FPSK(EXP16-OSH)U026**
Researcher	:	**Nor Aishah bt Md Nor**
Supervisor	:	**Dr. Ng Yee Guan**

Documents received and reviewed with reference to the above study:

1. Ethics Application Form, Version 2 dated 19/1/2017
2. Respondent Information Sheet & Consent (Malay) Version 1 dated 18/10/2016
3. Proposal (English), Version 2 dated 19/1/2017
4. Questionnaire (Malay), Version 1 dated 18/10/2016
5. Curriculum Vitae of:
    a. Dr. Ng Yee Guan

The University Research Ethics Committee, Universiti Putra Malaysia (JKEUPM) operates in accordance to the ICH-GCP Guidelines.

Decision by JKEUPM:

[X] Approved

[X] **Permission MUST BE OBTAINED from the respective hospitals/ institutions before conducting the research**

[ ] Disapproved

Please note that the approval is valid until 20 January 2018

Researchers should comply with the following:

I. Complete a Study Final Report upon study completion (Form D).

II. Ethical approval is required in the case of amendments/ changes to the study documents/ study sites/ study team.

JAWATANKUASA ETIKA UNIVERSITI UNTUK
PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,
SELANGOR, MALAYSIA

BORANG B1: PENERANGAN DAN PERSETUJUAN RESPONDEN

Sila baca maklumat berikut dengan teliti. Sekiranya anda mempunyai sebarang pertanyaan, sila kemukakan kepada penyelidik.

1.TAJUK KAJIAN

Pengetahuan, Sikap dan Amalan Terhadap Kecederaan Pekerjaan di Kalangan Pekerja Perusahaan Kecil dan Sederhana di Terengganu.

2. PENGENALAN

Kecederaan di tempat kerja adalah salah faktor yang menyumbang kepada kadar kematian yang tinggi. Walaubagaimanapun, masalah ini sering tidak diberi perhatian yang secukupnya. Faktor-faktor seperti Pengetahuan, Sikap dan Amalan di tempat kerja adalah faktor asas yang menyumbang kepada kecederaan pekerjaan. Kajian ini mengumpul data dan mengkaji faktor-faktor ini dan kaitannya dengan kecederaan pekerjaan.

3. APAKAH YANG PERLU ANDA LAKUKAN?

Anda perlu menjawab soalan kajiselidik yang akan diedarkan untuk mendapatkan maklumat mengenai latar belakang peribadi, pengetahuan, sikap dan amalan mengenai kecederaan pekerjaan.

4. SIAPA YANG TIDAK BOLEH MENYERTAI KAJIAN INI?

Pekerja yang tidak bekerja secara tetap di organisasi/ industri tersebut.

5. APAKAH FAEDAH MENYERTAI KAJIAN INI?

a) KEPADA ANDA SEBAGAI PESERTA?

Kajian ini akan mendedahkan anda tentang faktor yang paling menyumbang kepada kecederaan pekerjaan dan langkah-langkah pencegahan yang perlu diambil sekiranya berlaku kecederaan pekerjaan.

b) KEPADA PENYELIDIK?

Kajian ini akan membantu penyelidik untuk mengenalpasti dengan lebih tepat faktor yang menyumbang kepada kecederaan pekerjaan.

6. ADAKAH IA BERISIKO?

Tiada risiko di dalam kajian ini.

7. ADAKAH MAKLUMAT DAN IDENTITI SAYA KEKAL RAHSIA?

Maklumat dan identiti peserta akan kekal rahsia.

8. SIAPA YANG SAYA PERLU HUBUNGI SEKIRANYA SAYA MEMPUNYAI SOALAN TAMBAHAN SEMASA MENGIKUTI PENYELIDIKAN INI?

Sekiranya terdapat sebarang soalan tambahan, peserta boleh menghubungi penyelidik Nor Aishah binti Md. Nor di talian 019-9790684 atau penyelia kajian ini Dr Ng Yee Guan di talian 019-2771103.

Sila tandatangan di sini sekiranya anda telah membaca dan memahami kandungan halaman ini

_____

9. PERSETUJUAN

Saya..... No Kad Pengenalan. ..... beralamat.....
.....dengan ini bersetuju untuk mengambil bahagian secara sukarela dalam penyelidikan yang tersebut di atas *(kajian klinikal/percubaan ubat-ubatan/rakaman video/kumpulan sasaran/temuduga/ soal selidik).

Saya telah diberi penjelasan secara menyeluruh mengenai penyelidikan ini dari segi metodologi, risiko dan komplikasi (seperti tertulis pada Helaian Penerangan Responden). Saya memahami bahawa saya berhak menarik diri dari penyelidikan ini pada bila-bila masa tanpa memberi sebarang alasan.Saya juga memahami bahawa sebarang maklumat yang berkaitan identiti saya akan dirahsiakan.

Saya* berminat / tidak berminat untuk mengetahui keputusan kajian yang melibatkan saya.

Saya setuju/tidak bersetuju untuk imei/gambar/rakaman video/ rakaman suara digunakan dalam apa jua bentuk penerbitan atau pembentangan. (sekiranya berkaitan).

*potong yang tidak berkenaan

Tandatangan .....
(*Responden*)

Tandatangan .....
(*Saksi*)

Tarikh :.....

Nama :.....

No. K/P: .....

Saya mengesahkan bahawa saya telah menerangkan kepada responden ini sifat dan tujuan penyelidikan yang tersebut di atas.

Tarikh .....

Tandatangan .....
(*Penyelidik*)

APPENDIX II:

QUESTIONNAIRE MALAY VERSION

JABATAN KESIHATAN PERSEKITARAN DAN PEKERJAAN

FAKULTI PERUBATAN DAN SAINS KESIHATAN

UNIVERSITI PUTRA MALAYSIA

PENGETAHUAN, SIKAP DAN AMALAN TERHADAP KECEDERAAN PEKERJAAN DI KALANGAN PEKERJA PERUSAHAAN KECIL DAN SEDERHANA DI TERENGGANU.

BORANG SOAL SELIDIK

Nama syarikat/ industri: _____

Tarikh: _____

Semua jawapan akan dianggap sebagai sulit. Soal selidik ini mengandungi EMPAT bahagian.

BAHAGIAN A: DATA SOSIO-DEMOGRAFIK

Arahan: Sila lengkapkan semua maklumat dan tandakan (√) pada ruangan yang berkenaan.

1. Jantina

☐ Lelaki ☐ Perempuan

2. Umur: _____

3. Tahap pendidikan

☐ SPM
☐ STPM / STAM
☐ Matrikulasi / Pra-universiti
☐ Diploma
☐ Ijazah pertama
☐ Lain-lain (Sila nyatakan): _____

4. Bangsa

☐ Melayu
☐ Cina
☐ India
☐ Lain-lain (Sila nyatakan): _____

5. Jawatan/ bidang pekerjaan: _____

6. Tempoh bekerja: _____ tahun
_____ bulan

BAHAGIAN B: PENGETAHUAN

Arahan: Sila tandakan (√) pada ruangan yang berkenaan.

Item	Ya	Tidak	Tidak pasti
1. Kecederaan di tempat kerja boleh menjadi punca kematian.			
2. Tahap kebakaran/ kelecuran pada badan terbahagi kepada tiga; tahap pertama, tahap kedua dan tahap ketiga.			
3. Keadaan seperti membongkok, mencapai sesuatu melepasi kepala, atau berada di dalam sesuatu kedudukan terlalu lama boleh menyebabkan kecederaan ketika melakukan aktiviti di tempat kerja.			
4. Mematuhi prosedur operasi standard (SOP) atau prosedur kerja yang betul boleh mengelakkan berlakunya kecederaan di tempat kerja.			
5. Kod latihan (Code of Practice) adalah peraturan yang didokumenkan sebagai panduan kepada pekerja untuk melakukan kerja dengan selamat, apabila bekerja di sesuatu keadaan atau persekitaran yang berbahaya			
6. Pencahayaan yang mencukupi boleh mengelakkan kecederaan di tempat kerja.			
7. Persekitaran di tempat kerja yang tidak teratur boleh menjadi punca berlakunya kecederaan di tempat kerja.			
8. Alatan elektrik perlulah diselenggara oleh orang yang berkelayakan sahaja.			
9. Memakai pakaian yang berwarna terang boleh megelakkan berlakunya kemalangan dan kecederaan terutamanya semasa melakukan kerja pada waktu malam.			
10. Mesin yang tidak diselenggara secara kerap boleh menyebabkan kemalangan dan kecederaan di tempat kerja.			
11. Komunikasi yang jelas di kalangan pekerja amat penting bagi mengelakkan sebarang salah faham, kemalangan dan kecederaan di tempat kerja.			
12. Barang atau objek yang diletakkan di laluan keluar dan masuk boleh menyebabkan kemalangan seperti tersandung dan terjatuh.			

BAHAGIAN C: SIKAP

Arahan: Sila lengkapkan semua maklumat dan tandakan (√) pada ruangan yang berkenaan.

Sangat setuju (5), Setuju (4), Tidak pasti (3), Tidak bersetuju (2), Sangat tidak bersetuju (1)

Item	5 Sangat setuju	4 Setuju	3 Tidak pasti	2 Tidak bersetuju	1 Sangat tidak bersetuju
1. Adalah lebih baik sekiranya saya boleh menyiapkan kerja dengan lebih cepat dan tidak berbual atau bergurau bersama rakan sekerja semasa melakukan kerja.					
2. Sekiranya berlaku kemalangan di tempat kerja, saya perlu cuba menyelesaikan terlebih dahulu tanpa melaporkan kepada majikan atau pihak atasan.					
3. Saya mampu melakukan semua kerja bersendirian, saya tidak memerlukan sebarang bantuan.					
4. Tanggungjawab untuk memastikan tempat kerja sentiasa selamat adalah tanggungjawab majikan sepenuhnya.					
5. Saya selalu melakukan sesuatu kerja dengan cara sendiri, dan tidak merasakan saya akan terlibat dalam sebarang kecederaan kerana saya tidak pernah mengalami kemalangan setakat ini.					
6. Saya boleh menyiapkan sesuatu kerja dengan cara saya sendiri, saya tahu apa yang saya lakukan.					
7. Saya tahu jalan mudah yang membolehkan saya untuk menyiapkan sesuatu kerja itu dengan cepat.					
8. Jika persekitaran tempat kerja tidak selamat, saya tidak akan berkata apa-apa, dan berharap bahawa keadaan akhirnya diperbaiki.					
9. Alat pelindung diri (PPE) tidak perlu dipakai sekiranya risiko atau bahaya yang terdapat di tempat kerja adalah sedikit.					

10. Setiap pekerja baru perlu menjalani latihan terlebih dahulu dan mengenalpasti cara bekerja yang selamat sebelum mula bekerja.					

BAHAGIAN D: AMALAN

Arahan: Sila lengkapkan semua maklumat dan tandakan (√) pada ruangan yang berkenaan.

Sentiasa (5), Sering (4), Kadang-kadang (3), Jarang (2), Tidak pernah (1)

Item	5 Sentiasa	4 Sering	3 Kadang-kadang	2 Jarang	1 Tidak pernah
1. Memakai alat pelindung diri (PPE) yang disediakan setiap kali melakukan kerja yang berisiko atau berbahaya.					
2. Memastikan persekitaran tempat kerja kemas dan teratur.					
3. Membaca manual/ prosedur keselamatan sebelum melakukan sebarang aktiviti di tempat kerja.					
4. Melaporkan kepada penyelia atau majikan tentang bahaya yang dihadapi di tempat kerja.					
5. Melakukan kerja yang berisiko atau berbahaya tanpa penyeliaan atau bantuan.					
6. Melaporkan kepada penyelia atau majikan tentang sebarang kecederaan yang dialami di tempat kerja dengan segera.					
7. Merokok atau bergurau-gurau di kawasan tempat kerja.					
8. Memastikan peralatan yang akan digunakan tidak rosak sebelum menggunakannya.					
9. Mengangkat barang yang berat pada masa yang sama untuk menyiapkan kerja dengan cepat.					

10. Memastikan alat pelindung diri (PPE) tidak mempunyai sebarang kerosakan sebelum menggunakannya.					
11. Bekerja dalam keadaan tidak sihat (batuk, demam, selesema, dll.).					
12. Menggunakan alat bantuan mekanikal jika tidak dapat mengangkat atau melakukan sesuatu kerja seorang diri.					

- Soalan tamat -

APPENDIX III:

QUESTIONNAIRE ENGLISH VERSION

JABATAN KESIHATAN PERSEKITARAN DAN PEKERJAAN

FAKULTI PERUBATAN DAN SAINS KESIHATAN

UNIVERSITI PUTRA MALAYSIA

PENGETAHUAN, SIKAP DAN AMALAN TERHADAP KECEDERAAN PEKERJAAN DI KALANGAN PEKERJA PERUSAHAAN KECIL DAN SEDERHANA DI TERENGGANU.

BORANG SOAL SELIDIK

Nama syarikat/ industri: _____

Tarikh: _____

Semua jawapan akan dianggap sebagai sulit. Soal selidik ini mengandungi EMPAT bahagian.

SECTION A: SOCIO-DEMOGRAPHIC

Instruction: Please answer the question by ticking (√) or WRITING in the spaces provided.

1. Gender

☐ Male ☐ Female

2. Age: _____

3. Education level

☐ SPM
☐ STPM / STAM
☐ Matriculation/ Pre-university
☐ Diploma
☐ Bachelor
☐ Others (Please state): _____

4. Work position/ profession: _____

5. Employment duration: _____ Year
_____ Month

PART B: KNOWLEDGE

Instruction: Please answer the question by ticking (√).

Item	Yes	No	Don't know
1. Occupational injuries can be fatal.			
2. The degree of burn due to occupational injuries can be categorized into three; 1st degree, 2nd degree and 3rd degree.			
3. Position such as bending forward, reaching over the head, and prolonged standing or sitting can cause injuries.			
4. Comply with the standard operating procedures (SOP) or the correct work procedures can prevent the occurrence of injuries at workplace.			
5. The Code of Practice (COP) is a documented rules and regulations that serves as guidelines for a safe work practice.			
6. Sufficient lighting can prevent workplace injuries.			
7. Unorganized working environment can be a cause to occupational injuries.			
8. All electrical appliance should be maintained by a competent person only.			
9. Wearing a bright attire can prevent the occurrence of accident and injuries especially during a night shift.			
10. Machine that is not maintained regularly can cause accident and injuries at workplace.			
11. A good and clear communication among workers is very important to avoid accident and injuries at workplace.			
12. Any obstruction in the exit or entry point such stack of boxes or piles of files can lead to accident and cause injuries.			

PART C: ATTITUDE

Instruction: Please answer the question by ticking (√).

Strongly agree (5), Agree (4), Not sure (3), Not agree (2), Strongly not agree (1)

Item	5 Strongly agree	4 Agree	3 Not sure	2 Not agree	1 Strongly not agree
1. It is better for me to finish my work quickly and not chatting or joking around with colleague while performing any task at workplace.					
2. If any accident occurred at my workplace, I will try to solve it first without reporting it to my employer.					
3. I can do the works by myself, I don't need any helps.					
4. Employer is fully responsible for the safety of the working environment.					
5. I always do work with my own way, I don't think that I would get involved in any accident since I've never experienced one.					
6. I can finish any work with my own way, and I know what I'm doing.					
7. I know a shortcut to finish my work faster.					
8. If the working environment is not safe, I will not say anything and just wait until it was improved.					
9. Personal Protective Equipment (PPE) is not needed if the risk or the danger is too low.					
10. Every new worker should receive a proper training first and know the best safe work practice before performing any work task.					

PART D: PRACTICE

Instruction: Please answer the question by ticking (√).

Always (5), Often (4), Sometimes (3), Seldom (2), Never (1)

Item	5 Always	4 Often	3 Sometimes	2 Seldom	1 Never
1. Wearing a Personal Protective Equipment (PPE) during every work task especially the one that have risk.					
2. Make sure that the working environment is safe for performing any work task.					
3. Read the safety manual/ procedure provided before performing any work task.					
4. Report any risk or danger at workplace to the employer or the person in charge.					
5. Performing a risky and dangerous work task without any supervision or helps from someone else.					
6. Report any injuries experienced at the workplace to the employer or supervisor immediately.					
7. Smoking or joking around with colleagues at workplace.					
8. Make sure that any tools that will be used is safe and not damaged before using it.					
9. Lifting or carrying a heavy load all at once to finish the work early.					
10. Make sure that the Personal Protective Equipment (PPE) is safe to use before using it.					
11. Working in unwell condition or sick (coughing, fever, flu, etc.).					
12. Use of mechanical tool to perform any work if the work is too difficult to handle alone.					

- Soalan tamat -