

ORIGINAL RESEARCH COMMUNICATION

Adolescent skinfold thickness is a better predictor of high body fatness in adults than is body mass index: the Amsterdam Growth and Health Longitudinal Study^{1, 2, 3}

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Background: Body mass index (BMI) during adolescence is predictive of BMI at adult age. However, BMI cannot distinguish between lean and fat body mass. Skinfold thickness may be a better predictor of body fatness.

Objective: The objective of this study was to evaluate the relations between BMI and skinfold thickness during adolescence and body fatness during adulthood.

Design: We included 168 men and 182 women from the Amsterdam Growth and Health Longitudinal Study, a prospective study that conducted 8 measurements of BMI and skinfold thickness between 1976 and 2000. BMI and skinfold thickness during adolescence were analyzed in relation to adult body fatness measured at a mean age of 37 y with dual-energy X-ray absorptiometry.

Results: None of the boys and 1.7% of the girls were overweight at baseline, whereas the prevalence of high body fatness during adulthood was 29% in men and 32% in women. At the ages of 12–16 y, skinfold thickness was more strongly associated with adult body fatness than was BMI. Age-specific relative risks for a high level of adult body fatness varied between 2.3 and 4.0 in boys and between 2.1 and 4.3 in girls in the highest versus the lowest tertile of the sum of 4 skinfold thicknesses. For the highest tertile of BMI, the relative risk varied between 0.8 and 2.1 in boys and between 1.3 and 1.8 in girls.

Conclusion: Skinfold thickness during adolescence is a better predictor of high body fatness during adulthood than is BMI during adolescence.

Key Words: Adolescents • adults • body fatness • body mass index • cohort study • dual-energy X-ray absorptiometry • longitudinal study • skinfold thickness

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