



Does Breastfeeding for Six Months or More After Birth Decrease the Risk of Childhood Obesity? An FPIN[®] Evidence-Based Review

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Introduction

The American Academy of Family Physicians and the American Academy of Pediatrics recommends exclusive breastfeeding for the first 6 months of life and continued breastfeeding for the first 12 months of life. According to the CDC, only 1 in 4 infants is exclusively breastfed for 6 months or greater. Breastfeeding has several benefits for the mother, including decreased risk of hypertension, type 2 diabetes, ovarian cancer, and breast cancer, as well as several benefits for the infant, including reduced risk of asthma, acute otitis media, sudden infant death syndrome (SIDS), severe lower respiratory disease, type 1 diabetes, necrotizing enterocolitis (NEC), gastrointestinal infections, and obesity. The relationship between breastfeeding and obesity is important due to the obesity epidemic and its impact on chronic health conditions.

Objective: To determine if breastfeeding for six months or more after birth decreases the risk of childhood obesity.

Methods

OVID Medline and PubMed were searched for studies published from 2014-2019 using terms *breastfeeding*, *obesity*, and *outcome*, using FPIN[®] HelpDesk Answer[®] evidence-based review methodology. Per FPIN[®], 2-5 references were selected based on level of evidence.

Evidence-Based Summaries

Summary 1

A 2019 prospective cohort study evaluated breastfeeding duration and its association with weight, fat, and blood pressure in South African children.¹ Data on all children (N=1,536, 57% girls, mean age 9.3 years), including height, weight, blood pressure and percent body fat, were collected during a home visit by field workers. There were 51% of mothers that were HIV negative, 31% were positive during pregnancy, and 18% were positive since pregnancy. All babies were HIV negative, but 31% were HIV-exposed in utero, 18% were HIV-exposed post-birth, and 51% HIV-unexposed. Each mother through maternal recall provided breastfeeding data. Breastfeeding duration was defined as less than 1 month, 1 to 5 months, 6 to 11 months, and 12 months or more.

Percent body fat at 85th percentile or more from bio-impedance measurement was classified as overfat, including obese-fat. Overweight, including obesity, was based on BMI-for-age scores. Analysis was adjusted for breastfeeding duration, early life factors, and current life factors. Breastfeeding duration of 6 to 11 months was associated with significantly decreased odds of overfat (adjusted odds ratio [AOR] 0.43; 95% CI, 0.21–0.91) and overweight (AOR 0.46; 95% CI, 0.26–0.82). Breastfeeding for 12 or more months showed comparable results for overfat (AOR 0.45; 95% CI, 0.22–0.91) and overweight (AOR 0.46; 95% CI, 0.26–0.79). HIV exposure was not associated with obesity measures. The major limitation to this study was maternal recall for breastfeeding duration data.



Modified from: <https://www.cdc.gov/breastfeeding/pdf/breastfeeding-cdcs-work-508.pdf>

Evidence-Based Summaries (cont.)

Summary 2

A 2014 meta-analysis of 25 studies (10 cross-sectional studies and 15 cohort studies) from 12 different countries compared the effect of breastfeeding on childhood obesity.² Participants (N=226,508) ranged in age from one year to 14 years old. Obesity definitions were not standardized across all studies, and included 30 kg/m² or more and BMI percentile of 94th or more. Seventeen studies (N not available) evaluated the association of obesity and breastfeeding duration. Breastfeeding duration was categorized as 7 months or more, 5 to 6.9 months, 3 to 4.9 months, and less than 3 months. A dose-response relationship between breastfeeding duration and childhood obesity was observed. Less than 3 months of breastfeeding provided a minor protective benefit against obesity (AOR 0.90; 95% CI, 0.84–0.95).

The protective effect increased in a stepwise fashion with increasing duration of breastfeeding at 3–4.9 months (AOR 0.88; 95% CI, 0.79–0.97), 5–6.9 months (AOR 0.83; 95% CI, 0.76–0.90) and 7 months or more when a high level of protection was observed (AOR 0.79; 95% CI 0.70–0.88). Limitations include different confounders and different obesity definitions for each individual study.

Summary 3

A 2017 longitudinal cohort study compared breastfeeding duration on the development of childhood obesity.³ Data from the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development were analyzed for a sample of 1,234 infants and families. The maternal population was 79% married or living together, 77% never smoked and 81% at or above the poverty line. Child characteristics were 51% male and 82% white.

Height and weight of the children were measured by a standardized protocol at six time points: 24-, 36-, and 54-months, and grades 1, 3 and 6. A cohort of 545 children with complete data on breastfeeding at one and six months was used to determine the relationship between breastfeeding duration and obesity. Breastfeeding duration was described as 6 months or more, less than 6 months, and never breastfed. Childhood overweight and obesity were defined as 85th percentile or greater and 95th percentile or greater BMI-for-age, respectively. Breastfeeding for 6 months or more compared to never breastfed was not associated with a decrease in childhood obesity (AOR 0.58; 95% CI, 0.32–1.04). Limitations to this study include data collected several years previously, lack of possible confounding data such as maternal BMI, and data that was self-reported.

Evidence-Based Answer

Most likely. Breastfeeding for 6 months or more was associated with decreased risk of obesity and overweight in children (SOR: B, prospective cohort study). A dose-response relationship was observed between breastfeeding duration and childhood obesity (SOR: B, meta-analysis of cross-sectional surveys and cohort studies). No significant association between breastfeeding for 6 months or more and a decrease in obesity was observed in children ages 24 months through 6th grade, however breastfeeding for 6 months or more did result in a slight decrease in the percentage of obese children (SOR: B, longitudinal cohort study).

References

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