

WORKPLACE ACCIDENTS AND UNDERREPORTING AMONG THE OIL PALM WORKERS: A PILOT STUDY

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ABSTRACT: *The study examines the socio-demographic profile and the workplace accident as well as accident underreporting among the oil palm workers. Data was gathered using self-administered questionnaires from 100 oil palm workers who work as fresh fruit harvesters in the FELDA oil palm plantations located in the east coast of Peninsular Malaysia. Findings revealed that the workers are mostly men, aged between 25 and 35 years old, married with more than one dependent, and have an at least a secondary school education. The prevalence of workplace accidents among the workers was 9.46%, but the underreporting was 39.27%. In general, the findings indicate that the rate of workplace accidents among the FELDA oil palm workers were relatively low but the underreporting was at an alarming rate. Interventions to improve the safety and health reporting among the workers are crucial to reduce this issue, hence a further study to identify the predictors for the safety and health reporting is recommended.*

Keywords: workplace accident, underreporting, oil palm workers, FELDA oil palm, safety and health

1. INTRODUCTION

The oil palm industry is the highest contributor to the Gross Domestic Product (GDP) of the agriculture sector in Malaysia at 43.1 percent [1]. In spite of this, agriculture appears as the third hazardous industry according to the local accident data [2-3]. The work nature in the oil-palm plantations which requires the physical strength of manual labours to carry heavy tools and loadings exposes the workers to various types of safety and health problems, such as muscle soreness and body pains [4-7]. Thus, a growing number of studies have been focusing on the musculoskeletal disorders (MSDs) and ergonomics issues among the oil palm workers. The prevalence of total MSDs was found to range from 92% to 100%, with the affected body parts included lower back, knee, shoulder, neck, upper back, hands/arms, ankle/feet, and elbow [5,7-8].

In addition, the oil palm workers are subjected to countless types of accidents and injuries including the machinery-related accidents, falls, animal bites, occupational diseases, and poisoning [9]. However, the information on these types of accidents among the oil palm workers is scarce. The profound concern is the probability of accident underreporting among the workers. Studies have discovered that the underreporting is a prevalent issue among the employees around the world [10]. The reasons include self-blamed, the worry of others' perceptions, refuse to miss working time, limited information on reporting, as well as lengthy and tedious procedures [11]. Additionally, the poor safety climate [12-13], production pressure [14-15], and moral disengagement [16] were found as contributing factors for the accident underreporting.

In Malaysia, the oil palm plantations are mostly of private estates (61%), while the rest are managed by independent smallholders (16.9%), Federal Land Development Authority or FELDA (12.1%), state scheme or government agencies (6%), Federal Land Consolidation and Rehabilitation Authority or FELCRA (2.9%), and Rubber Industry Smallholders Development Authority or RISDA (1.1%). Previous studies on the oil palm workers were performed either in private estates or with the independent smallholders in the west and southern part of Peninsular Malaysia. On the

other hand, this would be the first study on the workplace accidents among the FELDA oil palm workers.

This study presents the socio-demographic and the prevalence of workplace accident, as well as the prevalence of underreporting among the oil palm workers in the east coast of Peninsular Malaysia.

2. EXPERIMENTAL DETAILS

2.1 Subjects/study population

This study involved 100 respondents who are working as fresh fruit harvesters in eight FELDA's oil palm plantations which located in the east coast of Peninsular Malaysia. Using the purposive sampling, these neighbouring plantations were selected based on a list of FELDA oil palm plantations provided in the FELDA's official website. A list of all workers was obtained from each management office as the sampling frame. Subsequently, a self-administered questionnaire was distributed to all workers with the help of their supervisors. The workers were given a two-week time to complete the questionnaire before they were collected.

2.2 Instrument

A structured questionnaire which includes socio-demographic particulars such as gender, age, nationality, work experience, marital status, number of dependents, education level, and their monthly income was used for this study. The second part of the questionnaire consists of the types of workplace accidents, types of injuries, types of poisoning or diseases, and types of MSDs which were adapted from the lists provided by the Department of Occupational Safety and Health (DOSH) Malaysia. For this part, it required the respondents to mark either "yes" or "no" for any workplace accidents, injury, poisoning or diseases, as well as the MSDs which they have experienced for the past 12 months. They were also requested to mark either "yes" or "no" to reporting the accidents, injury, poisoning or diseases, and the MSDs to their employer or supervisor if they marked "yes" for experiencing the mentioned conditions. This method is called the recognition-based technique which was found to be a more optimal way of measuring work-related accidents and associated reporting behaviours [17].

2.3 Statistical Analysis

The results were analysed by using the IBM's Statistical Package for the Social Sciences (SPSS) Version 23. Descriptive statistics such as frequencies and the percentage were used to display the results of the study.

3. RESULTS AND DISCUSSION

This study was aimed to determine the social background of the oil palm workers, their experience with workplace accidents, and the level of accident underreporting. Previous studies have been reporting that the age, gender, work experience, and monthly income as highly related to the number of workplace accidents and the underreporting.

Socio-Demographic

Previous studies on the west coast and south of Peninsular Malaysia revealed that the mean age of the oil palm workers was ranging from 24 to 41 years old with relatively low education [4,6–8]. These findings are consistent with the findings of this study in which the workers aged between 26-35 years old were the highest frequency and majority of the workers were educated until secondary school (54%). Even though they were minorities (18%), the workers who attended tertiary education in this study was somewhat higher than in previous studies. The increasing unemployment rate and current economic demand could be the explanation for any tertiary educated person to work in this field.

Due to the exposure of hazardous and risky tasks which are more suitable for males rather than females, the oil palm works are normally dominated by males. This was proven in many previous studies which involved all males [5,18–20]. Conversely, this research was participated by 88 males and 12 females. The presence of female workers is believed as a result of socio-economic demands which requires the females to work in order to ease the economic burden of their family.

Another disparity of the current study with the previous ones was the majority of the oil palm workers are Malaysian (62%) while the rest were Indonesian. The reason can be due to the location of the FELDA plantations which are located inside or around the FELDA settlements, in which the settlers are Malays. After all, FELDA was initially founded to handle the resettlement of rural Malay poor into newly developed areas. The neighbouring Malay villages could also be the contributing factor in this matter.

Other socio-demographic information of the oil palm workers such as marital status, monthly income, and the number of households were scarce. This may be due to the fact that these variables were not significant in their studies on the work-related MSDs or ergonomic problems. Since this study includes other types of workplace accidents, injuries, poisoning and diseases, we collected that information from our respondents.

Our study found that the majority of the oil palm workers are married with more than one dependent. Most of them have been working at the plantations for more than three years, with the highest income of more than RM1801 monthly.

Table 1 Socio-demographic profile of FELDA Oil Palm Workers in East Coast of Peninsular Malaysia

No.	Category	Sub-category	Frequency (%)
N=100			
1	Gender	Male	88
		Female	12
2	Age	15 to 25 years old	15
		26 to 35 years old	46
		36 to 45 years old	21
		46 to 55 years old	18
3	Nationality	Malaysian	62
		Indonesian	38
4	Years of Working	Less than 1 year	13
		1 to 3 years	19
		3 to 5 years	15
		More than 5 years	53
5	Marital status	Single	36
		Married	61
		Divorcee/single parent	3
6	No. of dependents	None	31
		1 to 3 persons	37
		3 to 5 persons	23
		More than 5 persons	9
7	Monthly income	RM601-RM1200	26
		RM1200-RM1800	56
		RM1801 and above	18
8	Education status	No formal education	13
		Primary school	15
		Secondary school	54
		College diploma	12
		Degree	6

Prevalence of Workplace Accidents and the Underreporting

In the second part of the questionnaire, the workers were asked to mark any occupational accidents, injuries, diseases, and musculoskeletal disorders (MSDs) which they had experienced in the last 12 months prior to this study. Additionally, they were requested to indicate whether they reported those accidents, injuries, diseases, and MSDs to their supervisor or employer. The list of the accidents, injuries, diseases, and MSDs are as provided by the Department of Occupational Safety and Health (DOSH) Malaysia. We simplified and customized the list before two safety and health officers (SHO) checked and verified that the list was complete and fitting to be used in this study. The questions were intended to access the prevalence of occupational accidents and diseases among the oil palm workers, as well as to determine the underreporting among them. The result of the analysis is shown in the following tables.

Table 2 Prevalence of injuries and injury reporting among FELDA oil palm workers

Type of Injuries	Frequency of Cases	Frequency of Reported Cases	Frequency of Underreporting
Acute poisoning	10	9	1
Suffocation or drowning	2	1	1
Burns or scalded	2	1	1
Bruises	13	9	4
Joints dislocations	14	8	6
Effects of electric currents	1	1	0
Heat stroke or struck by lightning	1	1	0
Unwell due to extreme weather	6	4	2
Broken or fractured bones	3	3	0
Sprained, muscle tear, or hernia	14	8	6
Blisters or bites of non-venomous insects	32	15	17
Emotional or mental disturbance	5	2	3
Others i.e loss of nails, eyes, or injury to nerves	4	2	2
Total cases	107	64	43

N = 100

From the result of the injury type survey, the most common injury among the oil palm workers were light blisters or bites by the non-venomous insects (32%), followed by sprained muscles (14%) and joint dislocations (14%). Interestingly, these three most common injuries were also recorded the highest injury underreporting among the workers. These results are consistent with previous study that the workers prefer not to report any light injuries [14]. Meanwhile, serious injuries which would prevent the workers from working such as effects of electric currents, heat stroke or struck by lightning, and broken or fractured bones were all reported. This is most probably due to the need of medical attention and insurance coverage, thus requires proper injury reporting. Nonetheless, the result concluded that the injury underreporting among the workers was 40.19%. Consistently, the analysis based on the type of accident experienced by the workers shown a similar trend to the

Table 3 Prevalence of accidents and accident reporting among FELDA oil palm workers

Type of Accidents	Frequency of Cases	Frequency of Reported Cases	Frequency of Underreporting
Caught in or between tools or objects	9	5	4
Exposed to extremely hot or cold weather, objects, or liquids	12	5	7
Electrocuted	1	1	0
Exposed to harmful substances or radiations	5	5	0
Fallen from higher or on same level, or into a hole	3	2	1
Overexertion or strenuous movement	11	5	6
Stepped on, struck against or struck by tools or objects	12	4	8
Struck or pinned by falling objects	2	1	1
Other accidents	1	1	0
Total cases	56	29	27

N = 100

analysis based on the type of injury. Table 3 shows that the most predominant accidents suffered by the workers were those that were manageable, namely exposed to extremely hot or cold weather, objects, or liquids (12%), stepped on, struck against, or struck by tools or objects (12%), as well as the overexertion or having a strenuous movement (11%). It also appeared that these injuries have the highest underreporting. Additionally, severe accidents which definitely would require medical attention such as electrocution and exposed to harmful substances or radiation were reported to the supervisor or employer. Even so, the total accident underreporting was substantially high (48.21%).

As for the analysis of the occupational poisoning and diseases, the highest case was the skin diseases (11%), followed by the continuous poisoning as a result of use of chemicals (7%), then the eyes, nose, nail, tongue, or ovula diseases (6%) which also a result of use of chemicals, as well as asthma, dry cough, or lung problems (5%). These types of

Table 4 Prevalence of poisoning or diseases, and the case reporting among the FELDA oil palm workers

Type of Poisoning or Diseases	Frequency of Cases	Frequency of Reported Cases	Frequency of Underreporting
Continuous poisoning (vomiting, dizziness, diarrhoea) as a result of use of chemicals	7	6	1
Eyes, nose, nail, tongue, or ovula diseases as a result of use of chemicals	6	4	2
Contagious diseases (i.e leptospirosis, HIV, viral fever, bacteria)	1	1	0
Skin diseases	11	9	2
Asthma, dry cough, or lung problem	5	4	1
Cancer	1	1	0
Losses of hearing or sight, pain on hands, or other diseases	1	1	0
Total cases	32	26	6

N = 100

diseases were possibly common due to the nature of their works of working in the oil-palm plantations which were bushy, damped during the morning, exposed to a variety of insects, and the frequent use of chemicals. There were also workers who have critical diseases namely cancer, contagious diseases, and losses of hearing or sight, or pain on hands or others, but they were all reported. Overall, the prevalence of underreporting for poisoning and diseases was 21.88%.

Resembling the results of the previous study, all types of musculoskeletal disorders were suffered by the oil palm plantation workers and not reporting the pain was common. The most frequent MSDs among the oil palm workers were the hand and arm pain (32%), followed by back pain (29%), and the neck and shoulder pain (24%). These three types of MSDs were also recorded the highest underreporting among the workers. These types of MSDs were typical among the fresh fruit harvesters since they were using the upper limb and body when harvesting the fresh fruit bunches. The height of the palm trees and the forces needed to carry the tool to harvest the bunches contributed to the discomfort or body pain on the upper body of the workers. Since the pain comes while or after working, the workers are most likely to believe that the pain was an ordinary consequence of work activity or ageing, thus no reports were done unless it became too unbearable and requires them to leave from work. Hence, the

prevalence of underreporting for MSDs was moderately high at 39.71%.

Table 5 Prevalence of Musculoskeletal Disorders (MSDs) and the case reporting among the FELDA oil palm workers

Type of MSDs	Frequency of Cases	Frequency of Reported Cases	Frequency of Underreporting
Neck and shoulder pain	25	14	11
Hand and arm pain	32	17	15
Back pain	29	19	10
Lower back pain	18	11	7
Knee pain	14	11	3
Ankle pain	18	10	8
Total cases	136	82	54

N = 100

4. CONCLUSIONS

Based on the findings, the oil palm workers in the east coast of Peninsular Malaysia are mostly men, aged from 25-35 years old, married with more than one dependent, educated, and generally have a moderate monthly income. The workers have considerably low experience with workplace accidents, injury, poisoning and diseases, but slightly accustomed to having MSDs. In total, the prevalence of accidents and diseases among the oil palm workers was only 9.46%. The results suggested that the oil palm workers in the FELDA oil palm plantations located on the east coast of Peninsular Malaysia are practising safe working procedures, hence the low number of cases. The findings are in resemblance with a previous study in which the prevalence of accidents was 8.9% among the men working in agriculture [21].

In spite of that, the underreporting was noticeably high among the oil palm workers who experienced workplace safety and health issues. An initiative to recognize and promote the safety and health reporting is desirable. Since the regulations are already in place, the organization are set to properly instate the importance of reporting safety and health issues so that the affected person could get proper treatments and the root cause could be determined so that the employers could properly manage the risks.

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