

Why are poorer children at higher risk of obesity? A U.K. cohort study

A.Goisis (UCL), A. Sacker (UCL), Y. Kelly (UCL)

Background

In recent decades obesity rates among children have increased dramatically in the UK and elsewhere. Prior work suggests that there are socioeconomic inequalities in the risk of childhood obesity but our understanding of why children from socially disadvantaged backgrounds appear at increased risk of obesity is limited. This represents a particular challenge for public health as in the context of lifelong health, we know that children who become obese in childhood are at higher risk of obesity throughout their lives. The aim of this study was to examine the contribution of family environmental factors to social inequalities in child obesity. To investigate whether influences are similar across childhood we looked at two age points: in early childhood at 5 years and at the cusp of adolescence at 11 years.

Methods

We used data from a large population based study, the Millennium Cohort Study. A measure of child obesity was obtained by applying the International Obesity Task Force (IOTF) thresholds for BMI and social position was measured using quintiles of family income. Logistic models were used to estimate income inequalities. To assess whether and to what extent different sets of indicators help to explain income inequalities in child obesity, models progressively included variables which measured health markers around the time of birth (e.g. mother smoked during pregnancy) physical activity (e.g. frequency of sport per week) and family routines around diet (e.g. skipping breakfast).

Results

At age 5, obesity was approximately twice as likely among children in the poorest income quintile compared with their peers in the richest quintile (girls 7.4% vs. 4.2%; boys 6.1% vs. 2.8%). Adjustment for each set of risk factors attenuated the odds of obesity across income quintiles. For girls, the largest reduction occurred when markers of physical activity were adjusted for, whilst for boys on adjustment for dietary markers. After adjustment for all risk factors in the final model, income inequalities in child obesity were substantially reduced. For girls in the lowest income quintile there was a reduction of 73%, and for boys a reduction of 40% in the odds of obesity. Additional analysis on the recently released age 11 data will be presented.

Discussion

Strategies aiming to reduce social inequalities in child obesity need to include multiple aspects of the environment. Preliminary results reveal that interventions might have to be targeted differently across gender.