**Influence of nutritional and socioeconomic factors on obesity: findings from the Nutrition, Environment and Cardiovascular Health (NESCaV) study in Wallonia**

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**Abstract**

Background

The prevalence of obesity has increased dramatically over the past three decades in industrialized societies. Unbalanced eating habits with high macronutrient and poor micronutrient intakes are known to augment the risk of obesity. Furthermore, various studies have shown that socioeconomically disadvantaged groups have a higher prevalence of obesity than more advantaged groups, especially among women. The purpose of the study was to assess the importance of nutritional and socioeconomic factors in determining obesity risk.

Methods

Cross-sectional data were collected from a randomly selected population sample of 1017 residents of Wallonia in the context of the interregional Nutrition, Environment and Cardiovascular Health (NESCaV) study. Dietary intake data were obtained by means of a Food Frequency Questionnaire (FFQ) which reports the frequency of consumption and portion size of 146 items over the last 3 months. Two indicators of socioeconomic status were retained for this study: educational achievement and perception of income. Nutritional intakes were analysed in absolute terms and as percentages of total energy intake. Ordinal logistic regression was applied to assess the association of nutritional and socioeconomic factors with obesity while adjusting for age and sex.

Results

When considering the cut-off points defined by the World Health Organization (WHO) for the body mass index (BMI), 47.1% of the participants had a normal weight, 34.4% were overweight and 18.5% were obese. Obesity was found to be significantly associated with higher total protein intakes (p=0.027), higher animal protein (p<0.001) intakes and with lower total carbohydrate intakes (p=0.026). Except for iodine, study findings were less consistent for micronutrients intakes. After adjustment for socioeconomic status, the associations remained significant for most nutritional effects.

Conclusions

This study draws attention to the potential effect of specific nutritional factors on the risk of obesity. Further analyses, however, may reveal that other population segments are at higher risk of poor nutrition and obesity.

Main messages

* Assess the importance of nutritional factors in determining obesity risk.
* Evaluate the importance of socioeconomic factors in determining obesity risk.