Conference Paper

Commuting Accidents among Health Care Workers Working in Malaysia Government Hospitals

Siti Sara Yaacob[1], Khairil Idham Ismail[2], Syazmin Zuwairy Mohd Shaarial[1], Norhafizah Mohd Noor[1], Rathiruba Selvaraju[3], and Hafiz Ab Ghani[4]

[1]Occupational Health and Safety Unit, Medical Development Division, Medical Program, Ministry of Health, Malaysia
[2]Serdang Hospital, Ministry of Health, Malaysia
[3]Occupational Health and Safety Unit, Kuala Lumpur Hospital, Ministry of Health, Malaysia
[4]Occupational and Environmental Health Unit, Johor State Health Department, Ministry of Health, Malaysia

Abstract

Commuting accidents are accidents occurring while travelling to and from work, and in the course of work. Studies have demonstrated that long working hours are associated with deprived sleeping time. Acute sleep deprivation may result in significant changes in cognitive functioning, alteration of mental status resembling depression or anxiety and difficulty with short-term memory. Some other studies have found that sleep deprivation significantly affects physician performance, alertness and patient safety. However, individual factors concerning workers' behavior, family-related factors (parenting responsibility), work burden, workplace support as well as environmental factors such as bad weather and bad road conditions are also significant contributors of commuting accidents. The aim of this study is to investigate the relationship of long working hours or odd working hours and the risk exposure of the drivers during their work-commuting trips. The study was based on data collected from official notification forms. Sample size for this research was 554 based on 2014 to 2017 reported cases. Review of the statistics showed that most of the commuting accident causalities occurred during travel to work (30.1%), compared to back from work after normal office hours (28.7%) and during odd hours (night shift and post-call) (12.5%). Nurses contributed significantly to these causalities (53%), followed by hospital attendants (17%), medical officer and assistant medical officer, respectively, 6 percent. The increasing number of commuting accidents among healthcare workers is alarming. As such, it is timely that proactive actions be taken by employers to educate their employees, their most valuable assets, on safe commuting management.

Keywords: commuting accident, healthcare workers, road crashes

Corresponding Author:
Siti Sara Yaacob
drctsara@moh.gov.my

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1. Introduction

There were 6000 road deaths per year or 18–20 deaths per day in Malaysia as reported by Malaysian Institute Road Safety Research (MIROS) in 2012. In addition, it is also predicted that road fatalities for 2020 will be more than 10,000 fatalities in Malaysia based on the autoregressive integrated moving average (ARIMA) prediction model. Globally, 3400 persons die every day due to road accidents while 1.24 million die annually according to WHO. Alarmingly, the estimated fatality rate in Malaysia due to road accident was among the highest in the world in 2013 as reported by Global Status Report on Road Safety 2015 by WHO [1, 2]. Furthermore, according to Social Security Organization (SOCSO) 2015 annual report, the number of commuting accidents continued to rise despite an overall reduction in work-related accident cases. There was an increased by 542 cases or 1.93 percent to 28,579 cases in 2015 compared to 28,037 cases in 2014 [3].

Commuting accident is defined as an accident occurring on the habitual route, in either direction between the place of work or work-related training and: (i) the worker's principal or secondary residence; (ii) the place where the worker usually takes his or her meals; or (iii) the place where he or she usually receives his or her remuneration; which results in death or personal injury [4]. Commuting accidents pose a heavy burden to the economic and social well-being with the loss of critical manpower and productivity [5]. Human factors such as bad attitudes or driving habits, level of health and behavioral problem of workers was identified to be the most common cause of commuting accidents in Malaysia out of other four major factors that contributing to commuting accident namely individual, workload demand factors, physical environment and social environment [6].

In other studies, it was found that commuting accidents happen during travel to and from work (88.5%), during the morning shifts (68.8%) and involving less than five kilometers of travel (55.0%). Among them, the motorcyclist contributed mostly to these casualties; 49.7 percent of casualties and 58.7 percent of the total fatalities [7].

On the other hand, healthcare workers are commonly exposed to shift work and long working hours or being on-call. This is due to their nature of job by providing continuous healthcare services over long work hours. Long work hours increase the risk for short sleep duration and sleep disturbances. Difficulties with sleep are due to the need to sleep at irregular times and at times that are out of phase with circadian rhythms [8]. Meanwhile, sleep deprivation is associated with decline in neurocognitive function which in turn leads to higher rates of fatigue-related injury and worker errors

[9]. In fact, continuous wakefulness for 24 hours or more and being fatigued found to having a blood concentration of 100mg/dL^2 as well as on its effect exceeding the combine effects of alcohol and drugs in causing motor vehicle accidents [10, 11]. In other studies, it was also found that doctors working a 24 hour or longer shift were more than twice likely to be involved in road accident than those on a standard shift [12, 13].

Although many studies were carried out, little information is known on commuting accident among healthcare workers in Malaysia. A lot of discussions in regard to nature of job, fatigue, and long working hours were mainly based on personal and anecdotal sharing experiences. Thus, this study aims to investigate the relationship of long working hour or odd working hours and the risk exposure of the drivers during their work commuting trips.

2. Methods

This is a descriptive retrospective study based on data collection from official notification forms which are stipulated under the Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease (NADOPOD) Regulation 2004 and its parental act of Occupational Safety and Health Act (OSHA) 1994. Data was collected from 15 State Health Departments involving 146 Ministry of Health Malaysia hospitals. There were 554 incidents from 2015 to first quarter of 2017 that fulfilled the inclusion and exclusion criteria. Only confirmed cases of commuting accidents that reported using the forms via their respective State Health Department were selected into the inclusion criteria and those incomplete records of 30 percent of variables were deemed into the exclusion criteria. Subsequently, data were entered and analyzed by using Excel electronic spreadsheet and SPSS Version 22.0 for cross-tabulation and analysis.

3. Results

There were 33 percent cases reported in 2015, 48 percent in 2016 and 19 percent for first quarter of 2017 out of 554 incidents. Two-third were female (68%) and young adult drivers with ages of between 20–39 years old contributed to highest number of commuting accidents (62%) as shown in Figure 1. Meanwhile, more than half of them suffered from soft tissue injuries, laceration or abrasion wound. Small figure of less than 1 percent were death, polytrauma and brain injury as shown in Figure 2.

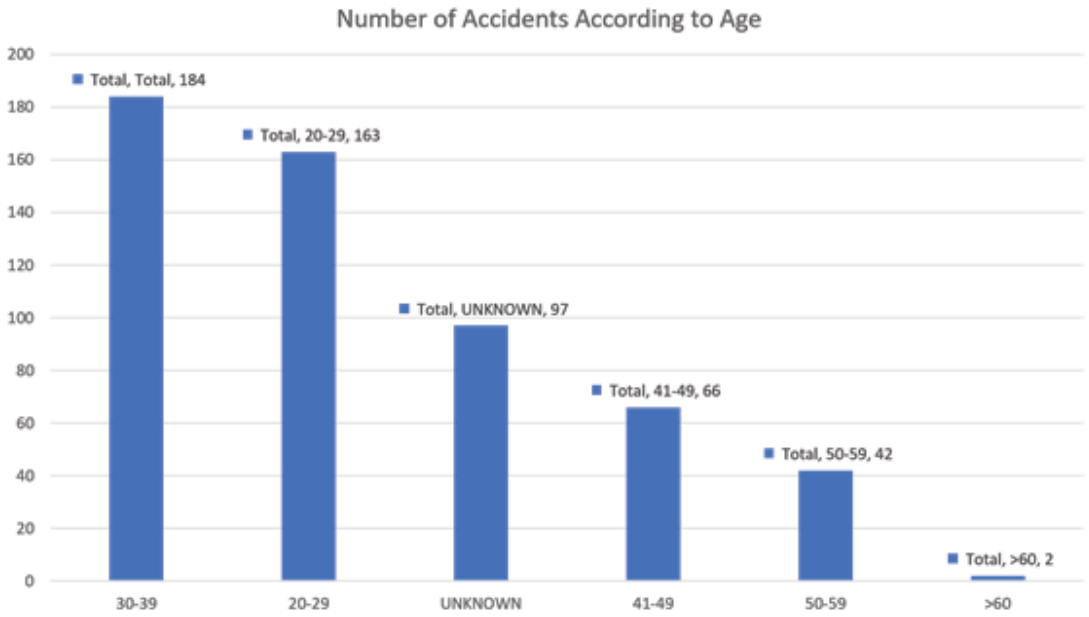

Figure 1: Number of accidents according to age.

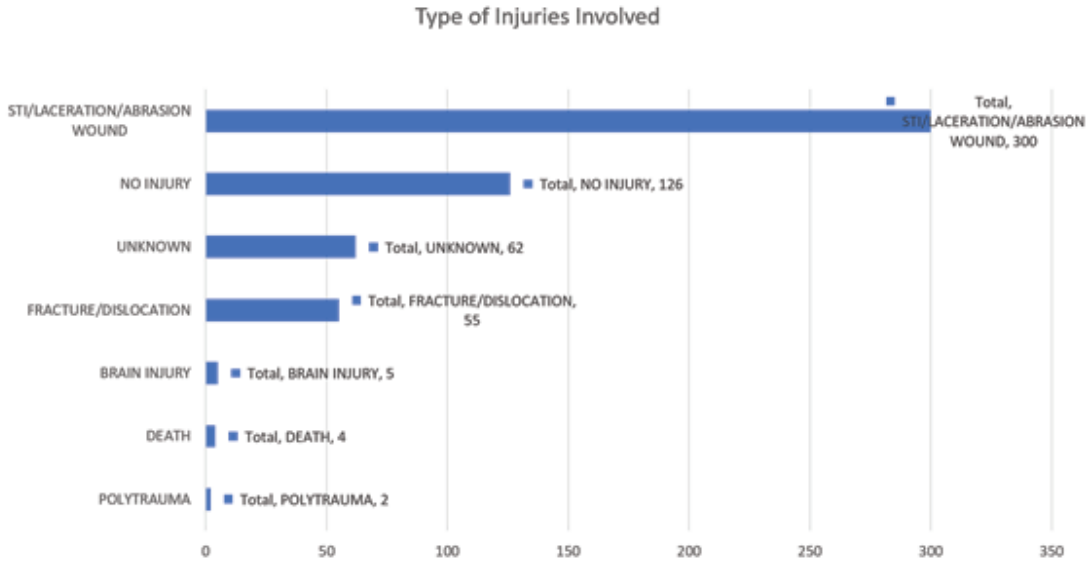

Figure 2: Type of injuries involved.

As illustrated in Figure 3, most of the commuting accident causalities occurred during travel to work (30.1%), compared to back from work after normal office hours (28.7%) and during odd hours (night shift and post-call) (12.5%). Nurses contributed significantly to these causalities (53%), followed by hospital attendants (17%), medical officer and assistant medical officer, respectively, 6 percent each (Figure 4).

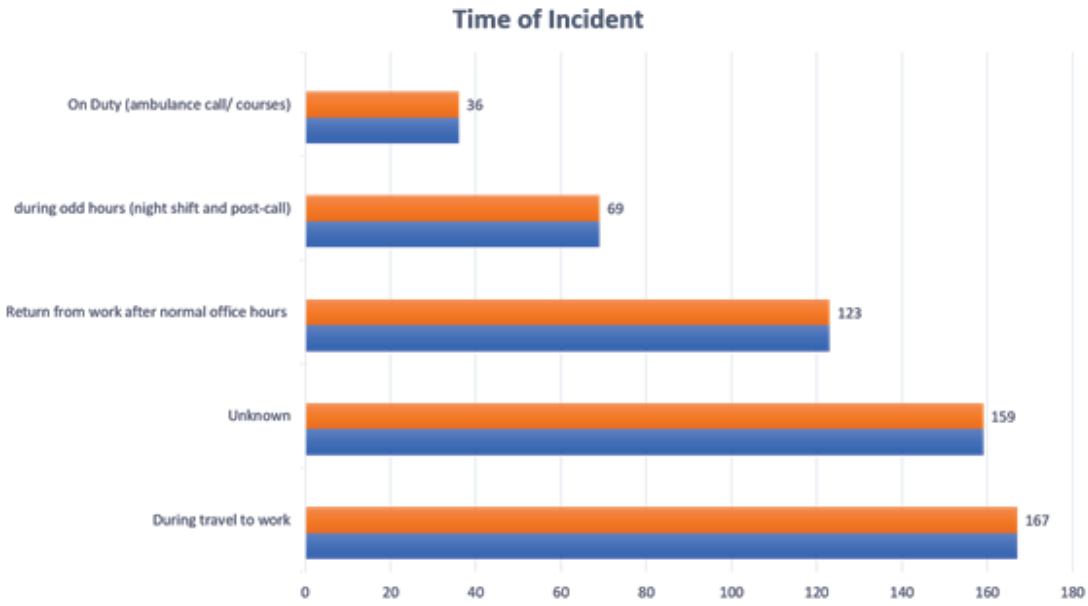

Figure 3: Time of incident.

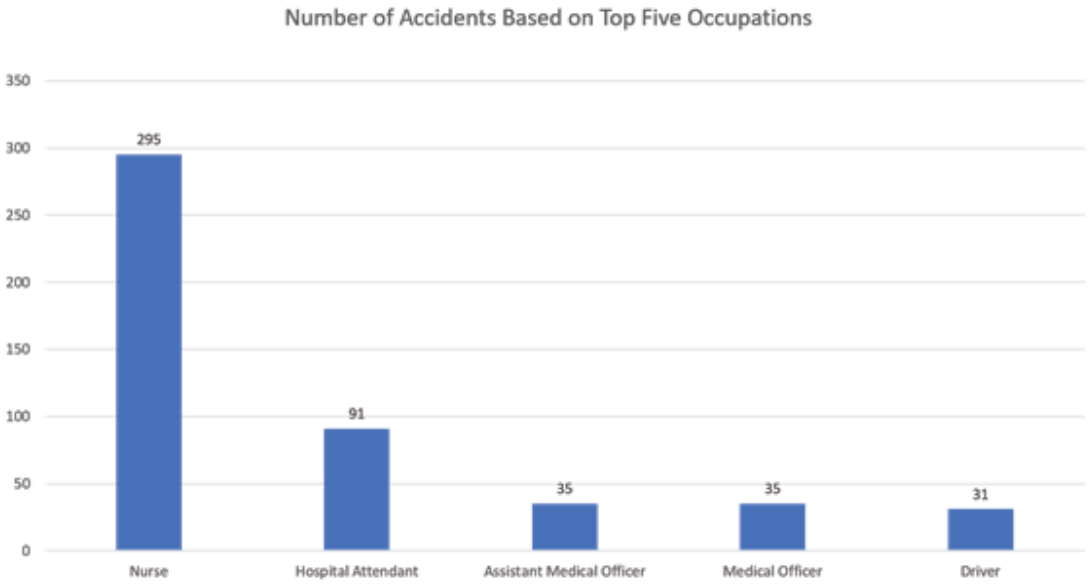

Figure 4: Number of accidents based on top five occupations.

4. Discussion

In this study, we used validated notification forms to analyze data. To our best knowledge, this is the first official study of its kind in Malaysia involving burden of commuting accident among healthcare workers in government hospitals. It was collected from all 15 Health State Departments involving 146 government hospitals in Malaysia. Previous study in Malaysia was not given much attention to healthcare workers whom synonymy to long working hours and being fatigued. The increased number of accidents

trend from previous year is consistent with report by Social Security Organization (SOCSO) which also increasing in proportionate to number of vehicles and travelling made [3].

The high number of commuting accidents involving healthcare workers past four years has also drawn the attention of the Director General Ministry of Health Malaysia, Datuk Dr. Noor Hisham Abdullah and he expressed his concerns towards safe driving culture especially after finishing work. This has highlighted on immediate and prompt senior management commitment towards safety and health of their employee [14].

Notwithstanding its number of incidents, it is believed to be a tip of iceberg and cases were under reported. Furthermore, data that we received were also lacking in many vital information which led us into quagmire of difficulty in statistical analysis. This is probably due to its weakness in notification and investigation mechanism system of commuting accident among healthcare workers itself as well as the awareness in reporting them. Incomplete data was another challenge that we faced which requiring in dropping from the total cases. From the analysis, we rooted back to our hypothesis whether driving after long working hours (post-call or post night shifts) predispose the drivers to road traffic accident among studied population?

Due also to its limitation of study design and based on existing data that we retrieved, we unable to conclude the relation of road traffic accident with post call or post night shift among the studied population. We are unable to identify the root cause for the road traffic accident too. Thus, no causation of cases was made. A proper mechanism is needed to explore and study the relationship between road traffic accident among healthcare workers and their working hours. From this analysis also, we identify the needs for an appropriate notification and investigation mechanism system focusing on commuting accident among healthcare workers.

Several problems were addressed related to the rising number of commuting accidents such as lack of awareness among the workers for safe riding and driving while commuting to work, lack of comprehensive training programs targeted to cut commuting accidents, lack of commuting safety management or lack of road safety elements in OSH Management System at workplaces. Therefore, with the aim to prevent accident, Commuting Accident Prevention Plan was introduced by National Institute of Occupational Safety and Health (NIOSH) Malaysia in 2011 by implementation of four programs namely Commuting accident outreach program for employers and employees; Safe motorcycle riding program and Defensive driving program (DDP); Applied research grants; and Establishing commuting safety management system/Road safety elements in OSH Management System [15].

Looking forward as preventive measures, the ministry had engaged with relevant agencies such as Malaysian Institute of Road Safety Research (MIROS), the police, Department of Occupational Safety and Health (DOSH), Road Transport Department (RTD) and NGOs which is also aligned with the Malaysian National Ocean Blue Strategy (NBOS) in tackling this alarming issue.

5. Conclusions

The relations of road traffic accident with post call or post night shift among the studied population was not concluded. However, having said that, the increasing number of commuting accidents among healthcare workers is alarming. As such, it is timely that proactive action to be taken by all stakeholders to carry out a comprehensive safe commuting management which also includes educating their employees, their most valuable assets, on safe commuting management.

COmpeting Interest

Authors hereby declare that they have no competing interest in this study.

EtHical Considerations

This study is approved by the Director of General, Ministry of Health, Malaysia. Ethical issues (including plagiarism, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Acknowledgement

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