Reviewer's report

Title: The validity of self-reported weight in US adults

Authors:

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Reviewer: Dr John Himes

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Unable to decide on acceptance or rejection until I see revised version

The author has addressed an important issue in public health and survey research, and has used high quality data to do so. Nevertheless, there are some methodological and interpretive issues that remain to be settled.

Major issues.

1. The author states that he used the sampling weights to account for unequal selection probabilities (even though the sample sizes in the tables reflect only the unweighted sizes). The sampling weights are not sufficient, however, to account for the cluster nature of the sampling in the NHANES surveys. The latter requires that mixed models be used to calculate the appropriate variances for the total sample. These models need to nest sampling strata within sampling units, and consider the sampling units as random effects in all analytical models. Without this approach, the variance terms will have been systematically underestimated and statistical significance systematically over estimated, because of the intraclass correlations among sampling units. Accordingly, any variance among sampling units will have been neglected.

2. In fact, other US population analyses have been published but overlooked by the author (e.g. Rowland, Am J Clin Nutr 1990;52:1125), including previous analysis on this same sample (Fanelli Kuzmarski et al., J Am Diet Assoc 2001;101:28). There is a considerable literature on reported weight that has not been considered. It is important to put the present findings in context with what has been published previously, in these and other studies.

3. Nothing is said concerning how these findings might be applied in research or practice, or the implications for interpretation of other findings from other countries.

Minor issues.

1. The crude proportions in Table 4 could be omitted without much loss of information, and Figure 1 is illustrative but completely redundant.
2. In the tables, the 95% confidence intervals of the odds ratios would be more informative than just the statistical significance.

**Competing interests:**

None declared.