

The Effectiveness of Oxytocin for the Prevention of Postpartum Haemorrhage: an Individual Participant Data Meta-Analysis.

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Abstract

Background: Post-partum haemorrhage (PPH) is a common complication of labour. **Objective:** To assess the effectiveness of oxytocin in comparison to no treatment for the prevention of PPH. **Selection criteria:** Published and unpublished randomised controlled trials (RCTs) comparing systemic oxytocin to placebo or no intervention for the prevention of PPH were included. We did not apply language restrictions. **Search Strategy:** We identified RCTs from the Cochrane network meta-analysis on uterotonics for the prevention of PPH and updated the search via: Ovid MEDLINE, Embase via Ovid, Web of Science, CENTRAL, CINAHL Plus and clinicaltrials.gov. **Data collection and analysis:** An Individual participant data (IPD) meta-analysis. **Main results:** Of 14 eligible RCTs, four provided IPD (n=4,304; 51.7% received oxytocin and 48.4% received placebo or no intervention). Meta-analysis of IPD showed that oxytocin decreased the risk of PPH[?]500 mL (aOR 0.59; 95% CI 0.46 to 0.74) and PPH[?]1000 mL (aOR 0.51; 95%CI 0.32 to 0.80). Of ten RCTs that did not share data, seven met trustworthiness criteria while three did not. Trustworthy IPD and aggregate data from RCTs meeting trustworthiness criteria (n=6,003) showed that oxytocin significantly reduced the rate of PPH[?]500 mL (aOR 0.53; 95%CI 0.45 to 0.62) and PPH[?]1000 mL (aOR 0.59; 95%CI 0.48 to 0.71). Three RCTs not meeting trustworthiness criteria (n=1,027) reported a larger risk reduction of oxytocin for PPH[?]500mL (aOR 0.37; 95%CI 0.03 to 4.03) and PPH[?]1000mL (aOR 0.13; 95%CI 0.01 to 1.45). **Conclusions :** Prophylactic oxytocin reduces the risk of PPH[?]500mL and PPH[?]1000mL compared to no treatment. Studies not meeting trustworthiness criteria reported a larger effect, underlining the importance of integrity assessment in MA.

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