

## Recurring tragedy of road traffic accidents in India: Challenges and opportunities

Sir,

Road traffic accident (RTA) is an emerging epidemic; it is the eighth leading cause of death and most important cause of death among young people (15–29 years) globally. Every year, 1.24 million people die prematurely in RTA and moreover, 20–50 million people suffer from nonfatal injuries worldwide.<sup>[1]</sup> India recorded more number of deaths from RTA than any other countries in the world. According to National Crime Records Bureau Report, there was 17.6% increase in deaths due to RTA from 2008 to 2012.<sup>[2]</sup> Without immediate action, this tragedy will continue to increase, posing a major threat to the country.

RTA poses a major burden in health care system in terms of prehospital care, emergency care, and rehabilitation. India spends 12.5 billion dollars on average, toward RTA, which excludes the economic burden of accident survivors with a permanent disability.<sup>[2]</sup> It is estimated that 3% gross domestic product lost due to RTA in India.<sup>[3]</sup> India differs from developed countries in road use patterns, with mixed traffic of slow and fast-moving vehicles, pedestrians and animals sharing the same roads.<sup>[4]</sup> India is currently experiencing a rapid increase in vehicles especially two-wheelers. As of 2009, combined two and three wheelers constitute about 71.6% of total registered vehicles in India.<sup>[3]</sup>

Risk factors are broadly classified as human and environmental factors. Human risk factors are younger age (15–29 years), male sex, drunken driving, fatigue, nonobservance of traffic rules, inadequate use of helmets and safety belts, medical conditions (sudden illness, myocardial infarction, impaired vision), psychological factors (risk taking, impulsiveness), defective judgment, delayed decisions, aggressiveness, poor perceptions, family dysfunction, and distraction while driving (using mobile phones). Environmental risk factors may be related to roads (defective and narrow roads, defective layout of crossroads, poor lighting, and lack of familiarity) and vehicles (excessive speed, poorly maintained vehicles, large number of vehicles, low driving standards and overloaded buses).<sup>[4,5]</sup>

Even though, there are laws and policy regulating RTA, it has been found that the enforcement of regulations is weak [Table 1].<sup>[3]</sup> According to World Health Organization report on India, enforcement of speed limit and drink law both scored 3 on a scale of 0–10. Enforcement of wearing seat belts for car occupants and helmet law enforcement both scored 2 on a scale of 0–10.<sup>[3]</sup> Factors that need to be addressed are road safety infrastructure development, appropriate vehicle designs for Indian roads, setting vehicles standard, regular inspection of vehicles, minimizing exposure by segregation of vulnerable road users such as pedestrians and cyclist, removal of encroachments on footpath, strict enforcement of legislation, adequate training of drivers, educating public about road safety, improving postcrash emergency care for the victims and better rehabilitation services, strengthening of accident research and injury surveillance system for accurate database on RTA.<sup>[4,5]</sup>

**Table 1: Status of road safety measures in India**

Road safety measures	Status
Existence of national seat belt law, motor cycle helmet law and national drink driving law	Present
National policy on walking, cycling and public transport	Present
Existence of national road safety strategy	Present
Existence of child restraint law	Absent
Existence of road safety audit for new roads	Present
Existence of road safety audit for existing roads	Partial
National law on mobile phones while driving	Sub-national
Training in medical emergency for doctors and nurses	Available
Universal access telephone number for prehospital care	Available but multiple
Seat belt wearing rate (2011)	27%
Motor cycle helmet wearing rate (2011)	50% drivers and < 10% passengers
Maximum speed limit (2011)	Rural - 40 km/h Urban - 60 km/h, school - 25 km/h
BAC (2011)	0.03 g/dl
Estimated percentage of seriously injured patients transported by ambulance	11-49%

BAC: Blood alcohol concentration

To reduce the alarming trend of RTA, legal reforms are necessary, it includes adoption of newer regulation regarding child restraint, apply blood alcohol concentration limits of 0.02 g/dl or less among young and novice drivers, reducing speed limit for newer and younger drivers, disqualification and cancellation of license for repeat offenders. Setting a national target to reduce the incidence of accidents proved to be successful in improving the road safety.<sup>[5]</sup> So far, India has not set a target, such national target should be set and revised at regular interval. Since there is no program, there is an urgent need for appropriate and exclusive national program to combat RTA.

To conclude, RTAs are easily predictable and preventable. It requires strong political commitment and multipronged strategies to address the current demands and needs of six E's of road safety such as education, engineering (roads), engineering (vehicles), enforcement, emergency care and enactment.

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