VULNERABILITY OF RIDERS AND PASSENGERS TO INJURIES IN MULTI-OCCUPANT MOTORCYCLE CRASHES

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Background Motorcycles in Low-Mid Income Countries (LMIC) are rarely ridden for recreational purposes; rather they form an essential part of daily commuting. Consequently, most motorcycles on the roads have more than one occupant.

Aims and Objectives The objective of this study was to determine the risk of sustaining injuries in riders and passengers on crashed motorcycles with more than one occupant, and if the risk is different for the two classes of occupants.

Methods Between 1 January and 31 December 2009, and using a data collection form, we collected crash and injury data from victims of motorcycle crashes with more than one occupant at the time of the crash.

Results There were 78 multi-occupant crashes (62.4% of 125 motorcycle crashes) in which 181 persons, made-up of 78 (43.1%) riders and 103 (56.9%) passengers got injured. Eighteen (23.1%) of the crashes occurred on motorcycles with 3–5 occupants. While the probability of sustaining injuries was similar for passengers and riders, passengers were 11 times more likely to sustain severe injuries (ISS>15) than riders. Occupants of 2-occupant motorcycles were significantly older and seven times more likely to be wearing helmets than those on >2-occupant motorcycles. Users of >2-occupant motorcycles were at an increased risk of sustaining injuries compared to users of 2-occupant motorcycles (OR 2.1, 95% CI 1.1 to 4.3).

Significance Passengers on multi-occupant motorcycles are more vulnerable to severe injuries than riders. The significance of the study findings to prevention is discussed.