

MES

MESTRADO EM
EDUCAÇÃO PARA A SAÚDE

UNIVERSIDADE DO PORTO
FACULDADE DE MEDICINA
FACULDADE DE PSICOLOGIA E CIÊNCIAS DA EDUCAÇÃO

Ana Sofia Pereira Azevedo

**Determinantes comportamentais do excesso de peso e obesidade em
adolescentes de 17 anos – estudo EPITeen**

Porto | 2011

Abstract

Background: Obesity prevalence has been increasing, namely in early ages. Adolescence is a critical period for its development and behavioral determinants related to lifestyles seem to have the most influence. The fact that these behaviors are directly modifiable gives them a unique and growing importance, particularly at early ages, in which the behaviors are still in training.

The increase of sedentary habits among young people (as many hours watching TV, among others) and simultaneously the decrease of structured physical activity and adoption of less tolerant behaviors, including smoking and alcohol consumption, and choosing nutritionally unbalanced foods are factors that deserve special attention. While for adults the determinants of obesity are well studied, for adolescents this knowledge is much less comprehensive, remaining unknown if the same associations found for adults remain and if the magnitude of these associations are similar across different age groups.

Objective: The main objective of this research is to study the association between family and behavioral factors of adolescents (diet, physical activity, alcohol consumption and smoking) and overweight/obesity at 17 years.

Methods: This research includes participants from the EPITeen cohort, which began in 2003/2004, and brings together adolescents from public and private schools of Porto, born in 1990. This analyses will include all adolescents reevaluated in the 2007/2008 academic year (to date 17 years) and with available information on measured weight and height (n=2496).

Body mass index (BMI) was calculated as the value of weight (kg) over the squared height (m). Each adolescents was then classified according to the age- and sex-specific body mass index reference percentiles developed by the United States Centers for Disease Control and Prevention (CDC) as overweight if between the 85th and the 95th percentile, and obese when at or above the 95th percentile.

Additional information was collected through two structured self-administered questionnaires (one completed at home by parents and one at school by adolescents), including data on demographics and anthropometrics of parents and behavioral characteristics of adolescents, such as diet, physical activity, and alcohol and tobacco consumption.

A written informed consent by students and their parents was provided for data gathering.

The association between the different factors and overweight/obesity (grouped into two categories: BMI between the 85th and the 95th percentile, and BMI at or above the 95th percentile) was evaluated by odds ratio (OR) and respective 95% confidence intervals (95%CI), obtained by unconditional logistic regression, after adjustment for parent's education and parental BMI. Models were stratified by sex.

Results: According to the CDC criteria, 83.3% of girls were normal weight or underweight, 12.7% were overweight and 4.0% were obese. In boys, these percentages were 78.1%, 13.1% and 8.7%, respectively.

After adjustment for parental BMI, girls whose parents had university college presented 60% less probability of being overweight/obese (>12 vs. ≤6 years: OR=0.58, 95%CI: 0.32-1.03). In boys, this association was positive and significant (10-12 vs. ≤6 years: OR=2.23, 95%CI: 1.28-3.88). Independently of parent's education, individuals of both sexes with obese parents had approximately three times more probability of being overweight/obese (OR=3.65, 95%CI: 2.09-6.36 in girls; OR=2.97, 95%CI: 1.79-4.92 in boys).

After adjustment for education and BMI of parents, age at menarche was inversely associated with the occurrence of overweight/obesity in girls (>13 vs. ≤11 years: OR=0.56, 95%CI: 0.31-1.03).

Also, in multivariate analysis, a regular consumption of breakfast was associated with lower odds of overweight/obesity, but only in boys and marginally (OR=0.58, 95%CI: 0.31-1.05).

The higher the frequency of being on diet, the greater the likelihood of overweight/obesity (≥5 times or always on diet vs. 0 times: OR=4.10, 95%CI: 2.32-7.26 in girls; ≥1 vs. 0 times: OR=9.75, 95%CI: 5.97-15.9). The consumption of light versions of dietary products also significantly increased the probability of adolescents being at overweight/obesity (OR=2.32, 95%CI: 1.51-3.56 in girls; OR=2.18, 95%CI: 1.24-3.85 in boys). However, the possibility of these results are due to reverse causality could not be excluded.

Girls who have the perception that they are actives or very actives presented a lower likelihood of having excess weight or being obese in comparison with those that are seated most of the time (OR=0.55, 95%CI: 0.32-0.94). In boys, this association was not statistically significant.

Conclusions: Results from this research suggest that the family environment of adolescents, namely education and BMI of parents, present a strong influence on

development of overweight/obesity, even at ages in which we would think that the increasing autonomy and potential breaking with family habits would lead to a lower familial influence.

Girls with early menarche and who have the perception that they are actives or very actives, as well as boys that reported to have breakfast usually, showed a less probability of having a BMI ≥ 85 percentile. In both sexes, a higher frequency of being on diet and the consumption light versions of dietary products were positively associated with overweight/obesity, probability due to reverse causality.

Thus, the conduction of strategies and interventional programs focused on adolescents with the aim of changing behaviors associated with a higher risk of overweight/obesity at early ages, namely the adoption of inadequate eating habits and sedentary behaviors outside school hours, should not be neglected.