

Trends in obesity prevalence and its risk factors in England from the Health Survey for
England, 1991-2015

Abstract

Objective: The England population is steadily gaining weight. This study examines trends in obesity prevalence in England since World War II, and identifies cohort patterns in obesity prevalence.

Methods: 25 years of Health Survey of England (HSE) data from 1991 to 2015 were used. Participants from 16-74 years of age with a valid weight and height were included. A heatmap was used to visualize the obesity prevalence in 5-year age groups for every survey year. Data was divided into seven birth-cohort groups and trends in obesity prevalence over-time between these cohorts were compared. Logistic regression was conducted for survey year, age group, and interaction with age-group and survey year to estimate the cohort effect. All analyses were conducted separately per gender.

Results: The birth cohort graph for men showed a divide in 1960 and 1961 where different obesity patterns was observed for people born before 1960 which implied a cohort effect before 1960. However, the logistic regression showed no statistical significance in the period and age interaction (cohort effect) in all age groups. In women the logistic regression

result showed that women in the 55-64 year age group (born between 1927-1960) had a statistically significant age interaction, indicating that women born after 1960 were becoming obese at a greater rate than women born before this year.

Conclusion: For men, no statistical significant difference in obesity trend was observed in any particular generation which suggests a constant increase in calorie intake overtime (period effect). But for women, a different obesity pattern was observed in women born prior to 1960. Patterns of increasing obesity in the UK have been fixed for a very long period of time in both men and women, suggesting that the phenomenon of increasing obesity is linked to a long period of excessive calorie intake rather than rapid changes in diet over the recent past.

Keywords: obesity; Health Survey of England: cohort effect