Family and carer smoking control programmes for reducing children’s exposure to environmental tobacco smoke

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Authors’ objectives

Background: Children’s exposure to other people’s cigarette smoke (environmental tobacco smoke, or ETS) is associated with a range of adverse health outcomes for children. Parental smoking is a common source of children’s exposure to ETS. Older children are also at risk of exposure to ETS in child care or educational settings. Preventing exposure to cigarette smoke in infancy and childhood has significant potential to improve children’s health worldwide.

Objectives: To determine the effectiveness of interventions aiming to reduce exposure of children to ETS.

Search methods: We searched the Cochrane Tobacco Addiction Group Specialized Register and conducted additional searches of the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, PsycINFO, EMBASE, CINAHL, ERIC, and The Social Science Citation Index & Science Citation Index (Web of Knowledge).

Date of the most recent search: September 2013.

Selection criteria: Controlled trials with or without random allocation. Interventions must have addressed participants (parents and other family members, child care workers and teachers) involved with the care and education of infants and young children (aged 0 to 12 years). All mechanisms for reduction of children’s ETS exposure, and smoking prevention, cessation, and control programmes were included. These include health promotion, social-behavioural therapies, technology, education, and clinical interventions.

Data collection and analysis: Two authors independently assessed studies and extracted data. Due to heterogeneity of methodologies and outcome measures, no summary measures were possible and results were synthesised narratively.

Main results: Fifty-seven studies met the inclusion criteria. Seven studies were judged to be at low risk of bias and 23 studies were judged to have unclear overall risk of bias and 23 studies were judged to have high risk of bias. Seven interventions were targeted at populations or community settings, 23 studies were conducted in the ‘well child’ healthcare setting and 24 in the ‘ill child’ healthcare setting. Two further studies conducted in paediatric clinics did not make clear whether the visits were to well or ill children, and another included both well and ill child visits. Thirty-six studies were from North America, 14 were in other high income countries and seven studies were from low- or middle-income countries. In only 14 of the 57 studies was there a statistically significant intervention effect for child ETS exposure reduction. Of these 14 studies, six used objective measures of children’s ETS exposure. Eight of the studies had a high risk of bias, four had unclear risk of bias and two had a low risk of bias. The studies showing a significant effect used a range of interventions: seven used intensive counselling or motivational interviewing; a further study used telephone counselling; one used a school-based strategy; one used picture books; two used educational home visits; one used brief intervention and one study did not describe the intervention. Of the 42 studies that did not show a significant reduction in child ETS exposure, 14 used more intensive counselling or motivational interviewing, nine used brief advice or counselling, six used feedback of a biological measure of children’s ETS exposure, one used feedback of maternal cotinine, two used telephone smoking cessation advice or support, eight used educational home visits, one used group sessions, one used an information kit and letter, one used a booklet and no smoking sign, and one used a school-based policy and health promotion. In 32 of the 57 studies, there was reduction of ETS exposure for children in the study irrespective of assignment to intervention and comparison groups. One study did not aim to reduce children’s tobacco smoke exposure, but rather aimed to reduce symptoms of asthma, and found a significant reduction in symptoms in the group exposed to motivational interviewing. We found little evidence of difference in effectiveness of interventions between the well infant, child respiratory illness, and other child illness settings as contexts for parental smoking cessation interventions.

Authors’ conclusions: While brief counselling interventions have been identified as successful for adults when delivered by physicians, this cannot be extrapolated to adults as parents in child health settings. Although several interventions, including parental education and counselling programmes, have been used to try to reduce children’s tobacco smoke exposure, their effectiveness has not been clearly demonstrated. The review was unable to determine if any one intervention reduced parental smoking and child exposure more effectively than others, although seven studies were identified that reported motivational interviewing or intensive counselling provided in clinical settings was effective.


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