Reviewer's report

Title: A Nearly Continuous Measure of Birth Weight for Gestational Age Using a United States National Reference

Authors:  
Dr Emily Oken (emily_oken@hphc.org)  
Prof Ken P Kleinman (ken_kleinman@hphc.org)  
Janet W Rich-Edwards (janet_rich-edwards@hphc.org)  
Matthew W Gillman (matthew_gillman@hphc.org)

Version: 1 Date: 2 May 2003

Reviewer: Robert Platt

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

Advice on publication: Accept after discretionary revisions

This is a very useful paper that points out a practical issue with regard to many published fetal growth references. A few suggestions that might improve things:

My main question is with regard to the percentiles. On page 3, the data were divided into 100 equally sized groups at each gestational age, and these groups provide individual percentiles. This is a nonparametric approach, which is good, but it could give rise to implausible situations as individual percentile curves are likely to not be smooth. The results presented in the figures reflect this problem, showing implausible drops in weight percentile with increasing gestational age. A smoothing algorithm of some kind might help.

Another reason why smoothing the individual percentiles might be useful is the sample size. The number of subjects at early gestational ages (A table of the sample sizes by gestational age and numbers of births trimmed at each GA would be useful in the main document.

Given the sample sizes, I'm not surprised that the Kolmogorov-Smirnov test is significant, but in fact this might not be that big a problem on visual inspection of some of the distributions.

Finally, it would be interesting to have some discussion of the application of this work. The authors make a good general case that arbitrary SGA cutoffs are not great; what are the implications of this new approach?

Competing interests:

None declared.