Systematic review and meta-analysis investigating breast-feeding and childhood asthma.

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ABSTRACT

Objective: To examine whether any breastfeeding or exclusive breastfeeding for more than 3 or 4 months is protective for wheeze or asthma in children over 5 years of age.

Design: Systematic review and meta-analysis of observational studies.

Data sources: An electronic search of MEDLINE and EMBASE databases was conducted from 2000 – June 2010 using the key words ('breast-feeding' OR 'milk, human' OR 'infant formula' OR 'bottle feeding') AND ('asthma' OR 'atopy' OR 'atopic' OR 'wheeze'). In addition, reference lists from relevant publications were searched.

Study Selection: Prospective birth cohort, cross-sectional and case-control studies were included if they measured any breastfeeding or exclusive breastfeeding for 3 or 4 months and the subjects' asthma status was evaluated between ages 5 and 18yrs. Asthma definition was based on symptoms, diagnosis or objective criteria.

Results: 33 publications were identified for meta-analysis, 24 contained data for any breastfeeding, and 14 contained data for exclusive breastfeeding more than 3 or 4 months. Any breastfeeding was associated with a reduced risk of wheeze within the last twelve months (pooled odds ratio 0.92, 95% CI 0.86 to 0.98). The overall effect of any breastfeeding on asthma was not significant (pooled odds ratio 0.96, 95% CI 0.90 to1.03) but there was marked heterogeneity ($P<0.00001$). A similar result was seen with exclusive breastfeeding and asthma, however when stratified according to affluence of country, exclusive breastfeeding for 3 or 4 months lowered the risk of asthma in affluent countries (pooled odds ratio 0.90, 95% CI 0.83 to 0.99).

Conclusions: Breastfeeding protects against wheeze in later childhood. Exclusive breastfeeding for 3 or 4 months reduces the risk of childhood asthma in affluent countries but it is not well established whether this is also true for non-affluent countries.