

Setting priorities for child health and research: the neglected burden of injuries

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Available evidence provides a strong case for injury prevention in any child survival strategy.^{1,2} But whether this evidence informs priority-setting in child health programs or research is highly questionable. Injuries are a leading cause of death and disability among children after the first year of life.^{1,2} About 98% of these deaths are estimated to occur in low- and middle-income countries (LMICs) where injury prevention is an emerging field.³ Children warrant special consideration when addressing almost any type of injury as they are more vulnerable to forces on their body relative to adults, typically live in a world designed for adults, and are often unable to judge or circumvent the dangers inherent in many hazardous situations.⁴ Unsurprisingly, children from poor families are more exposed to unsafe environments and are disproportionately affected by injuries in most countries.⁴ In *A World Fit for Children*—the outcome of a special session on children held by the UN General Assembly in 2002—the Plan of Action specifically charged the global community to “reduce child injuries due to accidents or other causes through development and implementation of appropriate preventive measures”.⁵ Despite the acknowledged scale of the problem, global attention to childhood injuries in terms of public policies and resource investments remains disappointingly sluggish.⁴

The World Report on road traffic injury prevention published in 2004⁶ focussed unprecedented attention on the loss of young lives in road crashes. While there are

many effective interventions yet to be implemented, there is a robust evidence base supporting the need to do so. There are, however, many types of childhood injury that are less “visible” which are consequently destined to remain neglected public health issues. The lack of basic data results in a vicious cycle that limits opportunities to prioritise the required research to define the burden and determinants of childhood injury, overcome misconceptions and prejudices, and identify strategies for prevention. This problem became glaringly apparent when “childhood falls” was selected as a case study to test the application of a new methodology for setting priorities for global child health research.⁷ The project group working under the aegis of the Child Health & Nutrition Research Initiative (CHNRI; www.chnri.org) electively avoided using road trauma as a case study given the 2004 World Report. In this regard, falls were expected have more in common with other childhood injuries that had not received exceptional levels of recent attention.

The best available evidence suggests that falls are an important cause of injury, often ranked as one of commonest reasons for emergency room visits in childhood and 1st among the injury-specific causes.^{3,8} While we despair of the lack of reliable data on injury deaths from LMICs, information regarding non-fatal outcomes following falls, particularly those resulting in disabling consequences, is virtually non-existent in most low-income countries.⁹ The ability to reliably estimate the extent

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to which a given intervention can reduce the burden of falls—an important factor in priority-setting—is therefore highly compromised.

This gap in information is compounded by scant knowledge of the context of falls in LMICs (e.g. relevant exposures and risk factors). Reports and presentations at the 2006 World Conference on Injury Prevention suggest that falls from heights in and around traditional homes, from rooftops, trees and environmental structures, and when riding animals are substantially under-appreciated risks in these settings.⁸ Over 25 years ago, researchers developing an intervention to prevent playground injuries in New York noted the importance of understanding and addressing the variety of injury mechanisms and the unstructured environments in which most events occur.¹⁰ If childhood injury prevention in LMICs is to be considered seriously, the same principles apply.

An examination of the evidence base for strategies that could prevent fall-related injuries in children aged less than five years identified several studies that investigated the effects of home-safety education, mass-media- and community-based education, free-distribution of safety equipment, home visiting programs, and the provision of incentives in high-income countries.¹¹⁻²² The research evidence supporting strategies to prevent falls among pre-schoolers in high-income countries (e.g., standards and legislation relating to balconies, windows, nursery furniture, baby-walkers, and playgrounds; home visiting programmes)²³⁻²⁸ has no parallel in LMIC settings where the vast majority of injuries occur. A recent review concluded that apart from general recommendations about increasing supervision of children, reducing the height of equipment, and ensuring appropriate ground surfacing of playgrounds, the “Children Can’t Fly Program”²¹ (a community-based program aimed at reducing the incidence of falls from high rise windows in the United States) was the only effective intervention which could be considered applicable to LMICs.⁸

This grossly inadequate knowledge cannot effectively inform priority-setting in a global context for a variety of purposes—whether this be improving the efficiency of existing strategies; adapting and transferring technology from other contexts, developing new interventions; or a mix of these and other approaches. In this effort to inform the application of a priority setting methodology for CHNRI, it was clear that in contrast to other threats to child health (e.g., malaria, diarrhoea, acute lower respiratory infections, and birth asphyxia); there was a need for basic epidemiological data regarding the occurrence, risks, and strategies to prevent childhood falls in LMICs.

Despite these limitations, ‘childhood falls’ as a case study provided useful insights for the priority setting methodology. It stimulated a broader notion of the term “intervention” that was not limited to traditional biomedical and health sector domains. Environmental planning, engineering design, enforcement and educational strategies have reduced many types of childhood injury.⁸ Strategies to prevent falls in LMICs could include context-relevant building codes and targeted measures to mitigate specific hazards. As with other childhood injuries, addressing broader socio-economic determinants are likely to be vital to limit increasing disparities.

These issues are not unique to falls but they epitomise concerns that attention to preventing childhood injuries lags efforts to control disease risks in many dimensions, including research investments.⁴ The decision by the World Health Organization to release a world report on child injuries in 2008 must spur efforts to form global partnerships that stimulate research to strengthen the evidence base and act where this is most needed. Governments, donor agencies and health professionals in rich and poor countries should consider injuries, like falls, a serious risk to child health and welfare, and initiate focused efforts at prevention and control.

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