

Childhood Injury Prevention in Post-epidemiological Transition in Nepal

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Mortality and morbidity resulted from injuries is an emerging public health problem in children throughout the world and its burden is increasing particularly in low income countries. The proportion of deaths and disability due to injuries is also increasing because low and middle income countries achieved remarkable reduction in common childhood infectious diseases and maternal conditions in recent decades.¹⁻³ The World Health Organisation (WHO) launched plan of action to prevent child and adolescent injuries in 2006 with 10 years' targets for advocacy, capacity building and research.⁴ Upon the end of the Plan's time-line, reducing child injury in low- and middle-income countries is still a challenge.

Nepal is experiencing Demographic and Epidemiological Transition with the advent of the 21st Century and significant shift in the causes of death has been observed since mid-2000s.⁵ Unlike in 1990s, communicable diseases are now the second cause group for overall mortality of Nepali population. Although the exact pattern of the cause of death is not seen for children and young people (0-19 years), the gap between infectious diseases (Group I), non-communicable diseases (Group II) and Injuries (Group III) is not much different.⁶ According to the Global Burden Disease study estimates, there has been around 80 to 90 per cent reduction in the death rates for 'communicable, maternal, neonatal and nutritional diseases (Group I)' among children aged 1-14 years between 1990 and 2013.⁶ This decline in death rates for non-communicable diseases and injuries is slower. Consequently, more children (beyond infancy) are surviving today than ever but being exposed to increased risk of death and illness from non-communicable diseases and injuries. Above all, this transition in health has been acknowledged in the latest Nepal Health Sector Plan 2015.⁷

Evidence shows that children's health is directly related to socio-economic prosperity. Being one of the least developed countries, Nepal not only has a challenging economic environment but also has uniquely challenging physical environments, which exposes children to injury risk. In the past, the gradient of the burden of diseases in Nepal was much inclined toward infectious diseases therefore most resources and policy attention was toward child survival and curative activities.⁸ This situation prevented the Government from considering injuries as major public health agenda despite of some past research called for action.

So far, very little research is available on child injuries in Nepal. Recent Global Burden of Disease estimates provide the evidence of shift in child and young people's mortality. For example, 27% of child deaths occurred among children 5-14 years were caused by different injuries while it was only 21% for HIV/AIDS, Malaria, Tuberculosis, Tropical diseases and nutritional deficiencies combined.⁶

According to estimates, 1 in 5 deaths (among 1-14 years) is resulted from injuries. Injuries can be suicide or interpersonal violence. Although the type of injuries and their risks varies greatly by ages, around half of the injuries to children occur around home.⁹ Due to recent earthquake and consequent progression of construction works, the environment in children's surrounding has increased the risk of injuries to children, and adults too.

Nevertheless, fatal injuries are only the tip of iceberg and there may be as many as 200 times more non-fatal injuries (ranging from minor injuries to permanent disability). Estimated 10% of Nepali population may experience some sort of injuries that require treatment. Due to the acute nature of these injuries and lack of preparedness of health service facilities (trauma management), it incurs a huge amount of out-of-pocket expenditure pushing families into poverty. A study conducted by Saito and colleagues evidenced that injuries were reason for 'catastrophic spending' people in all wealth quintile except the riches 20%.¹⁰ A study conducted in Kathmandu hospitals estimated over per injured person including direct and indirect costs.¹¹ Injury can happen to anyone and on average ten child deaths and thousands non-fatal injuries occur every day in Nepal. This implies that focussing injury prevention can help to bring the country out of poverty.

In the changed political and governance, citizen's right to good health and right to live in safe environment have become fundamental and constitutional rights in Nepal. Therefore, every child deserves to live healthy life in a safer environment suitable to achieve multidimensional development, also in the light of Sustainable Development Goals of the United Nations, National Health Strategy of Nepal and United Nations Convention of the Rights of the Child. Evidence-based research provides very important useful information for both practice and policy in any public health issue. It can be argued that lack of National strategy/Action plan for the prevention and control of Injuries in Nepal has impeded any efforts in this direction. It is not to blame but due to ongoing political transition in Nepal has put some very important issues under the shadow. However, policy makers at the Ministry of Health have come up with some indicators in recent Health Policy and National Health Strategy which is not sufficient to address this emerging public health problem in Nepal. Information on unintentional and intentional injuries is not yet developed; once in place will provide real burden of it.

On the other hand, National Action Plan Decade of Action for Road Safety in Nepal developed in accordance to Sustainable Development Goals (SDGs) Road Safety targets to halve Road Traffic Injury mortality rates by 2020 may also need a revision.⁷ Currently, the road network expansion is rapid, motorised vehicles increasing geometrically and increased mobility due to physical infrastructure development throughout the country and will remain for coming few years. Improving current data sources and collection process will provide better idea about the true magnitude of road transport injuries in Nepal.

Unlike to other disease/conditions, the treatment of injuries may not be the first option to avoid the loss of lives, disability, trauma, and financial burden. It requires considerable efforts to prevention activities. According to the general public health approach, the return of investment in preventative measures always higher and yields much better of quality of life. There are evidences from the preventative interventions in high and low income countries that injuries can be addressed using low-cost, educational and environmental change activities. Nepal itself has proven examples of tackling maternal and child health problems through community mobilisation. These experiences can be adapted to fit into our need and requirements so that we can ensure a safe and healthy nation in the future.

REFERENCES

1. Joshi SK, Shrestha S. A study of injuries and violence related articles in Nepal. *JNMA; Journal of the Nepal Medical Association*. 2009;48(175):209-16.
2. Meddings D. Child injury prevention and child survival. *Injury Prevention*. 2011;17(3):145-6.
3. Pant PR, Towner E. Injury and its prevention. In: Wasti SP, Simkhada PP, van Teijlingen E, editors. Dynamics of Health in Nepal. Kathmandu: Himal Books; 2015.p.185-205.
4. World Health Organization. Child and adolescent injury prevention: A WHO plan of action 2006-2015 Geneva 2006. Available from: http://apps.who.int/iris/bitstream/10665/43267/1/9241593385_eng.pdf.
5. Dhillon PK, Jeemon P, Arora NK, Mathur P, Maskey M, Sukirna RD, et al. Status of epidemiology in the WHO South-East Asia region: burden of disease, determinants of health and epidemiological research, workforce and training capacity. *Int J Epidemiol*. 2012;41(3):847-60.
6. Global Burden of Disease (GBD) Compare – Viz Hub [Internet]. Institute of Health Metrics and Evaluation. 2016 [cited 10 June 2016]. Available from: <http://vizhub.healthdata.org/gbd-compare/>.
7. Ministry of Health. Nepal Health Sector Strategy. Kathmandu: Ministry of Health, 2015.
8. Pant PR. Epidemiology, impact and prevention of unintentional child injuries in Makwanpur district of Nepal (PhD Thesis). Bristol: University of the West of England; 2013.
9. Peden M, Oyegbite K, Ozanne-Smith J, Hyder AA, Branche C, Rahman AF et al. World report on child injury prevention 2008. Geneva: World Health Organization, 2008 978 92 4 156357 4.
10. Saito E, Gilmour S, Rahman MM, Gautam GS, Shrestha PK, Shibuya K. Catastrophic household expenditure on health in Nepal: a cross-sectional survey. *Bulletin of the World Health Organization*. 2014;92(10):760-7.
11. Joshi SK, Shrestha S. Economic and social burden due to injuries and violence in Nepal: a cross-sectional study. *Kathmandu University medical journal*. 2009;7(28):344-50.