

Systematic review and meta-analysis

Breast feeding is associated with decreased risk of sudden infant death syndrome

Heinz Zotter, Gerhard Pichler

10.1136/ebmed-2011-100337

Commentary on: Hauck FR, Thompson JM, Tanabe KO, *et al*. Breastfeeding and reduced risk of sudden infant death syndrome: a meta-analysis. *Pediatrics* 2011;128:103–10.

Department of Pediatrics,
Division of Neonatology,
Medical University of
Graz, Graz, Austria

Correspondence to:

Heinz Zotter

Department of Pediatrics,
Division of Neonatology,
Medical University of Graz,
Auenbruggerplatz 30, Graz,
8041 Austria;
heinz.zotter@klinikum-graz.at

Context

Studies have been inconsistent in showing a protective effect of breast feeding on the risk of sudden infant death syndrome (SIDS). Therefore, the meta-analysis by Hauck *et al* is timely as it aims to quantify and evaluate the protective effect of breast feeding against SIDS, and provide recommendations on the utility of breast feeding as a strategy for reducing the risk of SIDS.

Methods

Data on breast feeding and its association with SIDS published from January 1966 to December 2009 were collected from the MEDLINE database. Twenty-four original case-control studies that provided data on the relationship between breast feeding and SIDS risk were identified. Two teams of two reviewers independently evaluated the studies.

The authors analysed the following; (1) breast feeding of any amount (partial or exclusive) or duration, including breast feeding at discharge from the hospital, (2) breast feeding of any amount at the age of 2 months or older and (3) exclusive breast feeding for any duration.

Findings

Eighteen case-control studies were included in this meta-analysis and revealed an unadjusted summary OR for any breastfeeding of 0.40 (95% CI 0.35 to 0.44). Seven of these studies provided adjusted OR, and on the basis of these studies, the pooled adjusted OR remained significant at 0.55 (95% CI 0.44 to 0.69). The protective effect of breastfeeding increased with exclusivity, with a

univariable summary OR of 0.27 (95% CI 0.24 to 0.31) for exclusive breast feeding of any duration.

Commentary

A previous study of the association between breast feeding and SIDS found similar results but has not been generally accepted due to methodologic flaws.¹ For the first time, the meta-analysis by Hauck *et al* provides substantial evidence that breast feeding is protective against SIDS. The authors have shown that breast feeding to any extent and any duration is protective against SIDS and that there is a dose-response effect concerning breast feeding and reduction of SIDS risk. The authors recommend that breast feeding should be exclusive (ie, formula should not be given) for at least 4–6 months and should be continued until the infant is at least 1 year of age to reduce SIDS risk. The American Academy of Pediatrics (AAP) policy statement on breast feeding and SIDS indicate that a pacifier can be used by breastfed infants once breast feeding has been well established.

The meta-analysis is limited by the fact that the included studies primarily used univariate analyses, and other known risk factors for SIDS (eg, socioeconomic status, nicotine exposure and maternal age) have not been taken into account in a sufficient way. Furthermore, the authors themselves have reservations about the results of studies published on the issue of SIDS and breast feeding. They suspect that only positive effects on breast feeding have been published in the past. Nevertheless, Hauck *et al* concluded that health professionals should speak in one voice about the importance of breast feeding, and they can now add reduction of SIDS to the long list of maternal

and infant health benefits. Although causation cannot be proven in case-control studies, the authors speculate that the protective effect of breast feeding against SIDS may be due to biological effects. Breastfed infants are more easily aroused from active sleep than formula-fed infants at 2 and 3 months of age². Furthermore, they speculate that breast feeding also confers immunologic advantages over formula feeding.³

In 2005, the AAP did not endorse breast feeding as a means to reduce the risk of SIDS.⁴ However, since the publication of the meta-analysis by Hauck *et al*, the AAP⁵ has included the recommendation of breast feeding in order to reduce the risk of SIDS.

Competing interests None.

References

1. McVea KL, Turner PD, Peppler DK. The role of breastfeeding in sudden infant death syndrome. *J Hum Lact* 2000;16:13–20.
2. Horne RS, Parslow PM, Ferens D, *et al*. Comparison of evoked arousability in breast and formula fed infants. *Arch Dis Child* 2004;89:22–5.
3. Blackwell CC, Weir DM. The role of infection in sudden infant death syndrome. *FEMS Immunol Med Microbiol* 1999;25:1–6.
4. American academy of Pediatrics. Task Force on sudden infant death syndrome. The changing concept of sudden infant death syndrome diagnostic coding shifts, controversies regarding the sleeping environment, and new variables to consider in reducing risk. *Paediatrics* 2005;116(5):1245–55.
5. SIDS and Other Sleep-Related Infant Deaths. Expansion of Recommendations for a Safe Infant Sleeping Environment. Task Force on sudden infant death syndrome. *Pediatrics* Published Online First: 17th October 2011 doi:10.1542/peds.2011-2285.