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Review Paper

Road traffic injuries in urban Africa and Asia: A policy gap in child and adolescent health

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Summary *Objective:* This study highlights the burden of urban road traffic injuries (RTIs) in children and young adults in South Asia and Sub-Saharan Africa to heighten awareness of current limitations in child health policies, and to direct future research and intervention development.
Methods: Comparative analysis of recent Sub-Saharan Africa and South Asia reviews of RTIs, World Health Organization (WHO) Global Burden of Disease statistics, and the Bangladesh Health and Injury Survey.
Participants: Children aged 0–18 years in South Asia and Sub-Saharan Africa reviews, aged 0–14 years in the WHO data, and aged 1–17 years in the Bangladeshi data.
Results: Child pedestrians comprise the largest proportion of urban RTI victims. More healthy life years were lost per 1000 children aged 0–18 years in South Asia than Sub-Saharan Africa. Disability-adjusted life years lost per 1000 children aged 0–14 years was greater in Africa than South-east Asia. South-east Asia has the greatest overall incidence of RTIs; however, Africa has poorer reported outcomes for children aged 0–14 years.
Conclusion: These data sources point to the salience of intervening in RTIs in children to prevent a predicted boom in the RTI burden in children, particularly in the poorest regions of the world. However, child health policies in these regions have not yet embraced RTI, either in research or programmes.

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Introduction

Road traffic injuries (RTIs) are the leading cause of injury-related deaths globally. Over 1 million people die each year as a result of RTIs, and more than 20—50 million people are injured or disabled, accounting for 2.1% of global mortality and 2.6% of disability-adjusted life years (DALYs) lost.[1] Children and adolescents worldwide are among those most affected, with RTIs being the second leading cause of death in this group. RTIs claim about 180,000 lives of children under 15 years of age, with males being 1.5 times more affected than females.[2,3] In high-income countries, such as the USA, unintentional injury is the leading cause of death in children, adolescents and young adults, with motor vehicle occupants, drowning and pedestrian injuries being the leading causes among children aged 0—19 years.[4,5] Rates of unintentional injury are highest among adolescents aged 15—19 years in the USA.[5] More specifically, within unintentional injuries, RTIs have been one of the leading causes of years of productive life lost and the leading cause of death in individuals aged 5—34 years for over two decades in the USA.[6]

Overall, low- and middle-income countries (LMICs) constitute 85% of deaths and 90% of DALYs lost due to RTIs globally, with South-east Asian and Western Pacific countries accounting for more than half of all global RTI deaths.[1] Current global costs of RTIs are estimated at US$518 billion annually, with LMICs losing 1—2% of their gross national products.[1] By 2020, predictions indicate that RTIs will be the second or third leading cause of the global burden of disease, with much of this increase predicted to occur in Asia and other LMICs.

The majority of children and adolescents afflicted by injuries worldwide, even in rich countries, come from poor backgrounds.[2,7,8] Injuries to this age group in such populations thus have potentially far-reaching and long-term consequences, as aside from the high death toll, non-fatal injuries often come with a high social, emotional and economic burden on the family concerned as well as society as a whole.[2,7,8] However, this issue has only recently been recognized as a public health problem by policy makers and health planners. The World Health Organization (WHO), in an effort to highlight the gravity of the issue and garner the attention of policy makers, health planners and donors worldwide, has launched a call for global action.[8] Furthermore, WHO and UNICEF, in consultation with world experts, are developing a global report on child and adolescent injuries.[8,9] A unified global approach to address this growing aetiology of morbidity and mortality is essential and would reduce human, economic and physical costs in the long term.

This paper is an effort to highlight the burden of RTIs in children and young adults in two regions of the world. South Asia and Sub-Saharan Africa comprise some of the poorest and least developed parts of the world. RTIs are responsible for a large proportion of death and disability in both of these regions, and a comparative framework allows greater insight into the causes and consequences of this public health problem. The main aim of this paper is to call for greater attention to the health impact of RTIs in these regions as an agenda for child health programmes. These comparisons also heighten awareness of current limitations in knowledge around RTIs, and can help direct future research and development of interventions, especially as part of child survival strategies.

Methods

Four data sources were used in this study for comparative purposes. These data sets were chosen based on the following criteria: (1) data on RTIs, especially urban RTIs, in children and adolescents aged under 19 years; (2) regional coverage of Asia and Africa; (3) multi-country coverage or large national surveys on child injury; and (4) ease of access to tabulated information.

The first two sources were taken from recent work undertaken by Hyder et al. to generate an epidemiological profile of urban RTIs in children and adolescents under 19 years of age in both South Asia and Sub-Saharan Africa.[10,11] The study in South Asia focused on seven countries (India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan and Maldives), but data were only found from four countries.[10] The study in Sub-Saharan Africa reviewed 48 countries and found data from nine countries (Malawi, Nigeria, Zambia, South Africa, Kenya, Ghana, Comoros, Uganda and Tanzania).[11] Both of these studies comprised a systematic literature review to identify community- or facility-based studies, surveys and government-reported statistics. The studies excluded articles published before 1980 or pertaining to injuries other than RTIs, studies limited to rural areas, and studies focusing on intentional injuries. Population-based incidence and mortality were calculated based on estimates of the number of children and adolescents in each urban area. The burden of disease was estimated using healthy life years (HeaLYs).[12] For the purpose of this study, summary data were extracted from both reviews including: weighted mean incidence