

Which method is best for the induction of labour? A systematic review, network meta-analysis and cost-effectiveness analysis

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Plain English summary

Methods for the induction of labour

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More than 150,000 pregnant women in England and Wales have their labours induced each year. Multiple pharmacological, non-pharmacological, mechanical and complementary methods are available to induce labour. As the number of women facing induction increases, and as new evidence from trials emerges, it has become urgent to address questions about which methods of inducing labour are most effective, cost-effective, safe and acceptable to women.

We carried out a systematic review, network meta-analysis (NMA) and cost-effectiveness analysis to look at all the evidence on different methods for inducing labour. NMA produces estimates for each treatment compared with every other in a network, even though some pairs may not have been directly compared.

We included 611 trials in the review. Results suggest that oxytocin with amniotomy and misoprostol are more successful than other methods in achieving vaginal delivery within 24 hours. The safety profile of different methods in terms of risk of caesarean section, instrumental delivery, too-strong uterine contractions, admission to neonatal care unit and Apgar score < 7 at 5 minutes was less clear.

In the cost-effectiveness analysis, titrated (low-dose) oral misoprostol solution had the best outcomes for mothers and babies, whereas buccal/sublingual misoprostol had the lowest cost to the UK NHS. Uncertainty in our findings suggests further research is warranted to find better, safer and cheaper methods. We urge researchers to explore women's views of the process as part of any future trial, report outcomes completely, and measure the impact from the perspective of the mother and baby.

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