

Who plays the major role in fatal injuries by motorcycle in developing countries?

In the previous issue of Nigerian Medical Journal, Elachi *et al.* described the pattern and outcome of motorcycle-related injuries at a university hospital in Makurdi, Nigeria.¹ In Iran, we had conducted a hospital-based study to evaluate the fatal injuries associated with motor vehicle crashes, and we obtained a burdensome rate of 20% mortality rate among motor vehicle crashes.² Iran, a country that has challengeable problems related to this vital issue of public health, suffers a substantial economic loss each year due to fatal injuries because of a variety of reasons.³ These include the tendency of young population for adventurous driving, low gas price, use of private vehicles rather than public transport, and non-standard safety designs for vehicles. Previous studies in Iran reported that the main accident-related factors were wider roads, denser traffic, road narrowing and ignoring traffic regulations. Besides, environmental factors such as sunrise, sunset, dusty weather, oily road surfaces and winding uphill/downhill road, which are major risk factors for crashes, injuries and deaths in Iran, more than 90% of the etiologic features of crashes in the country are based on human factors such as lack of attention and breaking driving laws, etc.⁴ Despite the growing number of systematic reviews conducted to characterize the definitive role of factors associated with the risk of death⁵ the need to investigate in this area of knowledge is very much necessary. For example, head injuries were the most common pattern in our study, which was compatible with Elachi *et al.*'s results. The traffic law mandates the use of helmets for those who ride motorcycles, but in the city where our study was conducted, as is the case with most of the cities in Iran, efficient law enforcement is lacking. But experience from other developing countries have illustrated that harsh traffic laws and fear of fines have resulted in fewer drivers being caught travelling by motorcycle on public roads without wearing a helmet.

Although much progress has been observed so far in decreasing the rate of mortality and morbidity due to motor vehicle injuries, the decrease is too slow, particularly in developing countries such as Nigeria and Iran. Evidence-based strategies are needed to reduce the overall motor-related deaths and injuries, including enhancing the quality

of motorcycles; standardizing roads for motorcycles, particularly inter-city routes; banning the entry of low-safety vehicles; reinforcing punishments and slapping fines for breaking the law particularly on matters of wearing helmet, minimum drinking age, and decreasing the blood alcohol concentration levels; and implementing educational programs for children before they start indulging in these high-risk behaviours. Our observation is similar to the proposition by Elachi *et al.* that the key problem in developing countries is the failure of educational programs for teenagers and young adults in obeying the laws of motor vehicle utilizations. This cannot be accomplished until the policymakers implement proper effective and evidence-based methods to integrate transportation, industry, police, education and health systems.

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