Relationship between exclusive breastfeeding and cardiorespiratory fitness in children and adolescents: A meta-analysis

Berlanga-Macías C.

Álvarez-Bueno C.

Martínez-Hortelano J.A.

Garrido-Miguel M.

Pozuelo-Carrascosa D.P.

Martínez-Vizcaíno V.

Background: Exclusive breastfeeding has been examined as a determinant factor of cardiorespiratory fitness in children and adolescents; however, previous research has reported certain gaps and controversial conclusions related to the real effect of breastfeeding on cardiorespiratory fitness. The aim of this systematic review and meta-analysis was to assess the relationship between breastfeeding, in terms of duration and exclusivity, and cardiorespiratory fitness in schoolchildren and adolescents aged four to 18 years. Methods: MEDLINE, EMBASE, Web of Science, and Cochrane Library were searched systematically from their inception to December 2019. Observational studies addressing the association between breastfeeding and cardiorespiratory fitness in children and adolescents were included. The random-effects method was used to estimate the pooled effect sizes and their respective 95% confidence intervals for all exclusive breastfeeding categories and cardiorespiratory fitness. Positive values indicated a direct relationship between exclusive breastfeeding and cardiorespiratory fitness. Results: Eight published articles were included (a total of 16 862 children and adolescents, aged from seven to 15 years). The pooled effect sizes for exclusive breastfeeding categories on cardiorespiratory fitness were as follows: 0.01 (?0.07 to 0.09) for less than 3 months; 0.09 (0.00 to 0.19) for 3-6 months; 0.07 (?0.01 to 0.16) for less than 6 months; and 0.14 (0.02 to 0.27) for more than 6 months. Conclusions: The best current evidence indicates that longer exclusive breastfeeding is positively associated with higher cardiorespiratory fitness during childhood and adolescence.

Published by John Wiley & Sons Ltd

breastfeeding

cardiorespiratory fitness

children and adolescents

adolescence

adolescent

adult

breast feeding

cardiorespiratory fitness

child

childhood

Cochrane Library

effect size

Embase

female

human

male

Medline

meta analysis

observational study

review

systematic review

Web of Science

child development

preschool child

time factor

Adolescent

Breast Feeding

Cardiorespiratory Fitness

Child

Child Development

Child, Preschool

Humans

Time Factors