

Estimation of the economic burden of injury in north India: a prospective cohort study



Shankar Prinja, Jagnoor Jagnoor, Akashdeep S Chauhan, Sameer Aggarwal, Rebecca Ivers

Abstract

Background Injuries are a serious cause of mortality and morbidity worldwide, with trauma being the leading cause of death in the first four decades of life. By contrast with the declining rates of injury seen in high-income countries, low-income and middle-income countries (LMICs) are experiencing an increase in injury rates, largely due to increased motorisation in these countries. In this study, we report the out-of-pocket expenditure and financial risk protection from trauma care in a tertiary care hospital of India.

Methods Patients who were admitted for at least one night in a tertiary care hospital of Chandigarh during a 1 month period from April 15, 2013, and May 15, 2013, were recruited. Data were collected for the type of injury, out-of-pocket expenditure, and mechanisms undertaken to cope up with the expenditure. Cases were followed up at 1 month, 2 months, and 12 months after discharge to collect information about out-of-pocket expenditure. Prevalence of catastrophic expenditure—ie, if it exceeded 30% of the patient's annual household income—and distress financing—ie, if borrowing (with or without interest) or selling of assets was used to cope with high out-of-pocket expenditure, were assessed among patients recruited. Assuming prevalence of catastrophic expenditure to be 22%, with a precision of 5·5% and 5% alpha error, the sample size was estimated to be 218.

Findings 227 patients were recruited, of whom 155 (68%) were followed up until 12 months. No significant differences were noted based on sociodemographic, injury, and hospitalisation characteristics between the patients who were followed up and those who were lost to follow-up. Average out-of-pocket expenditure per admission to hospital was US\$388 (95% CI 332–441) and at 12 months after injury was US\$1046 (871–1221). Mean out-of-pocket expenditure for road traffic injury cases at the time of hospitalisation was US\$400 (95% CI 344–456) and for non-road traffic injury cases was US\$369 (313–425). The prevalence of catastrophic expenditure was 30% (95% CI 26·95–33·05), which was significantly associated with lower income quartile (OR 23·3 [95% CI 5·7–93·9]; $p < 0\cdot01$), inpatient stay greater than 7 days (OR 8·8 [95% CI 3·8–20·6]; $p < 0\cdot01$), major surgery (OR 4·9 [95% CI 2·2–10·8]; $p < 0\cdot01$), and occupation as wage labourers (OR 8·1 [95% CI 1·6–39·9]; $p = 0\cdot01$).

Interpretation High private out-of-pocket expenditure for treatment of injury poses major economic burden on families. Measures aimed to increase public health spending for prevention of injury and to provide financial risk protection to those injured deserve urgent priority in India.

Funding The George Institute for Global Health, India.

Contributors

JJ and RI conceived and designed the study. SA and SP collected data. ASC and SP interpreted data. SP, ASC, and JJ wrote the Abstract. All authors approved the final version of the Abstract for publication.

Declaration of interests

We declare no competing interests.

Published Online

April 27, 2015

Poster 62

School of Public Health, Post Graduate Institute of Medical Education and Research, Chandigarh, India (S Prinja MD); The George Institute for Global Health, Sydney, NSW, Australia (J Jagnoor MPH); John Walsh Centre for Rehabilitation Research, The University of Sydney, NSW, Australia (J Jagnoor); School of Public Health, Post Graduate Institute of Medical Education and Research, Chandigarh, India (A S Chauhan MPH); Department of Orthopaedics, Post Graduate Institute of Medical Education and Research, Chandigarh, India (S Aggarwal MD); and The George Institute for Global Health, Sydney, NSW, Australia (Prof R Ivers MD)

Correspondence to:

Dr Shankar Prinja, Postgraduate Institute of Medical Education and Research, School of Public Health, Chandigarh, India
shankarprinja@gmail.com