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ORIGINAL RESEARCH COMMUNICATION

Protein intake during the period of complementary feeding and early childhood and the association with body mass index and percentage body fat at 7 y of age [1,2,3]

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Background: A high protein intake during infancy and early childhood has been proposed to increase the risk of subsequent obesity.

Objective: We analyzed the association of different protein intakes during 6–24 mo with body mass index (BMI; in kg/m^2) and percentage body fat (%BF) at 7 y of age.

Design: The analyses included 203 participants of the DOrtmund Nutritional and Longitudinally Designed (DONALD) Study with complete information on early diet (6, 12, and 18–24 mo) and anthropometric data at the age of 7 y. The median of energy-adjusted protein intakes (in g/d) was used to distinguish different patterns of low and high protein intakes throughout the first 2 y of life, which were then related to BMI SD scores (SDSs), %BF, and the risk of overweight and overfatness at 7 y of age.

Results: Although protein intake at 6 mo of age was not associated with the outcomes, a consistently high protein intake at the ages of 12 and 18–24 mo was independently related to a higher mean BMI SDS and %BF at the age of 7 y [BMI SDS: 0.37 (95% CI: 0.12, 0.61) compared with 0.08 (95% CI: −0.09, 0.26), $P = 0.04$; %BF: 18.37 (95% CI: 17.29, 19.51%) compared with 16.91 (95% CI: 16.19, 17.66%), $P = 0.01$] and a higher risk of having a BMI or %BF above the 75th percentile at that age [odds ratio for BMI: 2.39 (95% CI: 1.14, 4.99), $P = 0.02$); odds ratio for %BF: 2.28 (95% CI: 1.06, 4.88), $P = 0.03$].

Conclusions: High protein intakes during the period of complementary feeding and the transition to the family diet are associated with an unfavorable body composition at the age of 7 y.

Key Words: Dietary protein • complementary feeding • children • obesity • body fatness • cohort study

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[Abstract] [Full Text] [PDF]