

**Environmental sanitary interventions for preventing active trachoma.
Cochrane Database Syst Rev. 2005 Apr 18;(2):CD004003.
Rabiu M, Alhassan M, & Ejere H.**

Abstract

Background

Trachoma is the second or third major cause of blindness. It is responsible for about six million blind people worldwide, mostly in the poor communities of developing countries. One of the major strategies advocated for the control of the disease is the application of various environmental sanitary measures to such communities.

Objectives

To assess the evidence for the effectiveness of environmental sanitary measures on the prevalence of active trachoma in endemic areas.

Search strategy

We searched the Cochrane Central Register of Controlled Trials - CENTRAL (which contains the Cochrane Eyes and Vision Group Trials Register) on The Cochrane Library (Issue 4, 2004), MEDLINE (1966 to January 2005), EMBASE (1980 to January 2005), LILACS (April 2004), the reference list of trials and the Science Citation Index. We also contacted agencies, experts and researchers in trachoma control.

Selection criteria

This review included randomised and quasi-randomised controlled trials comparing any form of environmental hygiene measures with no measure. These hygienic measures included fly control, provision of water and health education. Participants in the trials were people normally resident in the trachoma endemic areas.

Data collection & analysis

Two authors independently extracted data and assessed the quality of trials. Study authors were contacted for additional information. Three trials met the inclusion criteria but meta-analysis was not conducted due to heterogeneity of the studies.

Main results

Two studies that assessed insecticide spray as a fly control measure found that trachoma is reduced by at least 55% to 61% with this measure compared to no intervention. One study found that another fly control measure, latrine provision, reduced trachoma by 29.5% compared to no intervention; this was, however, not statistically significantly different. Another study revealed that health education on personal and household hygiene reduced the incidence of trachoma such that the odds of reducing trachoma in the health education village was about twice that of the no intervention village. However, all the studies have some methodological concerns relating to concealment of allocation and non-consideration of clustering effect in data analysis.

Reviewers' conclusions

There is evidence that insecticide spray as a fly control measure reduces trachoma significantly. Latrine provision as a fly control measure has not demonstrated

significant trachoma reduction. Health education may be effective in reducing trachoma. There is a dearth of data to determine the effectiveness of all aspects of environmental sanitation in the control of trachoma.

Synopsis

Trachoma is the second or third major cause of blindness. It is responsible for about six million blind people worldwide, mostly in the poor communities of developing countries. One of the major strategies advocated for the control of the disease is the application of various environmental sanitary measures to such communities. These measures are believed to be more sustainable in the control of the disease.

A systematic review of available literature was conducted to assess the evidence for the effectiveness of these environmental sanitary measures in reducing active trachoma.

The review searched MEDLINE, EMBASE, LILACS, Cochrane library to identify randomized and quasi-randomized controlled trials on this topic. Also the reference list of trials and the Science Citation Index were screened. Agencies, experts and researchers in trachoma control were also contacted. Three studies were identified for inclusion into the review, but the studies were not combined in meta-analysis because of their heterogeneity. Two studies that assessed insecticide spray as a fly control measure found that trachoma is reduced by at least 55% to 61% with this measure compared to no intervention. One study found that another fly control measure, latrine provision, reduced trachoma by 29.5% compared to no intervention; this was, however, not statistically significantly different. Another study revealed that health education on personal and household hygiene reduced the incidence of trachoma such that the odds of reducing trachoma in the health education village was about twice that of the no intervention village. However, all the studies have some methodological concerns relating to their quality. We concluded that evidence from two studies suggests insecticide spray can reduce transmission of active trachoma, however, sustainability of such an intervention and the possible untoward effects of prolonged usage of such chemicals are uncertain. One other trial suggests that health education may reduce transmission of active trachoma.

Non-Cochrane reviews, which included mostly observational studies, also suggest a potential benefit for environmental interventions for reducing trachoma in communities. However, it is difficult to rely on this evidence because of validity issues.

As we await more studies that assess the individual contribution of each component of environmental sanitation to the control of trachoma it is difficult to be certain which component of environmental sanitation is more effective. Therefore, all available interventions need to be applied in communities with trachoma, within the context of the SAFE strategy. These interventions include health education on personal and environmental hygiene; water supply and education on water use for hygiene; and fly control measures such as provision of latrines, refuse dumps and insecticide spray.