

Pediatric Trauma – An Emerging Epidemic

We enrolled 911 children aged <12 years presenting to the trauma center of a tertiary-care hospital (over a period of 18 months) with history of injuries. Majority (582; 63.9%) of children had sustained injuries at home; 56 (6.1%) had severe injuries based on Pediatric Trauma Score. Of road traffic accidents victims ($n=232$), majority (40.5%) were two-wheeler pillion riders or pedestrians (31.9%). More Indian data are required and efforts are needed to prioritize injury prevention efforts in children.

Keywords: *Accidents, Epidemiology, Injuries.*

Pediatric trauma is emerging as an epidemic worldwide. The National Crime Records Bureau of India (2007) reported that there were 22,766 injury-related deaths in children below 14 years [1]. In India, up to 15% of deaths and one-fourth of hospital admissions in children are attributed to injuries [2].

This study was a descriptive study conducted in the Department of Emergency Medicine and Trauma at a tertiary care hospital in Southern India between September 2015 and March 2017. An approval from Institutional Ethics Committee was obtained, and consent was taken from participants/guardians of the children. All children aged <12 years with history of injuries were followed-up for determining their duration of stay in the hospital and the final outcome. The severity of trauma was classified using Pediatric Trauma Score (PTS) as: severe (PTS <5), moderate (PTS 6–8), or mild (PTS 9–12) [3]. Children with head injuries were classified according to Glasgow Coma Scale (GCS) into: severe (GCS 3–8), moderate (GCS 9–12) or mild (GCS 13–15) [4].

A total of 911 children (621 boys) with history of injuries were enrolled during the study period. Among the enrolled, 92 (10%) were infants, 208 (23%) toddlers, 251 (27%) pre-school and 360 (40%) school-age children. More than half (501; 55%) of children reported directly to our hospital and 410 (45%) children were referred from various health centers. Among the various referral centers, 116 (28.2%) were district hospitals, 93 (22.6%) private clinics, 86 (20.9%) taluk hospitals, 55 (13.4%) medical colleges, 43 (10.5%) primary health centers, 16 (3.9%) nursing homes and two children from other facilities. Among 56 severely injured children (PTS<5), 37 (65%) used ambulance, 17 (30%) own vehicle, 2 (3.5%) private transport, and one child by public transport to reach hospital. Among severely injured children (PTS<5), only one child reached our hospital within one hour, 37 (66%)

reached in 1-6 hours, 8 (14%) in 6-12 hours, 3 (5.4%) in 12-24 hours, and others beyond one day. Majority (63.9%) of children sustained injuries at home, followed by at the roadside (239; 26.2%). Among 56 children with severe trauma, 41 (73.2%) sustained injuries at home, and 15 (26.8%) at road. Fall at level ground (245, 27%) was the leading mode of injury, followed by road traffic accidents (232, 25.5%) and fall from a height (153, 16.8%). Eighteen (2%) children sustained injury due to deliberate harm.

An Australian study reported that 72% of their pediatric trauma patients were transferred by ambulance and 11.8% were transferred from other health institutions [5]. A study from New Delhi reported that road traffic accident was the most common mode of injury, followed by falls and burns [6]. Authors of a study done in Western Iran observed that fall from a height was the most common mode of injury followed by road traffic accidents in children [7].

As this is a single-center study, the results may not reflect the real magnitude of pediatric trauma in the population. More such studies are required from different parts of the country to prioritize injury prevention efforts in children.

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REFERENCES

1. National Crime Records Bureau. Accidental Deaths and Suicides in India. Ministry of Home Affairs, New Delhi, Government of India. 2007.
2. Pal R, Agarwal A, Galwankar S, Swaroop M, Stawicki SP, Rajaram L. The 2014 Academic College of Emergency Experts in India's INDO-US Joint Working Group (JWG) white paper on developing trauma sciences and injury care in India. *Int J Crit Illn Inj Sci.* 2014;4:114-30.
3. Simon R, Gilyoma JM, Dass RM, Mchembe MD, Chalya PL. Paediatric injuries at Bugando Medical Centre in Northwestern Tanzania: A prospective review of 150 cases. *J Trauma Manag Outcomes.* 2013;7:10.
4. Bruns J, Hauser WA. The epidemiology of traumatic brain injury: A review. *Epilepsia.* 2003;44:2-10.
5. Holland AJA, Jackson AM, Joseph AP. Paediatric trauma at an adult trauma centre. *ANZ J Surg.* 2005;75:878-81.
6. Kundal VK, Debnath PR, Sen A. Epidemiology of pediatric trauma and its pattern in urban India: A tertiary care hospital-based experience. *J Indian Assoc Pediatr Surg.* 2017;22:33-7.
7. Jalalvandi F, Arasteh P, Faramani RS, Esmaeilvand M. Epidemiology of pediatric trauma and its patterns in Western Iran: A hospital based experience. *Glob J Health Sci.* 2016;8:139-46.