

Systematic review of long-term follow-up of prevention of preterm birth interventions

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Objective

Obstetric interventions can have unexpected long-term effects. However, evaluation of long-term child outcomes after obstetric interventions is not standardized. The aim of the current study is to determine the rate of long-term follow up and give an overview of these studies after randomized controlled trials (RCTs) evaluating interventions to prevent preterm birth in asymptomatic pregnant women.

Methods

We applied a two-step approach to identify RCTs with long-term child follow-up. Firstly, a search was performed to find all RCTs evaluating interventions primarily aimed to prevent preterm birth in asymptomatic women using MEDLINE, Embase and Cochrane Central Library. Title and abstracts were screened in duplicate. Secondly, eligible RCT's were crosschecked using WebofScience to find any publication on long term child outcomes (defined as outcomes assessed in children after discharge from hospital). Proportion of RCTs (with 95% confidence interval (CI)) reporting long-term child outcomes were calculated. Data on the age of the children at follow-up, domains studied (e. g. neurodevelopment, behavior, pulmonary diseases), and the measurement instrument used were extracted in duplicate.

Results

We identified 181 RCTs evaluating interventions to prevent preterm birth of which only 14 assessed long-term child outcomes, resulting in a follow-up rate of 8% (95% CI 3.9 – 11.6 %). Two RCTs performed two follow-up studies, leading to a total of 16 publications. Most follow-up was performed below the age of 5 years, but ranged between 6 months and 16 years of age. In 13/16 (81%) of the follow-up publications, neurodevelopment was the primary domain studied. In total, 14 different standardized measurement instruments were used to report on long-term child outcomes. Among them, the Ages and Stages Questionnaire (ASQ) was the most frequently used instrument in 7/16 (44%) publications.

Conclusion

Only a minority of RCTs evaluating prevention of preterm birth interventions perform long-term follow-up on child outcomes. These outcomes are however crucial for parents and clinicians to counsel on potential long-term effects of the interventions offered in pregnancy. Consensus on a core set of measurement instrument for this population will help to compare and aggregate findings of follow-up studies.