

The association of obesity and incident mobility disability in middle-aged adults

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Abstract: Twelve studies have demonstrated an association between obesity and mobility disability, however, most relied on cross-sectional rather than longitudinal data. Other studies utilized assessments with long-intervals between measurements.

The objective of this dissertation was to examine the association between obesity and incident mobility disability in older middle-aged US adults using longitudinal data. Secondly, an objective was to determine whether there are gender or racial differences in the association of obesity and incident mobility disability. Finally, the effect of varying levels of weight gain on the development of mobility disability was assessed.

Data for the analyses came from waves 2-5 of the Health and Retirement Survey (HRS), conducted every two years between 1994 and 2000. Ordinary Least Squares regression (OLS) was used to quantify the relationship between Body Mass Index (BMI) and the number of incident mobility disabilities after controlling for concomitant medical conditions and demographic factors. Logistic regression was used to assess the risk of developing a mobility disability for varying levels of weight gain. Data from wave 1 (1992) of the HRS was not used because the change in the format of the disability questionnaire between waves 1 and 2 prevented meaningful comparisons of the data.

A significant association between increased BMI and incident mobility disability was found in the OLS analysis. The predicted number of new mobility disabilities increased with increased BMI, but the slope of the relationship was greater for BMI in the obese range after controlling for hypertension, diabetes, chronic lung disease, heart disease, arthritis, asthma, back problems, and problems with feet and legs. The relationship did not differ between men and women or between African-Americans and whites. Weight gain of 5% or more was significantly associated with an increased risk of new mobility disability controlling for comorbid illnesses and baseline weight status.

These results suggest another important adverse consequence of obesity. In view of the growing epidemic of obesity and the potential economic cost of mobility disability, further work is necessary to determining the potential benefits of weight management interventions to reduce both obesity and mobility disability.

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