

## What is already known on this topic

Road traffic crashes are a leading cause of death and disablement, and pedestrians are particularly vulnerable road users

Several organisations strongly recommend road safety education

As resources are limited, a key question concerns the relative effectiveness of different prevention strategies, including road safety education of pedestrians

## What this study adds

This systematic review showed safety education for pedestrians could improve children's knowledge and change their observed road crossing behaviour

However, effects on pedestrian injury were unknown

There is a lack of good evidence of effectiveness of safety education for adult pedestrians, especially elderly people, and in low and middle income countries

Our review indicates that there is no reliable evidence supporting the effectiveness of pedestrian education for preventing injuries in children and inconsistent evidence that it might improve their behaviour, attitudes, and knowledge. While the value of safety education of pedestrians remains in doubt, environmental modification and the enforcement of appropriate speed limits may be more effective strategies to protect children from road traffic.

## Conclusions

Pedestrian safety education can improve children's knowledge of the road crossing task and can change observed road crossing behaviour, but whether this reduces the risk of pedestrian-motor vehicle collision is unknown. No trial focused on the other vulnerable road users, elderly pedestrians. None of the trials was conducted in low and middle income countries.

We thank Reinhard Wentz and Irene Kwan for help with database searching and obtaining papers; Angela Huertas, Maaike Kruseman, Valdo Pezzoli, and Finn Johnsen for help with translation; Marjan Loep from the Dutch Cochrane Centre for help with the Dutch titles; Toshihiko Yanagawa for help with translation and contacting Japanese experts; and Kathryn Kilburn for proof reading. This review is also published in the *Cochrane Library* where it will be regularly updated to take account of new data and comments on this version.

Contributors: see bmj.com.

Funding: Institut de Médecine Sociale et Préventive, Geneva, Switzerland, and the Medical Research Council.

Competing interests: None declared.

- 1 Murray CJL, Lopez AD. *Global health statistics: a compendium of incidence, prevalence and mortality estimates for over 200 conditions*. Geneva: WHO, 1996.
- 2 World Bank Group. Road safety. [www.worldbank.org/html/fpd/transport/roads/safety.htm](http://www.worldbank.org/html/fpd/transport/roads/safety.htm) (accessed 24 Nov 2001).
- 3 Barss P. *Injury prevention: an international perspective epidemiology, surveillance and policy*. Oxford: Oxford University Press, 1998.
- 4 Rivara FP. Child pedestrian injuries in the United States. Current status of the problem, potential interventions, and future research needs. *Am J Dis Child* 1990;144:692-6.

- 5 Schulz KF, Chalmers I, Hayes RJ, Altman DG. Empirical evidence of bias. Dimensions of methodological quality associated with estimates of treatment effects in controlled trials. *JAMA* 1995;273:408-12.
- 6 Ampofo Boateng K, Thomson JA, Grieve R, Pitcairn T, Lee DN, Demetre JD. A developmental and training study of children's ability to find safe routes to cross the road. *Br J Dev Psychol* 1993;11:31-45.
- 7 Bouck LH. Development of a British road safety education support materials curriculum [thesis]. College Station, TX: Texas A&M University, 1992.
- 8 Cross RT, Pitkethly A. Speed, education and children as pedestrians: a cognitive change approach to a potentially dangerous naive concept. *Int J Sci Educ* 1988;10:531-40.
- 9 Downing CS, Murray G, Durow C. Trials of a road safety booklet for a pre-school traffic club. *TRRL Laboratory Report* 1981;LR 992:1-27.
- 10 Limbourg M, Gerber D. A parent training program for the road safety education of preschool children. *Accid Anal Prev* 1981;13:255-67.
- 11 Luria JW, Smith GA, Chapman JL. An evaluation of a safety education program for kindergarten and elementary school children. *Arch Pediatr Adolesc Med* 2000;154:227-31.
- 12 Matson JL. A controlled group study of pedestrian-skill training for the mentally retarded. *Behav Res Ther* 1980;18(2):99-106.
- 13 Miller DA, Davis L. Evaluation of Beltman traffic safety program for children. *J Traffic Safety Educ* 1982;30:13-4.
- 14 Nishioka N, Ieda S, Watanabe M, Takahashi H, Yamakawa M, Okajima Y, et al. An experimental study on the safety behavior of children in a dashing-out situation: effects of verbal instructions and traffic conditions on safety behavior. *IATSS Res* 1991;15:39-45.
- 15 Renaud L, Suissa S. Evaluation of the efficacy of simulation games in traffic safety education of kindergarten children. *Am J Public Health* 1989;79:307-9.
- 16 Singh A. Children and traffic. *Traffic Educ* 1979;4:8-12.
- 17 Thomson JA, Ampofo Boateng K, Pitcairn TK, Grieve R, Lee DN, Demetre JD. Behavioural group training of children to find safe routes to cross the road. *Br J Educ Psychol* 1992;62:173-83.
- 18 Thomson JA, Whelan KM. A community approach to road safety education using practical training methods. *Road Safety Res Rep* 1997;3:1-49.
- 19 Thomson JA, Ampofo Boateng K, Lee DN, Grieve R, Pitcairn TK, Demetre JD. The effectiveness of parents in promoting the development of road crossing skills in young children. *Br J Educ Psychol* 1998;68:475-91.
- 20 Global Road Safety Partnership. [www.grsproadsafety.org/](http://www.grsproadsafety.org/) (accessed 24 Nov 2001).

(Accepted 13 March 2002)

## Corrections and clarifications

*Synergism between allergens and viruses and risk of hospital admission with asthma: case-control study*

The wrong table 3 was published in the print version of this paper by Rosalind Green and colleagues (30 March, pp 763-6). The correct table shows the univariate analysis of potential risk factors for admission to hospital in two groups of patients with asthma. It can be accessed in the full version of the paper as table 5 on [bmj.com/cgi/content/full/324/7340/763](http://bmj.com/cgi/content/full/324/7340/763). We apologise for this error.

*Was it a heart attack?*

In this editorial by Charles J McKenna and J Colin Forfar (16 February, pp 377-8) we mistakenly referred to the enzyme creatine kinase as creatinine kinase. The existence of an enzyme called creatinine kinase has not been reported yet.

*Influence of direct to consumer pharmaceutical advertising and patients' requests on prescribing decisions: two site cross sectional survey*

A wrong value slipped through in the table in this paper by Barbara Mintzes and colleagues (2 February, pp 278-9). Among patients who had not requested drugs before, the number who requested at least one drug that had been advertised direct to consumers was in fact 42 [not 52], and the percentage was 3.9% [not 4.8%].

*France's birth rate matches high Irish levels*

We should have said in this News article by Alexander Dorozynski (16 February, p 385) that it was women's total fertility [not birth rate] that reached 1.89 children in 2000. The fertility value refers to the number of children per woman during childbearing age.