

**The association between synthetic oxytocin use during birth and breastfeeding:
A systematic review of the literature**

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Introduction: Oxytocin plays an important role during pregnancy, birth, and breastfeeding. The use of synthetic oxytocin (synOT) in labor is frequent and increasing. Emerging evidence points towards the use of intrapartum synOT negatively affecting breastfeeding. The study aim was to describe the association between intrapartum synOT and breastfeeding. Its purpose was to support informed decision-making regarding synOT use in labor and to guide further development of high-quality maternity care.

Methods: A systematic review of quantitative studies published 2007-2021. The review was designed according to the Joanna Briggs Institute (JBI) guidelines and presented according to the PRISMA-statement. A systematic search was conducted in PubMed, CINAHL, PsycInfo and ProQuest. Further data was identified by backward snowballing. All articles fulfilling the inclusion criteria were read and evaluated with relevant critical appraisal tools from JBI. Data was synthesized and presented narratively by using the matrix method.

Results: Fourteen cohort studies and one RCT met the inclusion criteria. A total of 52.439 mother-infant dyads participated in the included studies. Results strongly indicate that administering synOT in labor can negatively affect newborn breastfeeding behavior after birth. Studies on the association between synOT and initiation of breastfeeding, breastfeeding duration and long-term effects also suggest a negative impact but are less conclusive. No study found a positive effect of intrapartum synOT on breastfeeding.

Conclusions: To promote informed decision-making on its use, expectant mothers should be informed about the possible negative effects of synOT in labor on breastfeeding. Guidelines on synOT use should also reflect this potential risk.

Keywords: Oxytocin, synthetic oxytocin, childbirth, breastfeeding, midwifery