

## Editorial

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# Evidence-based policy, legislation, and enforcement: a need for concerted actions toward road safety

The World Health Organization Global Status Report on Road Safety 2015 has revealed that road traffic injuries had caused an estimated 1.25 million deaths worldwide in 2013, an annual death rate that has apparently plateaued since 2007 [1]. Five key risk factors for road traffic injuries include speeding, drunk driving, helmets, seat belts, and child restraints [1]. More than one-third of deaths from road traffic injuries occur in pedestrians and cyclists [1]. A large number of countries do not have effective policies and laws to protect pedestrians and cyclists from road traffic injuries [1]. Variations exist in road traffic fatality rates between countries. The average annual road traffic fatality rate in low- and middle-income countries is estimated at 21.3 per 100,000, which is disproportionately high relative to their level of motorization, whereas the lowest rate in high-income countries is estimated at 9.3 per 100,000 [1]. Since at least 2012, traffic accidents have been the leading cause of death among young people (aged 14–29 years) worldwide [1, 2]. Together with the devastation that traffic accidents impose on the victims' family and loved ones, traffic accidents take a tremendous toll on a country's economy and demographics. In Thailand alone, an estimated 24,258 people (36.2 per 100,000) die as a result of traffic accidents each year (66 per day) and 3% of gross domestic product (GDP) or 428 billion baht (US\$12.98 billion) is lost directly as a consequence [1]. Moreover, the number of people injured as a result of traffic accidents in Thailand is a staggering ONE MILLION per annum, and 10% of them end up being disabled in some way (Dr Thaejing Siripanich, Secretary General of the Don't Drive Drunk Foundation, Media Announcement, August 2017).

In general, developing countries lose between 1% and 3% of their GDP directly as a result of road accidents [2].

All trauma patients, including those suffering from road traffic injuries, require a systematic approach to management in order to maximize outcomes and reduce the risk of undiscovered injuries [3, 4]. Optimal care requires effective and efficient communication and teamwork among providers of care. The primary survey used in an Advanced Trauma Life Support program is organized according to the injuries that pose the most immediate threats to life [4]. Problems are managed immediately in the order they are detected [4]. The initial steps include assessment and management of the airway, breathing, circulation, and neurological injury. Once the initial steps are under control, a secondary survey is conducted, which includes a detailed history, a thorough but efficient physical examination, and targeted diagnostic studies. These steps play a crucial role in avoiding missed injuries [4].

Maxillofacial injury is quite common in trauma patients. In this issue of *Asian Biomedicine*, Pungrasmi and Haetanurak report that the main cause of maxillofacial injury is motorcycle accidents [5]. Appropriate use of helmets is very important to protect the facial bones from the direct impact of a force in an accident. This includes the use of proper helmet size and fastening the chin strap [6]. Road traffic legislation enforcement and continuous public education and campaign about the use of security devices remain an ongoing problem to be tackled [6].

The use of distracting electronic equipment, such as mobile phones and navigation systems, had increased in recent years for various reasons. Performing secondary tasks while

driving can distract attention from driving and increase the possibility of traffic accidents. In this issue of *Asian Biomedicine*, Seo et al. have brought attention to the effects of distracting activities, such as sending a text message or searching navigation, on the driving performance of experienced drivers [7]. They demonstrated a change in the skin conductance level, which is a surrogate measure of the level of activation of the sympathetic nervous system during distraction activities [7]. They also demonstrated a relative change in average following distances and speed deviation [7]. Performing secondary tasks increased the anterior–posterior and medial–lateral coefficients of variation of the car [7]. While further studies are needed to determine the details of the interaction between performance of drivers and the distraction activities, guidelines and law enforcement are urgently needed to improve road traffic safety in this regard.

Countries need evidence to support policies for road safety. Effective enforcement of legislation is of paramount importance. Establishment of programs to facilitate the appropriate use of vehicles and respect for pedestrians needs to be implemented in a concerted manner.

## References

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