Reviewer's report

Title: Body fatness and breast cancer risk in women of African ancestry

Version: 3 Date: 9 September 2013

Reviewer: Patricia Sheean

Reviewer's report:

Overall, the revised manuscript is improved. The language is clearer, tighter and reflects significant efforts on behalf of the authors. However, I have several remaining concerns, largely focused on methodologies and objective limitations.

Major compulsory revisions:

Statistical methodologies: The rationale for why investigators adjust for BMI while looking at WC (and vice versa) is understood. Regardless of the authors’ response, this approach reflects a statistical overcorrection and as a result, the findings are a bit misleading. It is comparable to examining education, adjusting for income. These two variables, similar to BMI and WC, are typically highly collinear. To this end, it would be helpful for the authors to include comments regarding how they addressed multicollinearity in their regression modeling within the statistical analyses, data presentation and data interpretation. I disagree that interpretations should be left to the reader.

BIA methodologies: Again, it is clear why the BIA methodologies were used in this study and I certainly appreciate the reluctance to provide participants with a list of ‘to do’s’ prior to measurement and interview. However, the potential to produce highly variable results are substantial when using a methodology that relies on hydration and may even vary by race/ethnicity. Please provide a more objective view of these data, including the likelihood that the body composition relationships (Table 4) may have been masked by using an imprecise method of measurement. The verbiage on page 13, paragraph 1 is insufficient. Need to consider and include: What biases might have been introduced as a result of using BIA? How could these imprecise measures impact your findings?

Minor essential revisions

Pg 7, P2: Understanding there is great variability is WC cut-points, please provide a reference for using 2 cm as your cut point for taking a third measure of waist circumference. These sorts of references are important for unifying this methodology.

Pg 14, P2: The lack of data on co-morbid condition should be mentioned in the limitations, especially in light of the associations with BC risk and WC in this study population.

Conclusive remarks: Seems like the conclusions actually start on pg 14 with the paragraph starting, “Our study contributes to the ...” Suggesting integrating this
material with the concepts currently under “Conclusions.” Last sentence of the current Conclusions is too long; suggest shortening and revising.

Conclusive remarks within the abstract should be revised to be more objective in light of the methodologic limitations.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare I have no competing interests.