BMI and headache among women: results from 11 epidemiologic datasets.

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BMI and headache among women: results from 11 epidemiologic datasets.

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**Abstract**

**OBJECTIVE:** To evaluate the association between BMI (kg/m²) and headaches among women.

**METHODS AND PROCEDURES:** Cross-sectional analysis of 11 datasets identified after searching for all large publicly available epidemiologic cohort study datasets containing relevant variables.Datasets included National Health Interview Survey (NHIS): 1997-2003, the first National Health Examination and Nutrition Survey, Alameda County Health Study (ACHS), Tecumseh Community Health Study (TCHS), and Women's Health Initiative (WHI). The women (220,370 in total) were aged 18 years or older and had reported their headache or migraine status.

**RESULTS:** Using nonlinear regression techniques and models adjusted for age, race, and smoking, we found that increased BMI was generally associated with increased likelihood of headache or severe headache among women. A BMI of approximately 20 was associated with the lowest risk of headache. Relative to a BMI of 20, mild obesity (BMI of 30) was associated with roughly a 35% increase in the odds for experiencing headache whereas severe obesity (BMI of 40) was associated with roughly an 80% increase in odds. Results were essentially unchanged when models were further adjusted for socioeconomic variables, alcohol consumption, and hypertension. Being diagnosed with migraine showed no association with BMI.
DISCUSSION: Among US women, a BMI of approximately 20 (about the 5th percentile) was associated with the lowest likelihood of headache. Consistently across studies, obese women had significantly increased risk for headache. By contrast, the risk for diagnosed migraine headache per se was not obviously related to BMI. The direction of causation and mechanisms of action remain to be determined.

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