

Association of socio-cultural factors and dietary with abdominal obesity in adolescents in Minas Gerais - Brazil

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In 1997 obesity experts from the World Health Organization (WHO) recognized the importance of abdominal fat (referred to as the central or visceral abdominal obesity), which can vary considerably within a narrow range of total body fat and body mass index (BMI). Also highlighted was the need for other indicators to complement the measurement of BMI to identify individuals at increased risk of obesity-related morbidity due to abdominal fat accumulation.

This study evaluated the abdominal obesity in adolescence and its major cultural and social factors associated with food at Entre Rios de Minas, a Brazilian town. We analyzed 212 adolescents (84 males) aged between 11 and 14 years (mean 12.5 years), and evaluated weight, height and waist circumference, determined according to internationally recommended standards. We considered abdominal obesity when the value for the percentile of waist circumference was 95 or over, physical activity (PAQ-C), nutritional intake of adolescents through a questionnaire on frequency of food consumption validated for Brazilian adolescents, and various socio-cultural factors, including education and lifestyle for teens and their parents. For food intake groups were evaluated according to the more recent U.S. dietary recommendations (2010), for weight control, and its consumption was categorized as low (less than or equal to median) and high (above the median). We evaluated the association between abdominal obesity and socio-cultural factors and food with the chi-square, and those which presented a significant correlation were evaluated in models of logistic regression, in order to estimate the magnitude of its association with abdominal obesity, adjusting for age and energy intake of adolescents.

The values of abdominal obesity of adolescents reached 68.8% in females and 31.2% in males. In this last group, the distribution of abdominal obesity varied

significantly with the consumption of soft drinks. 63% of the adolescents that did not have abdominal obesity, and 35% of those with abdominal obesity presented high levels of consumption of soft drinks).

The exposure of the father and adolescent to television / computer / video games on weekend (≥ 2 h/day exposure, the parents, was approximately 61% without abdominal obesity in adolescents and 39% in adolescents with abdominal obesity; the adolescents, was 61% in adolescents without abdominal obesity and 90% in adolescents with abdominal obesity) and obesity in the mother (obese mothers were about 56% in adolescents without abdominal obesity and 30% in adolescents with abdominal obesity).

In females with abdominal obesity, the contribution of fat and protein was significantly lower, and the contribution of fiber, fruits and vegetables was significantly higher, the distribution of abdominal obesity varied significantly with father's schooling (62% in adolescents without abdominal obesity and 75% in adolescents with abdominal obesity had parents with only primary education).

After logistic regression and adjusting for confounders, the association of abdominal obesity with paternal schooling lost statistical significance in females, and only exposure to television / computer / video games on weekend remained significant (\geq exposure to 2h/day, for <2 h/day led to an OR = 6.43, 95% CI 1.11 to 37.06, for abdominal obesity) in males.

In conclusion, only the variables of exposure to 2 hours or more TV / computer / video games during the weekend in males, was significantly associated with the occurrence of abdominal obesity, independently of other characteristics.