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## Obesity in a Rural Population Experiences from The Skaraborg Project

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## Abstract

Over the last two decades there has been a striking and continuous increase in the prevalence of obesity both in industrialized and developing countries. Despite this global consistency there is a variation within countries with a higher prevalence of obesity within rural areas. The overall aim was to explore the prevalence of obesity and factors that influence the development of obesity in a rural Swedish population.

Random samples of the populations in the rural communities of Vara, Skara, and Skövde stratified by age-groups and sex, were surveyed including physical examinations with anthropometric measurements and a self-administrated question-aire about socio-economic factors and lifestyle. In Vara the population was surveyed every fifth year between 1977 and 2002 enrolling a total of 3365 men and women. Similar information was collected from the population in Skara 1993-1994 (n=1109), and in Skövde 2004-2005 (n=1007). Among the participants in Skövde 10 individuals were purposefully selected to be interviewed about their perceptions on their ideal body and obesity.

There was a strong secular trend of increasing obesity in both sexes between 1977 and 2002 in the rural community. The development of obesity was influenced by level of education and leisure time physical activity.

- There was an inverse association between mortality and BMI in the elderly population, however statistically significant only in men.
- Self-reported information on body height and weight underestimated the prevalence of obesity considerably. This underestimation diminished with a corrected BMI accounting for self-reported BMI and age.
- The prevalence of obesity has increased significantly in the ages 30-60 years from 14 per cent in both sexes in 1977 to 19 per cent in men and 21 per cent in women in 2002.
- Subjects not responding to questions on body height and weight in health questionnaires are more likely to be obese and thus contribute to the underestimation of the prevalence of obesity.

In Vara the estimation of obesity was significantly influenced by age, participation rate, the nature of information on body height and weight, and non-response to self-reported information on body height and weight. These biases in describing the occurrence of obesity must be considered when reporting and comparing the prevalence of obesity between areas and over a time period. Future studies on the interactions between genes, individual factors, and the socio-economic contexts may more specifically contribute to the understanding of obesity in rural areas.