

What is already known on the subject

- ▶ Throughout the world, road traffic injuries are a major cause of morbidity and mortality.
- ▶ Middle Eastern countries have high motor vehicle injury rates.
- ▶ In Western countries, speed cameras have been proven to be effective in controlling traffic crashes, but they have not been evaluated in the Middle East.

What this study adds

- ▶ In Qatar, a country with recent rapid population and economic growth, road traffic deaths increased steadily during the first several years of the 21st century.
- ▶ After installation of speed control cameras in 2007, there was a significant drop in motor vehicle deaths.
- ▶ When combined with additional traffic control measures, speed control cameras in non-Western countries can help reduce the burden of road traffic injuries.

rate. However, above this level, there was a profound drop in traffic deaths, which has persisted over a 4-year period (figure 3).

A major weakness of the study is that we cannot be sure how much of the reduction in death rates was caused by the new camera surveillance system. Although the sixfold increase in the number of installed cameras was associated with a highly significant increase in the number of traffic tickets issued, it is possible that other factors such as an increase in the amount of fines, increased use of seat belts by motor vehicle occupants, more effective triage and transportation or improved patient care may have contributed to the lowered death rates.

Another weakness of this study is that although traffic deaths and serious injuries declined during the study period, the incidence of mild injuries not requiring hospitalisation increased. We believe that this could be related to improved notification of mild injuries or to the rapid population growth resulting in increased traffic density. Another explanation is that speed cameras decreased speeding enough to reduce the death rate, without affecting less severe injuries.

Opinions about the effectiveness of speed control cameras are conflicting.^{3–6} Most reports resemble our study, which used a before/after design. In Qatar, photo cameras appear to have had the greatest impact on fatal injuries rather than on severe or

mild injuries, and decreases in motor vehicle deaths were more noticeable in younger persons, who constitute three-fourths of the population.

In 2008, of persons with serious injuries, about 20% were native Qataris, which is approximately equal to the proportion of Qataris in the population. Therefore, we believe that both the native and the non-native groups have about the same risk of motor vehicle injury. This is reassuring because many of the non-Qatari inhabitants come from countries where driving regulations differ from Qatar's.

How do current death rates in Qatar compare to other regions? In 2009, many Western countries such as Spain, Ireland, Austria, France, Germany, UK, Sweden, Norway and Australia had road traffic death rates ranging from 5 to 10 per 100 000, lower than the 2009 rate of 14 per 100 000 for Qatar. This suggests that appropriate well-enforced laws have the potential for further reducing traffic death rates. This could be important in Qatar, where road traffic injuries have been considered an epidemic⁷ and more than 25% of drivers have been involved in a road traffic crash.⁸

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Competing interests None.

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REFERENCES

1. *Global status report on road safety: time for action*. Geneva: World Health Organization, 2009, 2011.
2. **Al-Dulimi HH**, Abosalah S, Abdulaziz A, *et al*. Trauma mortality in the state of Qatar, 2006–2007. *J Emergency Med Trauma Acute Care* 2010;**9**:19–25.
3. **Wilson C**, Willis C, Hendrikz JK, *et al*. Speed cameras for the prevention of road traffic injuries and deaths. *Cochrane Database Syst Rev* 2010;(11):CD004607.
4. **Pilkington P**, Kinra S. Effectiveness of speed cameras in preventing road traffic collisions and related casualties: systematic review. *BMJ* 2005;**330**:331–4.
5. **Perez K**, Mari-Dell'Olmo M, Tobias A, *et al*. Reducing road traffic injuries: effectiveness of speed cameras in an urban setting. *Am J Public Health* 2007;**97**:1632–7.
6. **Belin MA**, Tillgren P, Vedung E, *et al*. Speed cameras in Sweden and Victoria, Australia—a case study. *Accid Anal Prev* 2010;**42**:2165–70.
7. **Bener A**. The neglected epidemic: road traffic accidents in a developing country, State of Qatar. *Int J Inj Contr Saf Promot* 2005;**12**:45–7.
8. **Burgut HR**, Bener A, Sidahmed H, *et al*. Risk factors contributing to road traffic crashes in a fast-developing country: the neglected health problem. *Ulus Travma Acil Cerrahi Derg* 2010;**16**:497–502.

Correction

Hong-lin Chen, Kun Liu, Qin-Sheng You. Attention should be paid to preventing knee injury in tai chi exercise. *Inj Prev* 2011;**17**:286–287. doi:10.1136/injuryprev-2011-040027. This article was published in print with the incorrect DOI. The correct DOI is 10.1136/injuryprev-2011-40027. This was the DOI published online first and therefore the DOI of record.

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