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The Impact of Student Hotspotting on Patients & the Jefferson Health System

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Lydia Huang
SKMC Class of 2021
SI HS Abstract
December 15, 2018

A SYSTEMATIC REVIEW OF CLINICAL OUTCOMES IN HELMETED MOTORCYCLE INJURIES IN LOW AND MIDDLE-INCOME COUNTRIES

Injuries due to road traffic accidents account for over 1 million deaths annually, of which 90% disproportionately occur in low and middle-income countries (LMICs). In their current design, motorcycle helmets notably improve patient outcomes, reducing the risk of crash-related TBIs by 69% and death by 42%. The data we currently have does not thoroughly document the large burden of road traffic injuries in LMICs, and thus we must identify what specific clinical outcomes have been documented in relation to helmeted accidents in LMICs. Collection of clinical outcomes data can serve as the evidence-based framework needed for future injury prevention efforts. Using PRISMA guidelines, we collected 415 articles from PubMed, Embase, Scopus, Web of Science, and Transportation Research International Documentation (TRID) databases related to motorcycles, clinical outcomes, and LMICs with set inclusion and exclusion criteria such as articles written in the English language and use of "motor vehicle accidents" and other non-specific terms. These were then reviewed by two independent reviewers and a third reviewer as needed to resolve disagreements. Results will be stratified by World Bank country income designation of low, middle, or high income and then analyzed for significant differences. We anticipate that clinical outcomes in two-wheeled motorcycle accidents will vary widely among countries of different income stratifications. In conclusion, these results suggest that safety interventions such as modified helmet design are needed to reduce traumatic head and neck injuries in motorcycle accidents, particularly in LMICs.