Reviewer’s report

Title: The Effect of Body Mass Index on Global Brain Atrophy in Middle-Aged Adults: a cross sectional study

Version: 1 Date: 6 May 2005

Reviewer: Deborah Gustafson

Reviewer’s report:

General
This is a paper describing the relationship between BMI and brain atrophy as measured using MRI in middle-aged adults. These data confirm those already published from Sweden on a similar finding using CT. The paper is well-written, easy to read, and relevant to our continued understanding of overweight and obesity in relationship to brain health.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. The description and explanation of sample representativeness could be better. How exactly were participants recruited? Is there any reason for selection bias? Is this an MRI subsample of a larger study? Was there any selection done on the basis of BMI? While those with a family history of AD sample are demographically similar to those recruited from the community, was this similarity also observed for BMI? Also, was the AD group different from the community in terms of degree of atrophy? While this is considered in the multivariate model, what were your criteria for including the covariates you did include?

2. The reference in the Conclusion is incorrect. The study on brain atrophy that was reported from the Swedish studies was found at mid- through later life consistently over a 24-year follow-up (not among 70-88 year olds). See Gustafson et al., Neurology, 2004;63:1876-1881.

Discretionary Revisions (which the author can choose to ignore)

Which journal?: Appropriate or potentially appropriate for BMC Medicine: an article of outstanding merit and interest in its field

What next?: Accept for publication in BMC Medicine after minor essential revisions

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests.