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| **A pooled analysis of breastfeeding and Sudden Infant Death Syndrome: How much is enough to reduce the risk?** |
| **Thompson, John**1; **Tanabe, Kawai**2; **Moon, Rachel**2; **Mitchell, Edwin**1; **Vennemann , Mechtild** 3; **Hauck, Fern**2 *1 - University of Auckland. 2 - University of Virginia. 3 - University of Münster.* |
| **Background**:  In a previous meta-analysis, we have shown that any breastfeeding is protective against SIDS (adjusted odds ratio of 0.55 [95% CI 0.44-0.69]), and that this protective effect is stronger with exclusive breastfeeding of any duration (unadjusted odds ratio of 0.27 [95% CI 0.24-0.31]). However, it has been difficult to determine what duration of breastfeeding is required to incur a protective effect against SIDS.  **Objectives**: To use individual-level data from international studies to assess the association between duration of any breastfeeding and exclusive breastfeeding and SIDS.  **Material and Methods** Individual level data were provided from 8 large case-control studies of SIDS deaths: New Zealand Cot Death Study, Chicago Infant Mortality Study, German SIDS Study, Scottish Cot Death Trust Study, European Concerted Action on SIDS, Confidential Inquiry into Stillbirths and Deaths in Infancy, South West Infant Sleep Scene, and Republic of Ireland SIDS Study. We calculated the length of any breastfeeding and exclusive breastfeeding as continuous variables, then derived as categorical variables any breastfeeding (never, 1day-2 months, 2+-4 months, 4+-6 months, and >6 months) and exclusive breastfeeding (never, 1day-2 months, 2+-4 months, 4+ months). Analysis was carried out for each study individually, and then data were combined for a pooled analysis. A multivariable model using 3 of the studies (NZCDS, CIMS and GeSID) for which all consistent variables were available was fitted using a wide range of variables available in each of the studies. A multivariable model using fewer potential confounders was used for a sensitivity analysis so data from all studies could be included.  **Results** A total of 2590 SIDS cases and 8459 control infants were included in this analysis. Any breastfeeding of 2 months or more resulted in significantly protective effects in each study separately and in the pooled analyses. Exclusive breastfeeding for any length of time conveyed a reduced risk. Multivariable pooled analysis found that, compared to never breastfed infants, those who breastfed for <2 months did not see any protective effect (OR 0.91 [0.68, 1.22]); any breastfeeding beyond 2 months was protective, with greater protection seen with increased duration (0.60 (0.44, 0.82) for 2-4 months, 0.40 (0.26, 0.63) for 4-6 months, and 0.36 (0.22, 0.61) for 6+ months). For exclusive breastfeeding, multivariable pooled analysis also found similar protective effects; those who breastfed for <2 months did not see any significantly protective effect (OR 0.69 [0.46, 1.02]), but longer periods of exclusive breastfeeding were protective: [(0.60 (0.37, 0.97) for 2-4 months and 0.42 (0.25, 0.70) for 4-6 months]. In sensitivity analyses including data from the other studies, only minor changes are seen in the odds ratios, suggesting robustness of the results.  **Conclusions** Breastfeeding duration of a minimum of 2 months is associated with a protective effect against SIDS, with an approximate halving of risk. Breastfeeding does not need to be exclusive to confer this protection. |
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| **CONTACT** | |
| Name: | **John** |
| Lastname: | **Thompson** |
| E-mail: | **j.thompson@auckland.ac.nz** |
| Country: | **New Zealand** |
| Institution | **University of Auckland** |
| Cellphone: | **+64212927814** |
| City: | **Auckland** |