

Injury Pattern among Motorcyclists involved in Traffic Crashes

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I. INTRODUCTION

In Malaysia, about 7,000 people die each year due to road traffic crashes, with motorcyclists accounting for 61% of these deaths [1]. As the motorcycle is the dominant transport mode, motorcyclists are a high-risk crash and injury group compared with other road-users. Given that a high proportion of motorcyclists are young adults aged 18–35 years old, the high fatality and injury rate among this group represents a tremendous loss to the country [2]. Although a number of studies have been conducted and published recently, the estimation of the burden and the pattern of injuries due to motorcycle crashes remains relatively overlooked because most of the research studies have focused on head injuries. This paper presents the pattern of motorcyclist injuries related to motorcycle crashes.

II. METHODS

This study sampled data from a larger set of data that had investigated helmet performance in motorcycle crashes. The study was a prospective, cross-sectional study that included all motorcyclists involved in crashes presenting to the Emergency Department, Sungai Buloh Hospital (HKL), from 2011 to 2012. Data was prospectively collected by house officers and research assistants using data sheets and questionnaires. Data was collected within 24 hours of patients' presentation in the Emergency Department. Three days' training was provided to all data collectors and the purpose of the study, data collection procedure and methodology were explained to them. The protocol for the study was approved by the MIROS Research and Ethics Committee and National Institute of Health, Ministry of Health, Malaysia.

III. INITIAL FINDINGS

Over the period of the study, details on 350 motorcyclists involved in crashes were collected. However, the current results presented here are based only on the first 100 motorcyclists who completed injury records. Of these 100 cases, 83% were riders and 17% were pillion riders; 83% were male and 92% were helmeted. The majority of the motorcyclists were involved in crashes with a passenger car (43%) and single-vehicle crashes (33%). Moreover, 31% of the motorcyclists were young (17–20 years old) and 71% held a valid license. About 23 of them had been involved in previous motorcycle crashes.

Figure 1 shows the percentage of injuries according to body region. Thorax, spine and abdominal injuries were not the commonest injuries among this group of motorcyclists. Figure 2 shows the comparative percentages of injuries between riders and pillion riders for AIS 1–2 injury. A higher percentage of head injuries were suffered by the pillion riders compared to the riders.

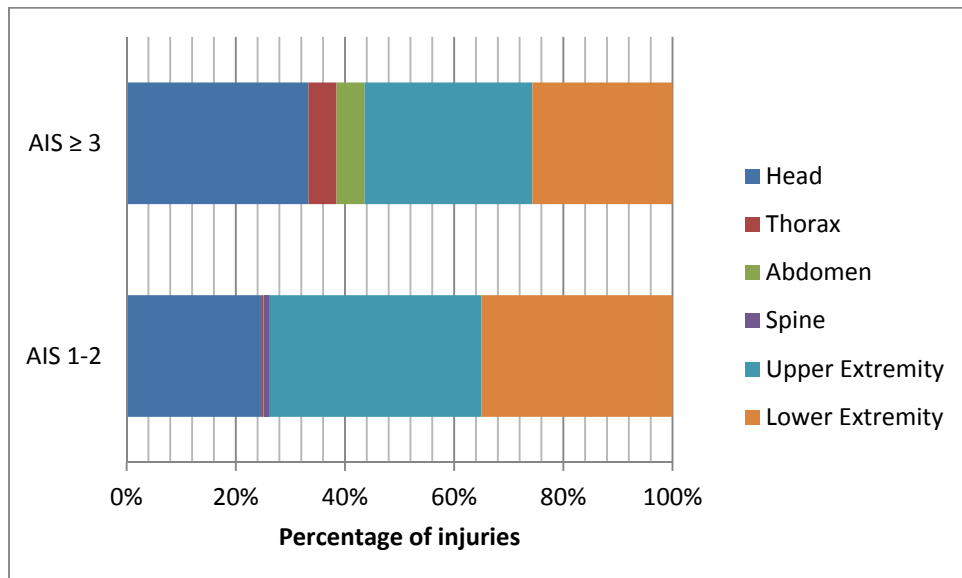
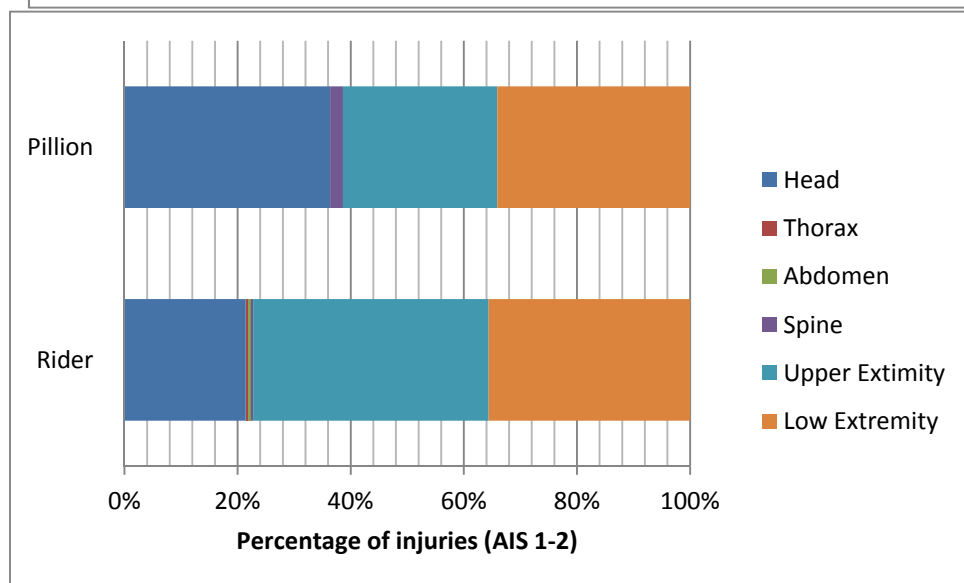
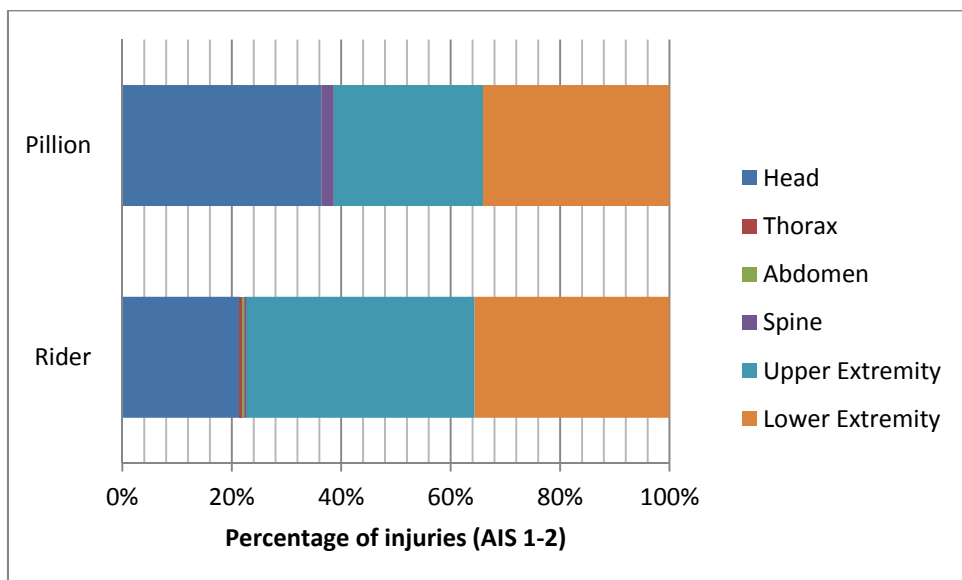


Fig. 1. Distribution of injury severity by body region.



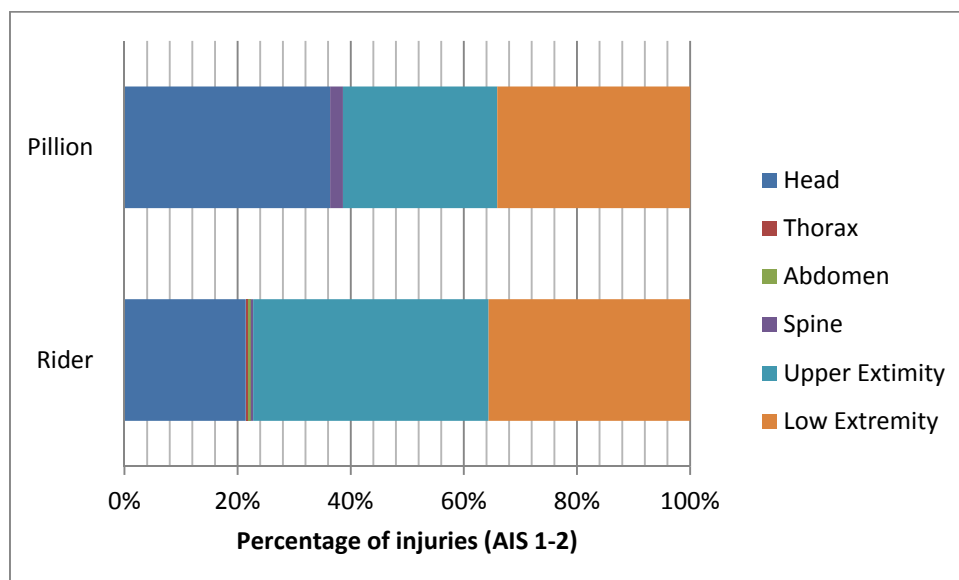


Fig. 2. Distribution of injury severity by body region and rider position.

IV. DISCUSSION

The predominance of young male adults in our study reflects the pattern of motorcycle usage in the Malaysian population and is comparable to previous studies elsewhere. There are a number of possible reasons for the difference between head injury rates for riders and those for pillion riders, including the fact that the data analysed are composed of unmatched motorcycle riders and pillions, where riders and pillion riders from different accidents were aggregated together.

V. REFERENCES

- [1] Manan, A., & Várhelyi, A. *IATSSR*, 2012.
- [2] Ramli, R., et al. *Journal of forensic and legal medicine*, 2014.