UNIVERSITI PUTRA MALAYSIA

PREVALENCE OF WORK RELATED
INJURIES AMONG UPM STAFF JULY 2013

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PREVALENCE OF WORK RELATED INJURIES AMONG UPM STAFF JULY 2013

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ABSTRACT

Introduction Work-related injury is an injury or illness occurs in the working environment. Commuting accidents are injuries that occur whilst travelling at the time of the employee was engaged in work related activities. Types of work-related injuries are divided into fatal and non-fatal injuries. The non-fatal injury is further divided into temporary and permanent disability. A restricted work injury is a result for employee being unable to perform their works normally.

Objectives A study is conducted in Universiti Putra Malaysia, Serdang, Selangor to determine the prevalence of work related injuries among the UPM staff in July 2013.

Methods Study population involved all staff (academic staff and non-academic staff) in 15 faculties in UPM Serdang campus. Sampling frame was the lists of all UPM staffs and selected based on inclusion and exclusion criteria.Inclusion criteria was Malaysian UPM staff whereas exclusion criteria was Non-Malaysian UPM staff. Respondents (UPM staff) were given bilingual questionnairesand face to face interview was carried out to obtain information on socio-demographic characteristics, occupational characteristics and work related injuries. The data were analysed by using SPSS version 21.

Results Based from the results from 170 respondents, 38 of them have been involved in work related injuries. Thus, the prevalence of work related injuries among UPM staffs in July 2013 is 22.4%. Response rate was 46.2%. There is no association between socio-demographic

characteristics and the work related injuries since all p values more than 0.05. So, the null hypothesis was not rejected.

The results for work related injuries among UPM staff was 20 (11.8%) for females and 18 (10.6%) for males(p=0.189). The study also showed that 36 (21.1%) are Malay have involved in work related injuries compared to Non-Malay 2 (1.2%) for race association (p=0.738). The highest age group that have been involved in work related injuries is 31-40 years old 17 (8.2%) (p=0.580). For educational level, respondents who have tertiary education level 105 (61.8%) have not involved in work related injuries, which is highest compared to respondents who have SPM 19 (11.2%) and other educational level 8 (4.7%)(p=0.535). For association between the level of income (p=0.176), the respondents who have income level more than RM3000 16 (9.4%) have involved in work related injuries compared to the respondents who have income level lower than RM3000 22 (12.9%).

For occupational characteristics, there was no association between types of worker (p=0.563), types of occupation (p=0.120), daily working duration (0.471), working experience (p=0.202) and types of faculty (p=0.101) with work related injury.

Conclusion The prevalence of work related injuries among UPM staffs in July 2013 is 22.4%. We cannot find any association between social demographic characteristics and occupational characteristics with work related injury.

Keywords Work related injuries, UPM Staff, Universiti Putra Malaysia, Occupational injuries

ABSTRAK

Pengenalan Kecederaan di tempat kerja adalah kecederaan atau penyakit yang berlaku di tempat kerja. Kemalangan dalam perjalanan pula adalah kecederaan yang berlaku semasa seseorang pekerja itu di dalam perjalanan ke tempat kerja sama ada dalam perjalanan pergi atau pulang ke tempat kerja untuk melakukan tugas yang berkaitan dengan pekerjaan. Jenis-jenis kecederaan yang berlaku di tempat kerja dibahagikan kepada kecederaan maut dan bukan maut. Kecederaan bukan maut dibahagikan kepada kehilangan upaya buat sementara waktu dan kehilangan upaya secara kekal. Kecederaan di tempat kerja akan menghadkan keupayaan seseorang pekerja untuk melakukan pekerjaannya secara normal.

Objektif Kajian ini dijalankan di Universiti Putra Malaysia, Serdang, Selangor untuk menentukan kadar kecederaan yang berlaku di tempat kerja dalam kalangan kakitangan UPM pada bulan Julai 2013.

Kaedah Populasi kajian melibatkan semua kakitangan (staf akademik dan staf bukan akademik) di 15 fakulti di kampus UPM Serdang. Rangka sampel adalah senarai semua kakitangan UPM dan dipilih berdasarkan penyertaan dan kriteria pengecualian. Kriteria kemasukan adalah kakitangan UPM Malaysia manakala kriteria pengecualian adalah kakitangan UPM bukan warganegara Malaysia. Responden (kakitangan UPM) telah diberikan borang soalselidik dwibahasa dan temuduga telah dijalankan untuk mendapatkan maklumat tentang ciri-ciri sosio-demografi, ciri-ciri pekerjaan dan kecederaan yang berkaitan dengan pekerjaan. Data yang diperolehi dianalisis dengan menggunakan perisian SPSS versi 21.

Keputusan Berdasarkan daripada keputusan daripada 170 responden, 38 daripada mereka telah terlibat dalam kecederaan yang berkaitan dengan kerja. Oleh itu, kejadian kecederaan berkaitan di tempat kerja di kalangan staf UPM pada bulan Julai 2013 adalah 22.4%. Kadar respon adalah 46.2%. Tidak ada kaitan antara ciri-ciri sosio-demografi dan kecederaan yang berkaitan dengan kerja kerana semua nilai p adalah lebih daripada 0.05. Jadi, hipotesis nol tidak ditolak.

Keputusan bagi kecederaan yang berkaitan di tempat kerja dalam kalangan kakitangan UPM adalah 20 (11.8%) bagi perempuan dan 18 (10.6%) bagi lelaki (p = 0,189). Kajian ini juga menunjukkan bahawa 36 (21.1%) adalah Melayu telah terlibat dalam kecederaan yang berlaku di tempat kerja berbanding dengan bukan Melayu 2 (1.2%) (p = 0,738). Kumpulan umur yang paling tinggi yang telah terlibat dalam kecederaan yang berlaku di tempat kerja adalah 31-40 tahun 17 (8.2%) (p = 0,580). Bagi tahap pendidikan pula, responden yang mempunyai tahap pendidikan tinggi 105 (61.8%) tidak terlibat dalam kecederaan yang berlaku di tempat kerja, yang paling tinggi berbanding dengan responden yang mempunyai tahap pendidikan SPM 19 (11.2%) dan tahap pendidikan yang lain 8 (4.7%) (p = 0.535). Untuk hubungan antara tahap pendapatan (p = 0,176), responden yang mempunyai tahap pendapatan lebih daripada RM3000 16 (9.4%) telah terlibat dalam kecederaan yang berlaku di tempat kerja berbanding dengan responden yang mempunyai tahap pendapatan lebih rendah daripada RM3000 22 (12.9%).

Untuk ciri-ciri pekerjaan, tidak ada kaitan antara jenis pekerja (p = 0,563), jenis pekerjaan (p = 0.120), tempoh hari bekerja (0,471), pengalaman kerja (p = 0.202) dan jenis fakulti (p = 0.101) dengan kecederaan yang berkaitan dengan kerja.

Kesimpulan Kelaziman kecederaan yang berlaku di tempat kerja di kalangan staf UPM pada bulan Julai 2013 adalah 22.4%. Ciri sosial demografi dan ciri pekerjaan adalah tidak mempunyai kaitan untuk mendapat risiko kecederaan ketika berada di tempat pekerjaan.

Kata kunci Kecederaan yang Berlaku di Tempat Kerja, Kakitangan UPM, Universiti Putra Malaysia, Kecederaan Pekerjaan, Kesihatan Pekerjaan

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LIST OF ABBREVATION

DBP : Disability Budget Plan
FTE : Full time equivalent employees
HSE : Health Safety Executive
ILO : International Labour Office
NHIS : National Health Interview Survey
SES : Socioeconomic Status
SOCSO: Social Security Organization

CHAPTER 1: INTRODUCTION

1.1 Background

Work-related injury is injury where an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing injury or illness (Health Safety Executive, 2009). Work relatedness is presumed for injuries and illness resulting from events or exposures occurring in the work environment. Injuries that occur whilst the employee is travelling are work related if at the time of the injury or illness the employee was engaged in work related activities "in the interests of the employer". Examples of these include travelling to and from customer contacts, travelling between work sites, entertaining, or being entertained to transact, discuss or promote business, provided entertainment is at the direction of the employer,and driving a vehicle for work related purposes (Health Safety Executive, 2010).

Types of work-related injuries are divided into fatal and non-fatal injuries. The non-fatal injury is further divided into temporary and permanent disability. Temporary disability is the incapacity to work for at least one full day beyond the day on which the accident occurred. Meanwhile, permanent disability is the permanent physical or mental limitation due to an occupational accident. In women and in men, and in every age group, foreign workers had an increased risk of non-fatal and fatal occupational injury compared with Spanish workers. The differences were especially notable in foreign women workers and in older workers (Ahonen&Benavides, 2006).

One of the impacts of work-related injury is restricted work injury. A restricted work injury is a work related injury or illness which results in the employee being unable to perform one or more of their routine functions, or being unable to work the full day on or after the next day after the injury/illness (Disability Benefit Plan, 2009). It will cause restriction and limitation of the workers' activities to perform their routine functions. Indirectly, the impacts cause loss of skilled workers in the company which cause low productivity in that particular industry. Other than that, their family is also affected by losing the source of money and increase the needs to provide treatments and managements to the injured person.

1.2 Problem Statement

The International Labour Office (ILO) report on global incidence of occupational injury was the major source of data on the number of injuries and deaths from injury per year. It is estimated that about 2 million work-related deaths take place annually in worldwide. New Zealand had the highest average annual rate (4.9/100 000), Australia an intermediate rate (3.8/100 000), and the United States the lowest rate (3.2/100 000) of fatal occupational injury in year 2003. The average annual incidence was 9.2 fatal occupational injuries per 100,000 workers in Malaysia from year 2002 to 2006. Currently, there is not much study on work related injuries among universities.

1.3 General Objective

To determine the prevalence of work related injuries among the UPM staff in year 2013.

1.4 Specific Objective

1) To describe the socio-demographic characteristics of respondents.
2) To determine the prevalence of work related injuries among the UPM staff in July2013.
3) To determine the association between socio-demographic characteristics andwork related injuries.
4) To determine the association between occupational characteristics and work related injuries.

1.5 Research Hypothesis

There is an association between socio-demographic characteristics and work related injuries.

There is an association between occupational characteristics and work related injuries.

CHAPTER 2:LITERATURE REVIEW

2.1 Work related injuries and gender

American Journal of Industrial Medicine topic on gender differences in work related injury analysis of worker compensation compares compensable on work-related injuries between female and males across all major industrial sectors and occupational using state-managed Workers Compensation database.Result from this article showed that the overall injury rate was significantly lower in females than males which is 5.5 : 11.5 per 100 employes.But on specific injury, female workers have a greater risk compared to males in various industries including educational service which is female injury compared to male 1240 : 958 and female at risk of injury compared to males was 35 675 : 26 913 (Syed S Islam,2001).

American Journal of Epidemiology stated that female workers had the higher ratio to get occupational injuries compared to male workers across a variety of injury outcomes defined in terms of the part of body affected, nature of injury, severity of injury, how the injury occurred, and where the injury occurred. However, decreasing pattern of crude injury rates throughout 1980-1990 by calendar year and by gender among Southern California Edison electric utility workers is showed in the study for both gender (Kelsh and Sahl,1998).

2.2 Socioeconomic Status and Work Related Injuries

A journal stated that socioeconomic status (SES) such as level of income, level of education, and occupation/employment status were significant predictors of all other cases of injuries. The increased relative risk ratios for blue-collar occupation suggest that occupational risks for fatalities, especially motor vehicle–related fatalities, are higher for lower status jobs and are likely to reflect higher rates of driving exposure for work. The high risk of motor vehicle–related deaths in the lowest income group may reflect that these persons are less likely to be able to afford newer and safer vehicles or that they are more likely to live in inner-city areas (with increased pedestrian risk) or in remote rural areas (which results in greater distances traveled by car) (Cubbin et al, 2000).

A data from the National Health Interview Survey (NHIS) showed that nonfatal injury incidence rates are reported to be higher for persons who have low income, who have high educational attainment, and who are employed. Blue collar occupations are generally considered lower status jobs, so for combined and work-related injuries, lower SES, based on occupation/employment status, leads to higher risk. Furthermore, the low educational attainment is a significant risk factor for nonfatal injury (Collins, 1990).

2.3 Occupational Hazards

A worker may be exposed to five types of hazards, depending upon his/her occupation such as physical hazards, chemical hazards, biological hazards, mechanical hazards, psychosocial hazards (Envisnioh, 2010).

One of a research also stated that working in jobs with overtime schedules was associated with a 61% higher injury hazard rate compared to jobs without overtime. Working at least 12 hours per day was associated with a 37% increased hazard rate and working at least 60 hours per week was associated with a 23% increased hazard rate. Working in jobs with schedules that routinely involve overtime work or extended hours increases the risk of suffering an occupational injury or illness (Dembe, Erickson, Delbos, & Banks, 2005).

2.4 Commuting Accidents Related to Work Injuries

The definition of commuting accident is an accident an employee suffers while travelling to or from his place of work. In Germany, within the scope of the accident insurance institutions for the industrial and public sectors, a total of 919,025 reportable work-related accidents occurred in 2011 which resulted either in death or in incapacity for work for more than three days, a decrease of 3.7 % in reportable work-related accidents. The risk of work-related accident per 1,000 full time equivalent employees (FTE) declined to 24.5 (-5.1 %). In 2011, 15,740 serious work-related accidents were recorded which resulted in payment of a pension or death benefit. The risk of serious work-related accident per 1,000 full time equivalent employees (FTE) thus fell by 6.3 %, from 0.448 in 2010 to 0.420 in 2011. In addition, 498 fatal work-related accidents occurred. 188,452 reportable commuting accidents in the industrial and public sectors constitute a decrease compared to the previous year, from 5.25 to 4.34 per 1,000 insurance relationships. 5,951 new commuting accident pensions represent a reduction in the accident risk per 1,000 insurance relationships, from 0.142 per 1,000 insurance relationships in 2010 to 0.137 in 2011 (-3.6 %). The number of fatal commuting accidents declined from 367 to 394 (Eva Flaspöler, 2011).

According to Social Security Organisation (SOCSO), commuting accidents involving Malaysia workforce has been on the rise every year since 2006. In 2006, 17,704 cases were recorded whereas by 2011 the number increased to 24,809.Studies by Socso in collaboration with local universities showed that 88% of the accidents occurred while commuting to and from work, with 52% occurring while on the way to work and 36% on the way back (SOCSO, 2006).

2.5 Effects of Work-Related Injuries

Restricted work injury is a work related injury or illness which results in the employee being unable to perform one or more of their routine functions, or being unable to work the full day on or after the next day after the injury/illness (DBP, 2009). Thus, the impacts cause loss of skilled workers, low productivity of the company, and increase the compensations cost to treat the injuries.

In 2010, more than 4,500 U.S. workers died from occupational injuries. Annually, about 49,000 deaths are attributed to work-related illnesses. In 2010, an estimated 3.9 million workers in private industry and state and local government had a nonfatal occupational injury or illness. Of those workers, 2 million were transferred, placed on work restrictions, or took time away from work (NIOSH,2012).

2.6 Conceptual Framework

Basically, our study focused on the UPM staff with work related injury which was affected by social demographic characteristics and occupational characteristics. Occupational hazards and social demographic characteristics will contribute to work related injury. Work related injuries can be divided into several types and can cause direct and indirect effects to workers.

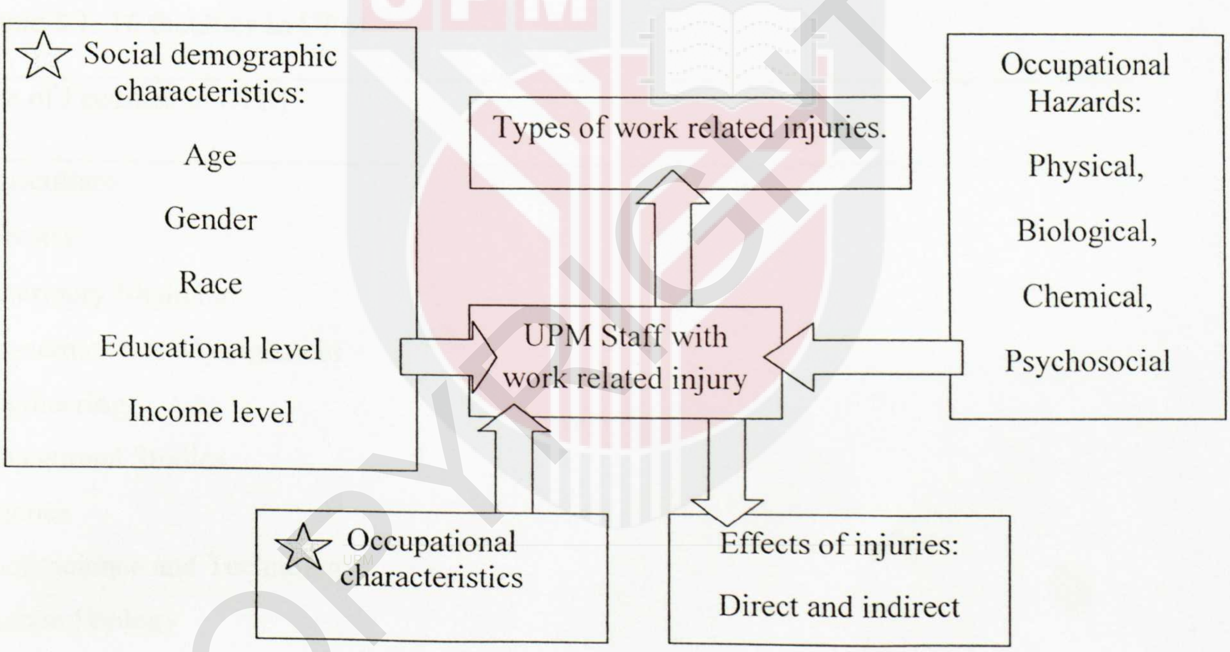

Figure 2.1 : Conceptual Framework of Work Related Injury

CHAPTER 3: METHODOLOGY

3.1 Study Location

This research was conducted in Universiti Putra Malaysia (UPM). UPM, previously known as UniversitiPertanian Malaysia, was established on 4 October 1971. It is a research intensive public university located in central Peninsular Malaysia, close to the capital city, Kuala Lumpur.There are 16 faculties in UPM as in Table 1:

Table 3.1: 16 faculties in UPM

List of Faculties in UPM
Agriculture
Forestry
Veterinary Medicine
Economics and Management
Engineering
Educational Studies
Science
Food Science and Technology
Human Ecology
Modern Language and Communication
Design and Architecture
Medicine and Health Sciences
Computer Science and Information Technology
Biotechnology and Biomolecular Sciences
Environmental Studies
Agriculture and Food Sciences

3.2 Study Design

Cross sectional study

3.3 Study Population

Study population involved all staff (academic staff and non-academic staff) in 15 faculties in UPM Serdang campus. Faculty of Agriculture and Food Sciences was not included because this faculty was located in Bintulu Campus.

3.4 Sampling Population

Sampling population involved UPM staff.

3.5 Sampling Frame

Sampling frame was the lists of all UPM staffs and were selected based on inclusion and exclusion criteria.

3.6 Inclusion Criteria

Malaysian UPM staff including permanent, temporary and contract workers.

3.7 Exclusion Criteria

Non-Malaysian UPM staff. UPM Staff in Faculty of Agriculture and Food Sciences was excluded from our research.because is it located in Bintulu Campus.

3.8 Sampling Unit

Sampling unit was a UPM staff.

3.9 Sampling Method

Sampling method was simple random sampling. This is done among study population. Random number generator method was used on sampling frame to select the UPM staff randomly.

3.10 Sampling Size

Proportion (simple random sampling):

$$n = \frac{[(z^2 * p * q) + ME^2]}{\left[ME^2 + z^2 * p * \frac{q}{N}\right]}$$

$$n = \frac{[\ (1.96^2 * 0.75 * 0.25) + 0.0016]}{\left[0.0016 + 1.96^2 * 0.75 * \frac{0.25}{1987}\right]}$$

$$= \mathbf{367.85 \approx 368}$$

The margin of error (ME) is plus or minus 4% or 0.04. It is for measure of precision.

The confidence level is 95% or 0.95.

Alpha is equal to one minus the confidence level. Thus, alpha = 1 - 0.95 = 0.05.

z is standard score. Since this is an estimation problem, the critical standard score is the value for which the cumulative probability is 1 - alpha/2 = 1 - 0.05/2 = 0.975. To find that value, we use the Normal Calculator.The Normal Distribution Calculator makes it easy to compute cumulative probability, given a normal random variable; and vice versa. Recall that the distribution of standard scores has a mean of 0 and a standard deviation of 1. Therefore, we plug the following entries into the normal calculator: Value = 0.975; Mean = 0; and Standard deviation = 1. The calculator tells us that the value of the standard score is 1.96.

And finally, we assume that the population proportion p is equal to its past value over the previous 5 years (Sampling population). That value is 0.75. Given these inputs, we can find the smallest sample size n that will provide the required margin of error.

Source of formula: http://stattrek.com/sample-size/simple-random sample.aspx?tutorial=stat

3.11 Study Instruments

The instrument used to collect data was questionnaire, which were done in dual language English and Bahasa Malaysia. The questionnaire contained information regarding demographic characteristics, type of worker, working experience, type of injuries, body affected, mechanism and agent involved in injuries.

3.12 Data Collection

Data were collected by using bilingual questionnaires. Before collecting data, the questionnaires were pretested.

3.13 Data Analysis

Data collected have been entered into SPSS Version 20.0. Then, we calculated frequency and distribution of data. We used Chi Square test and Fisher Exact test to determine the association of study. P values <0.05 has been taken as significant value.

3.14 Operational Definition

1. Prevalence: Something that exists or is very common at a particular time or in a particular place.

2. Work related injury: An injury or illness is work related if an event or exposure in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing injury or illness.

3. University: A place where a high-level educational institution in which students study for degrees and academic research is done.

4. Staff: All the people employed by a particular organization.

5. Worker: Any person who performs work, either regularly or temporarily, for an employer.

6. Occupational accident: An occurrence arising out of or in the course of work which results in:

(a) Fatal occupational injury;

(b) Non-fatal occupational injury.

7. Non-fatal occupational injury: Occupational injury not leading to death.

8. Fatal occupational injury: Occupational injury leading to death.

9. Commuting accident: An accident occurring on the direct way between the place of work and

(a) The worker's principal or secondary residence;

(b) The place where the worker usually takes his/her meals; or

(c) The place where the worker usually receives his/her remuneration,

which results in death or personal injury involving loss of working time. Traffic accidents in which workers are involved during working hours and which occur in the course of paid work are considered as occupational accidents.

10. Social Demographic:Data relating to the population and different groups within it like age, gender, race, educational level, income level

11. Occupational Characteristics: Characteristics related to work like types of worker, types of occupation, daily working duration, working experience and types of faculty.

CHAPTER 4: DATA ANALYSIS

4.1 Response Rate

Based on sample size estimation, 368 respondents should be involved in this study but only 170 respondents were involved. So after calculation as below, response rate was only 46.2%.

Response rate = (170/368)x100%

= 46.2%

4.2 Socio-demographic Characteristics of Respondents

The age for a total of 170 respondents in this research was not normally distributed after normality test. Most of them were from age from 31 to 40 years old (refer to Table 4.1).

There were 65 males and 105 females. Female respondents (61.8%) were higher than male respondents (38.2%).

For ethnicity, there were 156 (91.8%) Malay respondents, 10 (5.9%) Chinese respondents, 3 (1.8%) Indian respondents and 1 (0.6%) other.

Most of the respondents with an educational level of Master/PHD (44.1%), followed by Diploma (17.1%), SPM (15.9%), Degree (12.4%), STPM/Foundation/Matriculation (4.1%) and others (6.5%).

Respondents who have an income level in between RM1000 to RM3000 comprised 45.3% of total respondents. Respondents with income more than RM5000 comprised 37.1%, income level in between RM3001 to RM5000 comprised 14.7% and income less than RM1000 comprised 2.9%.

Table 4.1: Distribution of respondents by socio-demographic characteristics (n=170)

Socio-demographic characteristics	n	%
Age (years old)		
21-30	41	24.1
31-40	61	35.9
41-50	37	21.8
51-60	30	17.6
>60	1	0.6
Gender		
Male	65	38.2
Female	105	61.8
Ethnicity		
Malay	156	91.8
Chinese	10	5.9
Indian	3	1.8
Others	1	0.6
Educational Level		
SPM	27	15.9
STPM/Foundation/Matriculation	7	4.1
Diploma	29	17.1
Degree	21	12.4
Master/PHD	75	44.1
Others	11	6.5
Income Level (RM)		
<1000	5	2.9
1001-3000	77	45.3
3001-5000	25	14.7
>5000	63	37.1

4.3 Occupational Characteristics of Respondents

Among the 170 respondents, there were 69.4% of permanent workers, 24.7% of contract workers and only 5.9% of temporary worker (refer to Table 4.2).

Most of the respondents were office workers (40.6%) and the others were lecturers (21.8%), laboratory staff (12.4%), senior lecturers (8.2%), technician (3.5%), professor (2.4%), associate professor (2.4%), tutor (2.4%) and others (6.5%).

Respondents who worked 8 to 12 hours per day comprised 84.7% of total respondents, 14.1% worked less than 8 hours per day and only 1.2% worked more than 12 hours per day.

Most of the respondents have working experience of 5 to 15 years (47.6%) and a few of the respondents have a working experience more than 35 years (2.4%).

Among the 15 faculties, Faculty of Engineering provided the highest number of respondents which was 33 respondents whereas Faculty of Environmental Studies and Faculty of Veterinary Medicine provided the least number of respondents which was 2 respondents for each faculty.

Table 4.2: Distribution of respondents by occupational characteristics (n=170)

Occupational Characteristics	N	%
Type of worker		
Permanent worker	118	69.4
Temporary worker	10	5.9
Contract worker	42	24.7
Type of occupation		
Professor	4	2.4
Associate Professor	4	2.4
Senior Lecturer	14	8.2
Lecturer	37	21.8
Tutor	4	2.4
Office Worker	69	40.6
Laboratory Staff	21	12.4
Technician	6	3.5
Others	11	6.5
Daily Working Duration (hours)		
<8	24	14.1
8-12	144	84.7
>12	2	1.2
Working Duration (years)		
<5	40	23.5
5-15	81	47.6
16-25	18	10.6
26-35	27	15.9
>35	4	2.4

Faculties		
Engineering	33	19.4
Medicine and Health Sciences	20	11.8
Agriculture	19	11.2
Biotechnology and Bio-molecular Sciences	17	10.0
Human Ecology	15	8.8
Forestry	13	7.6
Science	10	5.9
Economics and Management	9	5.3
Food Science and Technology	9	5.3
Educational Studies	8	4.7
Design and Architecture	6	3.5
Modern Language and Communication	4	2.4
Computer Science and Information Technology	3	1.8
Environmental Studies	2	1.2
Veterinary Medicine	2	1.2

4.4 Prevalence of Work Related Injury

Total number of respondents with work related injury among 170 respondents was 38. Prevalence of work related injury among UPM staff was calculated as follows:

Total Respondents = 170

Total work related injuries = 38

Prevalence = (38/170) x 100%

= 22.35% per 100 population

4.5 Association between Socio-demographic Characteristics and Work Related Injury

The association between socio-demographic characteristics and work related injury as showed in Table 4.3. The result showed that there was no significant difference between socio-demographic characteristics and work related injury. P-value for each socio-demographic characteristic was more than 0.05, thus null hypothesis was not rejected, there is no association between socio-demographic characteristics and work related injury in UPM.

Table 4.3: Association between social demographic characteristics and work related injury

Socio-demographic Characteristics	Work Related Injury n(%)	No Work Related Injury n(%)	Total n(%)	Chi-square test p-value
Age (years old)				
21-30	9(5.3)	32(18.8)	41(24.1)	0.580
31-40	14(8.2)	47(27.6)	61(35.8)	
41-50	11(6.5)	26(15.3)	37(21.8)	
51-60	4(2.4)	26(15.3)	30(17.7)	
>60	0(0.0)	1(0.6)	1(0.6)	
Gender				
Male	18(10.6)	47(27.6)	65(38.2)	0.189
Female	20(11.8)	85(50.0)	105(61.8)	
Ethnicity				
Malay	36(21.1)	120(70.6)	156(91.7)	0.738*
Non-Malay	2(1.2)	12(7.1)	14(8.3)	
Educational Level				
SPM	8(4.7)	19(11.2)	27(15.9)	0.535
Tertiary	27(15.9)	105(61.8)	132(77.7)	
Others	3(1.8)	8(4.7)	11(6.5)	

Income Level				
<RM3000	22(12.9)	60(35.3)	82(48.3)	0.176
>RM3000	16(9.4)	72(42.4)	88(51.8)	

Note: *Fisher's Exact test p-value

4.6:Association between Occupational Characteristics and Work Related Injury

The association between occupational characteristics and work related injury as showed in Table 4.3. The result showed that there was no significant difference between socio-demographic characteristics and work related injury. P-value for occupational characteristic more bigger than 0.05, thus null hypothesis was not rejected, there is no association between occupational characteristics and work related injury in UPM.

Table 4.4: Association between occupational characteristics and work related injury

Occupational Characteristics	Work Related Injury n(%)	No Work Related Injury n(%)	Total n(%)	Chi-square test p-value
Type of Worker				
Permanent worker	29(17.1)	89(52.4)	118(69.5)	0.563
Temporary worker	2(1.2)	8(4.7)	10(5.9)	
Contract worker	7(4.1)	35(20.6)	42(24.7)	
Type of Occupation				
Lecturer	10(5.9)	53(31.2)	63(37.1)	0.120
Non-lecturer	28(16.5)	79(46.5)	107(63.0)	
Daily Working Duration(hours)				
<8	4(2.4)	20(11.8)	24(14.2)	0.471
>8	34(20.0)	112(65.9)	146(85.9)	
Working Experience (years)				
<5	6(3.5)	34(20.0)	40(23.5)	0.202
>5	32(18.8)	98(57.6)	130(76.4)	
Faculties				
Faculties with 0-3 cases of injuries**	15(8.8)	72(42.4)	87(51.2)	0.101
Faculties with 4-7 cases of injuries***	23(13.5)	60(35.3)	83(48.8)	

Note: ** Faculty of Educational Studies, Faculty of Human Ecology, Faculty of Economics and Management, Faculty of Veterinary Medicine, Faculty of Environmental Studies, Faculty of Agriculture, Faculty of Science, Faculty of Food Science and Technology, Faculty of Modern Language and Communication, Faculty of Design and Architecture, Faculty of Computer Science and Information Technology.

***Faculty of Biotechnology and Bio-molecular Sciences,Faculty of Engineering, Faculty of Forestry,Faculty of Medicine and Health Sciences

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Association between Socio-demographic Characteristics and Work Related Injury

From the result, there was no association between socio-demographic characteristics (age, gender, ethnicity, educational level and income level) with work related injury in local university. There was not much previous study of work related injury on local university, so we used other studies that comparable with our study. An estimated 19.4 million medically treated injuries occurred annually to working-age adults (11.7 episodes per 100 persons; 95% confidence interval [CI]=11.3, 12.1); 29%, or 5.5 million (4.5 per 100 persons; 95% CI=4.2, 4.7), occurred at work and varied by gender, age, and race/ethnicity. Among employed persons, 38% of injuries occurred at work, and among employed men aged 55–64 years, 49% of injuries occurred at work (Gordon 2004).There were 27,125 (40.1%) patients or workers in the age group 16 to 35 years, 30,090 (44.5%) in the group 36 to 55 years, 6,618 (9.8%) in the group 56 to 65 years, and 3,825 (5.7%) older than 65 years, and the injury severity increased significantly with age (Konstantinidis, 2011). The overall injury rate was significantly lower in females than males which is 5.5: 11.5 per 100 employees. But on specific injury, female workers have a greater risk compared to males in various industries including educational service which is female injury compared to male 1240 : 958 and female at risk of injury compared to males was 35 675 : 26 913. (Syed S Islam, 2001). A journal stated that socioeconomic status (SES) such as level of income, level of education, and occupation/employment status were significant predictors of all other cases of injuries (Cubbin, LeClere, and Smith, 2000).

5.2 Association between Occupational Characteristics and Work Related Injury

From the result, there was no association between occupational characteristics (types of worker, types of occupation, daily working duration, working experience and types of faculty) with work related injury in local university. For occupational characteristics, we have tried our best to find similar previous research to compare with our study but there is still not much study for occupational characteristics on work related injury. By the way, we still believe that there is an relationship between each occupational characteristics and work related injury.To compare the daily working duration characteristics, working in jobs with overtime schedules was associated with a 61% higher injury hazard rate compared to jobs without overtime. Working at least 12 hours per day was associated with a 37% increased hazard rate and working at least 60 hours per week was associated with a 23% increased hazard rate (Dembe, 2005).

5.3 Study Limitations

There are a few limitations that we face to complete this study. There is also non-respond bias in our study because some of the UPM staffs also refuse to answer the questionnaires. As this research was done using simple random sampling method, most of the selected respondents such as lecturers and tutors were going to overseas to further their studies.

This research was also conducted in July 2013, which is the period of semester break and fasting month for Muslims. Many of respondents especially Muslims, were not available because some of them were away for holiday.

Recall bias also may lead as the questionnaire asked about their history of work related injuries during working in UPM. Most of staffs that work for many years may forget to recall the frequency and what type of minimal injuries they had in the working environment.

As this research used a self-administered questionnaire, the message in the questionnaire might be misunderstood and therefore, giving rise to information bias.

5.4 Recommendations

This study should ideally be done on a longer period of time for data collection. It should not done during semester breakor during fasting month because it raised a lot of limitations during conducting this research.

Apart from that, the number of group members should be increased. 2 persons per group was not enough to do and divide jobs efficiently because there was too much to do.

The information obtained from this study can be a guideline to show the prevalence of work related injuries among all Malaysian universities' staffs as it was a public sector industry under educational sector. This information can be used to design an intervention that can help to reduce the prevalence of work related injuries among all staffs in Malaysian universities. We would like to recommend a public health education regarding the importance of prevention programs to decrease the risk of getting work related injuries. The activities such as campaigns, talks, demonstrations and exhibitions can be held to raise self-awareness among the university staff.

5.5 Conclusion

The prevalence of work related injuries among UPM staff in July 2013 is 22.35%. Since all p values more than 0.05, so the null hypothesis was not rejected, there is no association between social demographic characteristics and occupational characteristics with work related injury.

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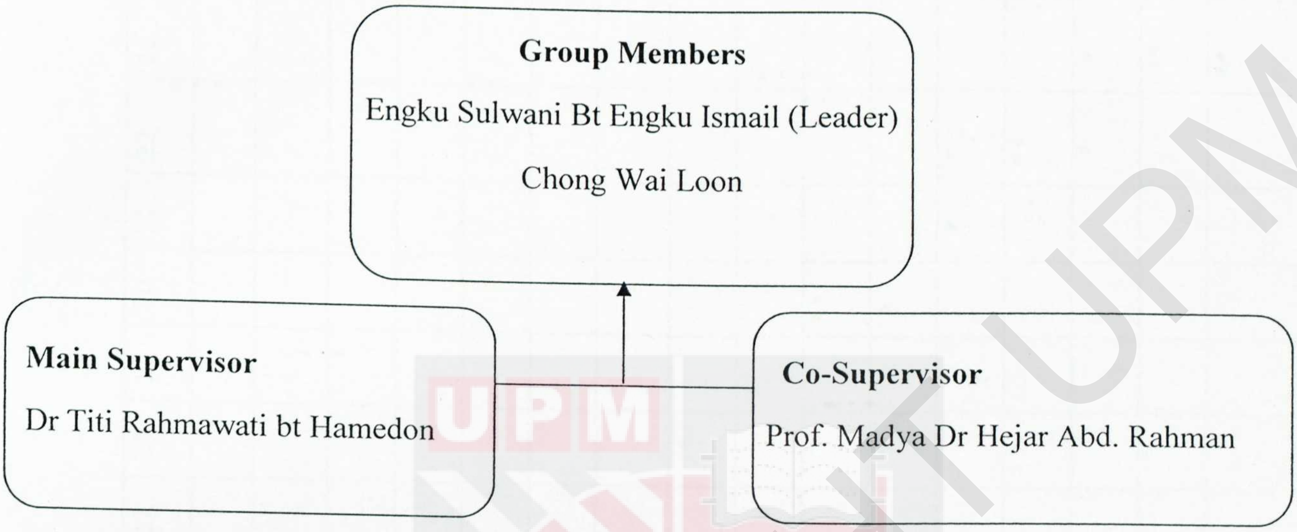
APPENDICES

Organization Chart



Budget

Stationery	: RM	40.00
Printing fees	: RM	200.00
Petrol	: RM	50.00
Total	: RM	290.00

Work Plan

Topic/Week	1	2	3	4	5	6-16	17	18	19	20	21	22	23	24
Proposal preparation	*	*												
Submission of Proposal to Module Coordinator		**												
Proposal Presentation (preparation)		*												
Proposal Presentation concurrent session				**										
Correction of proposal				*										
Preparation of ethical approval / letter				*										
Submission of ethic form & corrected proposal to DrSuhainizam					**									
Data collection							*	*	*					
Submission of data analysis									**					
Data analysis presentation										**				
Correction of data analysis										*				
Report writing											*	*		
Submission final report / scientific article												**		
Preparation final presentation												*	*	
Final presentation													**	
Correction of final report /scientific article & Submission of log book and final report													**	**

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

Please help us to answer this form and we will collect it by 30/7/13 at Pejabat Am. Thank you so much.

RESPONDENT'S INFORMATION SHEET

Please read the following information carefully and do not hesitate to discuss any questions you may have with the researcher.

STUDY TITLE
Prevalence of Work Related Injury Among UPM Staff in 2013

INTRODUCTION
Work related injury is an injury or illness in the work environment either caused or contributed to the resulting condition or significantly aggravated a pre-existing injury or illness (HSE Incident Injury Illness Classification Guide HSE G 110, 2009). Injuries that occur whilst the employee is travelling are work related if at the time of the injury or illness the employee was engaged in work related activities "in the interests of the employer". Examples of these include travelling to and from customer contacts, travelling between work sites, entertaining, or being entertained to transact, discuss or promote business, provided entertainment is at the direction of the employer,and driving a vehicle for work related purposes(HSE, 2010).

In this research, we aim to determine the relationship between socio-demographic characteristics and the typeof work related injuries among UPM staff.

WHAT WILL YOU HAVE TO DO?
Agree to answer the questionnaires provided or face-to-face interview related to the research project.

WHO SHOULD NOT ENTER THE STUDY?
Non-Malaysian UPM staff

WHAT WILL BE THE BENEFITS OF THE STUDY:

(a) TO YOU AS THE SUBJECT?

To determine the relationship between socio-demographic characteristics and the type of work related injuries among the respondents and to educate ways to prevent work related injuries from occurring.

b) TO THE INVESTIGATOR?

To determine the proportion of work related injuries among the UPM staff in year 2013, to relate and investigate the relationship between socio-demographic characteristics and the type of work related injuries among the respondents, and to propose ways to prevent work related injuries from occurring.

WHAT ARE THE POSSIBLE RISKS?
None.

WILL THE INFORMATION THAT YOU PROVIDE AND YOUR IDENTITY REMAIN CONFIDENTIAL?
Yes.

WHO SHOULD YOU CONTACT IF YOU HAVE ADDITIONAL QUESTIONS DURING THE COURSE OF THE RESEARCH?

Engku Sulwani bt Engku Ismail (013-3010710)

Chong Wai Loon (016-5982708)

UPM/FPSK/PADS/JKEUPM/RIS01

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

CONSENT FORM (RESPONDENT)

RESEARCH TITLE :Prevalance of Work Related Injuries Among UPM Staff In Year 2013

RESEARCHER : Engku Sulwani Bt Engku Ismail (160696)
Chong Wai Loon (161465)

I .... Identity Card No. .... address.. ....hereby voluntarily agree to take part in the clinical research (questionnaire study) specified above.

I have been informed about the nature of the clinical research in terms of methodology, possible adverse effects and complications (as written in the Respondent Information Sheet). I understand that I have the right to withdraw from this clinical research at any time without assigning any reason whatsoever. I also understand that this study is confidential and all information provided with regards to my identity will remain private and confidential.

I* wish / do not wish to know the results of the tests performed on any samples taken from me.

* delete where necessary

Signature .... Signature ....
(*Respondent*) (*Witness*)

Date :.. Name :..

I/C No. :..

I confirm that I have explained to the respondent the nature and purpose of the above –mentioned clinical research.

Date .... Signature ....
(Researcher)

QUESTIONNAIRES

Please answer the following questions/ Sila jawab soalan-soalan berikut:

Part A: Personal Characteristics

1) Faculty/ Fakulti:___________________
2) Department/ Jabatan:___________________
3) Gender/Jantina:
   - ( ) Male/Lelaki
   - ( ) Female/Perempuan
4) Age(years)/Umur(tahun):___________________
5) Race/Bangsa:
   - ( ) Malay/Melayu
   - ( ) Chinese/Cina
   - ( ) Indian/India
   - ( ) Others/Lain-lain
6) Educational level/Tahap pendidikan:
   - ( ) SPM
   - ( ) STPM/ASASI/MATRIKULASI
   - ( ) Diploma
   - ( ) Degree
   - ( ) Master/PHD
   - ( ) Others/Lain-lain

Part B: Working Characteristics

1) Type of occupation/Jenis pekerjaaan:
   - ( ) Professor
   - ( ) Professor Madya
   - ( ) Pensyarah Kanan
   - ( ) Pensyarah
   - ( ) Tutor
   - ( ) Office worker/ Kerja pejabat
   - ( ) Laboratory Staff/ Staf Makmal
   - ( ) Technician/Juruteknik
   - Others/Lain-lain:___________________________

2) Income level/Tahap pendapatan:_________________

3) Type of worker/Jenis pekerja:
   - ( ) Permanent worker/Pekerja tetap
   - ( ) Temporary worker/Pekerja sementara
   - ( ) Contract worker/ Pekerja Kontrak

4) Duration of work per day (hour)/Jangka masa kerja sehari (jam):________________

5) Duration of working experience in UPM (years)/Tempoh pengalaman bekerja (tahun) sepanjang berada di UPM :________________

6)

*Have you been involved in injury during working or road accident while going to the workplace or going back home? /Pernahkah anda terlibat dalam kecederaan semasa kerja atau kemalangan jalan raya semasa dalam perjalanan pergi dan balik dari rumah ke tempat kerja?

- ( ) Yes. Please proceed to Part C/Sila sambung ke Bahagian C
- ( ) No. End of questionnaire/Soal selidik tamat

Part C: Working Injury/KecederaanPekerjaan

1) Type of injury/Jenis kecederaan:
   - ( ) Superficial Injury/Kecederaan Ringan atau luka
   - ( ) Fracture/Patah
   - ( ) Burns/Melecur
   - ( ) Sprains and strains/Terseliuh dan kekejangan
   - ( ) Lifting injury/Kecederaan mengangkat barang
   - ( ) Contusion/Lebam
   - ( ) Gas Poisoning/Keracunan Gas
   - ( ) Amputation/Terpotong Bahagian Badan
   - ( ) Concussion & Internal Injury/Terhantuk & Mengalami Kecederaan Dalaman
   - ( ) Road accident/Kemalangan jalan raya
   - Others:____________________________________

2) Injured body part/Bahagian badan yang cedera:

   - ( ) Upper Limb/Bahu dan Lengan
   - ( ) Lower Limb/Kaki dan Paha
   - ( ) Head and Neck/Kepala dan Leher
   - ( ) Trunk/Tubuh Badan
   - Others:____________________________________

3) Agent involved/ Ejen yang terlibat:
   - ( ) Stationery/Alatan tulis
   - ( ) Mechanical tools/Alatan mekanikal
   - ( ) Fire/Api
   - ( ) Slippery floor or obstacle on the floor/ Lantai yang licin atau halangan di lantai
   - ( ) Fall from the higher floor to the lower floor/ Terjatuh dari tempah tinggi ke tempat yang lebih rendah

- (   ) Electricity/ Elektrik
- (   ) Toxic gas/ Gas beracun
- (   ) Bacteria, virus or parasite/ Bakteria, virus atau parasit
- (   ) Chemical/ Bahankimia
- Others: ____

4) How many times have you injured in the workplace? Please state. / Berapakah bilangan kecederaan yang berlaku terhadap anda ketika di tempat kerja? Tolong nyatakan:________________________________

5) What is/are the effect(s) that happens to you after the injury? Apakah kesan yang berlaku terhadap anda selepas kecederaan itu?

____
____
____
____

End of Questionnaires. Thank You.
Soal Selidik Tamat. Terimakasih.

Attachment 2

JKEUPM Ref No. : FPSK_Mei (13)44

Members of the JKEUPM who reviewed the documents:

Prof. Dr. Zamberi Sekawi

Date of approval: 2/9/2013

Endorsed at JKEUPM Meeting on **6/9/2013**, attended by:

NAME	DESIGNATION	GENDER	TICK IF PRESENT
Prof. Dr. Norlijah Othman	Paediatrics& Dean, Faculty of Medicine and Health Sciences	Female	√
Prof. Dr Zamberi Sekawi	Medical Microbiologist & Deputy Dean of Research and Internationalization, Faculty of Medicine and Health Sciences	Male	√
Prof. Dato' Dr. Lye Munn Sann	Medical Statistician, Dept of Community Health, Faculty of Medicine and Health Sciences	Male	
Prof. Dr. Tengku AizanAbd Hamid	Gerontologist & Director, Institute of Gerontology	Female	√
Prof. Dr. Lekhraj Rampal	Medical Statistician, Dept of Community Health, Faculty of Medicine and Health Sciences	Male	√
Prof. Dr. Elizabeth George	Pathologist, Dept of Pathology, Faculty of Medicine and Health Sciences	Female	√
Prof. Dr. Lim ThiamAun	Anesthesiologist, Dept of Surgery, Faculty of Medicine and Health Sciences	Male	√
Prof. Dr. Wan Omar Abdullah	Medical Parasitologist, Dept of Medical Microbiology and Parasitology, Faculty of Medicine and Health Sciences	Male	
Prof. Dr. Patimah Ismail	Professor of Biomedicine, Dept of Biomedical Sciences, Faculty of Medicine and Health Sciences	Female	√
Assoc. Prof. Dr. Johnson Stanslas	Pharmacologist, Dept of Medicine, Faculty of Medicine and Health Sciences	Male	√
Assoc. Prof Dr. Mansor Abu Talib	Assoc. Professor of Guidance and Counselling, Dept of Human Development and Family Studies, Faculty of Human Ecology	Male	
Assoc. Prof. Dr. Noritah Omar (Lay Person)	Assoc. Professor of English Language, Dept of English Language, Faculty of Communication and Modern Languages	Female	
Dr. Rojanah Kahar (Lay Person)	Lecturer of Dept of Human Development and Family Studies, Faculty of Human Ecology	Female	√
Tan Sri Dato' Napsiah Omar (Lay Person)	Chairman, National Population and Family Development Board	Female	