

Evidence Update

Summary of a Cochrane Review

Trauma Series

Does street lighting reduce injuries caused by road traffic accidents?

Evidence on the effects of street lighting on death and injury in road-users at night is limited.

Background

By 2020, an estimated 2.3 million people will die each year in road traffic crashes, 90% of them in low- and middle-income countries. The risk of crashing is higher in the dark than in daylight; street lighting is a relatively low-cost intervention that may prevent crashes.

Inclusion criteria

Studies:

Controlled before and after studies.

Participants:

Streets or groups of streets.

Intervention:

Street lighting compared with no street lighting.

Outcomes:

Crashes; crashes causing injury or death.

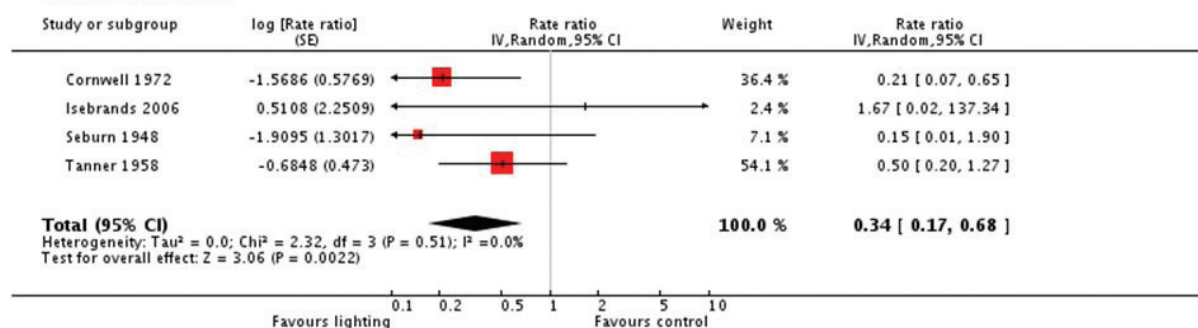
Results

- 17 controlled before and after studies were included; all studies were conducted in high income countries between 1948 and 2006. Methodological quality was generally poor.
- Street lighting was associated with a reduction in:
 - Total crashes compared with a matched area with no street lighting (rate ratio 0.45, 95% confidence interval 0.29 to 0.69; 3 studies) or a day-time control (RR 0.68, 95% CI 0.57 to 0.82; 11 trials).
 - Crashes resulting in injury or death compared with a matched area with no street lighting (RR 0.78, 95% CI 0.63 to 0.97; 2 studies) or a day time control (RR 0.68, 95% CI 0.61 to 0.77; 6 studies).
 - Fatal crashes compared with a day time control (RR 0.34, 95% CI 0.17 to 0.68; 4 studies).

Adapted from Beyer FR, Ker K. Street lighting for preventing road traffic injuries. *Cochrane Database of Systematic Reviews* 2009, Issue 1. Art. No.: CD004728. DOI: 10.1002/14651858.CD004728.pub2. *Evidence Update* published in June 2011.

Street lighting vs day-time control: fatal crashes

Review: Street lighting for preventing road traffic injuries
 Comparison: 2 All street lighting versus day-time control
 Outcome: 3 Fatal crashes



Authors' conclusions

Implications for practice:

Street lighting may prevent road traffic crashes, injuries and deaths, but the methodological quality of included studies is poor.

Implications for research:

Further well-designed studies are needed to determine the effectiveness of street lighting in low- and middle-income countries.