Reviewer's report

Title: Racial differences in central adiposity in a longitudinal cohort of black and white adolescent females

Version: 3 Date: 21 September 2009

Reviewer: Giorgio Bedogni

Reviewer's report:

General comment

I was asked to review this paper as BMC statistical referee. The paper is interesting, well written and will add to the available literature on waist circumference in pediatric age.

Major Compulsory Revisions

None

Minor Essential Revisions

L55: Was there any need to take into account the fact that the NGHS sample is household-based?

L112: Strictly speaking, a mixed model is a mixture of fixed and random effects. You do not make clear which effect(s) - if any - you modeled as random. Was it the "girl", as possibly implied by L152? If you used fixed effects only, it would by much better to report your models as "fixed-effect" models. However, there are all reasons to believe that a mixed model with "girl" as random effect would be a nice choice to analyze your data.

General: please, add 95% confidence intervals to all point estimates (in tables and text).

Table 1 and Methods: please, report the reference distribution which you used to calculate the frequency of overweight/obesity. It would be nice to have the mean (SD) z-score of anthropometry for the two groups in Table 1 as this will allow comparison with other studies.

Table 2: did the t-test take into account the multiple-comparison issue? Despite some missing data, the waist data at different time-points refer in fact to the same girls.

Table 3: The models on this table appear to have been developed on 2378 girls. However, at L77 you declare that the study sample was 2379 and at L134 that the effective sample size ranged from 1781 to 2274 depending on visit. Summing white and black girls at year 2 in Table 2 one obtains 2274 girls. Please, explain this discrepancy.
I would be more cautious in making this statement. I would write that more longitudinal studies with hard clinical outcomes are needed to understand whether the different growth rate of waist circumference girls will impact public health.

Discretionary Revisions
None

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

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests