Abstract

Objective: To assess five years trends in total and abdominal fat in Spanish adolescents. Design: Two crosssectional studies: adolescents from the city of Zaragoza (Spain) assessed during 2001-2002 and 2006-2007. Subjects: 399 adolescents in 2001-02 and 392 adolescents in 2006-07. Main outcome measurements: Socio-economic status was assessed using the education level of both parents. A complete anthropometric assessment was performed in both surveys using the same methodology: weight, height, skinfold thickness (biceps, triceps, subscapular, suprailiac, thigh and calf) and circumferences (waist and hip). The body mass index (BMI) and the sum of 6 skinfold thicknesses were calculated. Body fat percentage (BF%) was also calculated by the formulas described by Slaughter et al. Results: After adjusting for age and pubertal status, only females showed a significantly decrease in weight, BMI and waist circumference, and a significant increase in the sum of 6 skinfolds (all P < 0.05 and Cohen’s d  0.25) in 2006-2007, when compared to values obtained in 2001-2002. Males did not show any significant change between the two surveys. Concerning centile values, a slight general reduction was observed in weight, BMI and waist circumference for both males and females. On the contrary, the sum of 6 skinfolds and the BF% were higher in 2006-2007 than in 2001-2002. Conclusion: According to these results, there might be a levellingoff in the trends of BMI, BF% and waist circumference in male adolescents from Zaragoza. In females, despite a trend towards higher body fat mass, there was a trend towards lower BMI and waist circumference values.

Keywords