Mechanisms of breast feeding actions on obesity prevention: a systematic review

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Abstract

Background/Objective: The worldwide increasing prevalence of obesity necessitates research studies that focus on exploring the simple and inexpensive ways to prevent it. Breast feeding (BF) is one of the easiest methods that might protect against obesity. Given the lack of a review on the mechanisms of BF actions in the prevention of obesity this study aims to focus on the effects of BF on obesity prevention during infancy, childhood, adolescence, and adult life with emphasis on possible mechanisms.

Methods: Databases of Pubmed and Science direct were searched for terms: “breast milk” plus obesity, and “human milk” plus obesity from 2005 till March 2015. Searching was limited to articles with English language. Review articles, case reports, abstract in symposium and congress, studies on preterm infants and non-healthy babies, and non-human studies were excluded. Based on critically appraise, eligibility of included articles were evaluated.

Results: After applying the inclusion and exclusion criteria, 28 articles from 456 studies remained for further consideration. Eighteen studies on comparison of feeding type effects, 8 studies on hormones and bioactive compounds in breast milk, and 2 studies on macronutrient contents of breast milk were reviewed. Most of the studies showed positive effects of BF on obesity prevention during infancy, childhood, adolescence, and even adult life with aforementioned mechanisms.

Conclusion: Evidence from recent studies suggests that BF may prevent not only childhood obesity, but also in other periods of life with various mechanisms including hormones, bioactive compounds, and macronutrient contents in breast milk. Further clinical trials about BF mechanisms of actions controlling for confounding variables, especially maternal pre-pregnancy overweight, is suggested.