

Breastfeeding and physical fitness in adolescence The HELENA Study

by

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Objective: To examine the association between duration of breastfeeding (BF) and physical fitness (including body composition) in adolescents from ten different European cities.

Methods: A total of 2,586 adolescents (1,429 girls) from the HELENA (Healthy Lifestyle in Europe by Nutrition in Adolescence) Study, aged 12.50 to 17.49 y and born at >35 weeks of gestation, were studied. Information about duration of total BF and exclusive BF (no nutrition -neither fluid nor food- other than breast milk) was obtained retrospectively by means of a parental questionnaire. The 20m shuttle run, handgrip strength and standing broad jump tests were used to assess cardiorespiratory and muscular fitness, respectively. Body mass index, sum of 6 skinfolds, body fat percentage, fat mass/height², fat-free mass/height² and waist to height ratio were used to assess body composition and fat distribution. Significant differences in fitness components among the different categories of BF were analyzed using ANCOVA, after adjusting for a set of potential confounders (gestational age, birth weight, current age, sexual maturation, maternal education, parental weight status, country, smoking behaviour and hours of TV watching in a school day).

Results: A longer BF duration (either total or exclusive) was associated with a higher performance in the standing broad jump test in both boys and girls ($P < 0.001$), and with a lower sum of 6 skinfolds, body fat percentage, fat mass/height² and waist to height ratio in boys ($P < 0.05$).

Conclusion: These findings suggest a role of early infant feeding patterns in determining lower body muscular fitness in adolescents of both genders and adiposity in boys.

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