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[Intervention Review]

Face-to-face interventions for informing or educating parents about early childhood vaccination

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ABSTRACT

Background

Early childhood vaccination is an essential global public health practice that saves two to three million lives each year, but many children do not receive all the recommended vaccines. To achieve and maintain appropriate coverage rates, vaccination programmes rely on people having sufficient awareness and acceptance of vaccines.

Face-to-face information or educational interventions are widely used to help parents understand why vaccines are important; explain where, how and when to access services; and address hesitancy and concerns about vaccine safety or efficacy. Such interventions are interactive, and can be adapted to target particular populations or identified barriers.

This is an update of a review originally published in 2013.

Objectives

To assess the effects of face-to-face interventions for informing or educating parents about early childhood vaccination on vaccination status and parental knowledge, attitudes and intention to vaccinate.

Search methods

We searched the CENTRAL, MEDLINE, Embase, five other databases, and two trial registries (July and August 2017). We screened reference lists of relevant articles, and contacted authors of included studies and experts in the field. We had no language or date restrictions.

Selection criteria

We included randomised controlled trials (RCTs) and cluster-RCTs evaluating the effects of face-to-face interventions delivered to parents or expectant parents to inform or educate them about early childhood vaccination, compared with control or with another face-to-face intervention. The World Health Organization recommends that children receive all early childhood vaccines, with the exception of human papillomavirus vaccine (HPV), which is delivered to adolescents.



Data collection and analysis

We used standard methodological procedures expected by Cochrane. Two authors independently reviewed all search results, extracted data and assessed the risk of bias of included studies.

Main results

In this update, we found four new studies, for a total of ten studies. We included seven RCTs and three cluster-RCTs involving a total of 4527 participants, although we were unable to pool the data from one cluster-RCT. Three of the ten studies were conducted in low- or middle-income countries.

All included studies compared face-to-face interventions with control. Most studies evaluated the effectiveness of a single intervention session delivered to individual parents. The interventions were an even mix of short (ten minutes or less) and longer sessions (15 minutes to several hours).

Overall, elements of the study designs put them at moderate to high risk of bias. All studies but one were at low risk of bias for sequence generation (i.e. used a random number sequence). For allocation concealment (i.e. the person randomising participants was unaware of the study group to which participant would be allocated), three were at high risk and one was judged at unclear risk of bias. Due to the educational nature of the intervention, blinding of participants and personnel was not possible in any studies. The risk of bias due to blinding of outcome assessors was judged as low for four studies. Most studies were at unclear risk of bias for incomplete outcome data and selective reporting. Other potential sources of bias included failure to account for clustering in a cluster-RCT and significant unexplained baseline differences between groups. One cluster-RCT was at high risk for selective recruitment of participants.

We judged the certainty of the evidence to be low for the outcomes of children's vaccination status, parents' attitudes or beliefs, intention to vaccinate, adverse effects (e.g. anxiety), and immunisation cost, and moderate for parents' knowledge or understanding. All studies had limitations in design. We downgraded the certainty of the evidence where we judged that studies had problems with randomisation or allocation concealment, or when outcomes were self-reported by participants who knew whether they'd received the intervention or not. We also downgraded the certainty for inconsistency (vaccination status), imprecision (intention to vaccinate and adverse effects), and indirectness (attitudes or beliefs, and cost).

Low-certainty evidence from seven studies (3004 participants) suggested that face-to-face interventions to inform or educate parents may improve vaccination status (risk ratio (RR) 1.20, 95% confidence interval (CI) 1.04 to 1.37). Moderate-certainty evidence from four studies (657 participants) found that face-to-face interventions probably slightly improved parent knowledge (standardised mean difference (SMD) 0.19, 95% CI 0.00 to 0.38), and low-certainty evidence from two studies (179 participants) suggested they may slightly improve intention to vaccinate (SMD 0.55, 95% CI 0.24 to 0.85). Low-certainty evidence found the interventions may lead to little or no change in parent attitudes or beliefs about vaccination (SMD 0.03, 95% CI -0.20 to 0.27; three studies, 292 participants), or in parents' anxiety (mean difference (MD) -1.93, 95% CI -7.27 to 3.41; one study, 90 participants). Only one study (365 participants) measured the intervention cost of a case management strategy, reporting that the estimated additional cost per fully immunised child for the intervention was approximately eight times higher than usual care (low-certainty evidence). No included studies reported outcomes associated with parents' experience of the intervention (e.g. satisfaction).

Authors' conclusions

There is low- to moderate-certainty evidence suggesting that face-to-face information or education may improve or slightly improve children's vaccination status, parents' knowledge, and parents' intention to vaccinate.

Face-to-face interventions may be more effective in populations where lack of awareness or understanding of vaccination is identified as a barrier (e.g. where people are unaware of new or optional vaccines). The effect of the intervention in a population where concerns about vaccines or vaccine hesitancy is the primary barrier is less clear. Reliable and validated scales for measuring more complex outcomes, such as attitudes or beliefs, are necessary in order to improve comparisons of the effects across studies.

PLAIN LANGUAGE SUMMARY

Face-to-face interventions to inform or educate parents about early childhood vaccination

Review question

The aim of this Cochrane Review was to find out whether face-to-face information or education delivered to parents or expectant parents improved vaccination status, parental knowledge or understanding of vaccination, attitudes or beliefs about vaccination, or intention to vaccinate. We also looked for evidence about any negative impacts of the intervention, such as anxiety, and evidence about cost and parents' experiences of the intervention.

This is an update of a review originally published in 2013. In this update, we found four new studies, for a total of ten studies.

Background

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Trusted evidence. Informed decisions. Better health.

Childhood vaccination is an important and effective way to reduce childhood illness and death. However, many children do not receive the recommended vaccines, because their parents or caregivers do not know why vaccination is important, do not understand how, where, or when to get their children vaccinated, or have concerns or doubts about vaccine safety and efficacy.

One way to inform or educate parents about vaccination is through face-to-face discussions, either one-on-one, or in groups. This strategy can be used and adapted in any setting.

Study characteristics

We included trials published up to July 2017. We found ten studies with a total of 4527 participants that looked at the effects of face-toface information or education for parents. Seven studies were from high-income countries, and three were from low- or middle-income countries. The interventions were a mix of short (under ten minutes) and longer sessions (15 minutes to several hours) that were delivered to new or expectant parents.

Key results

We analysed data on the effects of face-to-face information or education on seven different outcomes. According to the included studies, face-to-face information or education may have improved children's vaccination status, probably slightly improved parents' knowledge or understanding of vaccination, and may slightly have improved parents' intention to vaccinate. These interventions may have led to little or no difference in parental attitudes or anxiety related to the intervention. Only one study measured the cost of a face-to-face case management strategy. In this study, the cost of fully immunising one additional child was eight times the cost of usual care, but the intervention was complex, and the study was older, and not widely generalisable. No studies measured parents' satisfaction with the face-to-face intervention.

Certainty of the evidence

We judged the certainty of the evidence to be moderate for parents' knowledge or understanding, but low for all other outcomes. We downgraded the certainty of the evidence where studies were judged to have problems with bias from different sources (e.g. the way in which participants were assigned to study groups), where there was a lot of variability in results or imprecise estimates, or where we had misgivings about the choice of outcomes measures.

Conclusions

This review suggests that immunisation-focused educational messages may be sufficient to improve vaccination coverage and, to a small degree, knowledge, particularly where awareness is identified as a barrier to vaccination.