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Abstract

Effect of Human Milk Components on Infant Growth and Body Composition †

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Abstract: Human milk (HM) is an important source of nutrition for infants that provides all elements necessary for their growth and development. Previous studies have reported associations between breastfeeding and a reduced risk of developing obesity and late metabolic diseases, such as type 2 diabetes. However, the underlying mechanisms are poorly understood. Recently, intakes of HM components have been associated with infant body composition (BC), which might be implicated in the reduced risk of childhood obesity among breastfed infants. In this systematic review, electronic bibliographic databases were searched for studies that explored associations between the 24 h intakes of HM macronutrients and bioactive molecules and infant BC and/or growth parameters. Two independent reviewers screened reference lists, extracted and analysed the data and assessed the risk of bias using the National Institute for Clinical Excellence methodological checklist. Of 13 eligible studies, 10 assessed the relationships of infant BC and growth outcomes with HM macronutrients, and eight studies assessed the relationships with HM bioactive components. Significant differential associations with infant anthropometrics and BC were found for intakes and not for concentrations of several HM components, such as lactose, fat and adiponectin. This highlights that measuring concentrations of HM components without quantifying the intake by the infant may be misleading when analysing the relationships of HM components with infant outcomes. Future studies investigating the effect of HM components on infant growth and BC should consider measuring the actual intakes of HM components.

Keywords: human milk; breastfeeding; lactation; infant nutrition; infant body composition; infant growth; human milk intake; macronutrient intake; intake of bioactive molecules

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