A systematic review of risk factors associated with road traffic crashes and injuries among commercial motorcycle drivers

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Abstract

Objective: To effectively reduce road traffic crashes (RTCs) and injuries among commercial motorcycle drivers, interventions should be based on firm evidence regarding risk factors of RTCs and injuries in that specific population. Therefore, we undertook a systematic review to determine risk factors of RTCs and injuries among commercial motorcycle drivers.

Design: Systematic review.

Methods: Searches were performed from inception to May 2022 in Medline, Embase, Cochrane Library, Web of Science Core Collection, PsycINFO and Cinahl, along with registers and reference lists. Inclusion criteria were: population of commercial motorcycle drivers, quantitative observational studies, and RTCs and injuries. At least two independent reviewers assessed article relevance and quality.

Results: The search resulted in 1546 articles, of which 20 met the relevance and quality criteria. Of the 20 articles, 17 were cross-sectional, 2 were case-control studies, and one was a cohort study. Close to half of all articles (9) came from sub-Saharan Africa, followed by 6 from Asia, mainly from Vietnam (5). More than 50 different risk factors for commercial motorcycle-related RTCs and injuries were examined. Risk factors with relatively consistent association with RTCs and injuries were young age, low education level, alcohol consumption, speeding, mobile phone use while driving, non-helmet use, risky driving behaviours, long working hours, and payment per delivery. There was inconclusive evidence for driver's training, full-time vs part-time work, motorcycle ownership, driving experience, number of dependents, and marital status.

Conclusion: Although a variety of factors were assessed in the articles included in the review, strong evidence for association was found only for a few. In addition, the majority of the studies were cross-sectional. All the included studies were of high quality and cross-sectional. More robust designs, such as case-control or longitudinal studies, are required to gain a more comprehensive understanding of

the antecedents of road crashes among commercial motorcycle drivers and to support the development of effective strategies for improving driver safety.