Reviewer’s report

Title: The value of maternal anthropometric characteristics in predicting low birth weight and preterm birth in Sudanese newborn infants

Version: 1 Date: 3 November 2007

Reviewer: Hidemi Takimoto

Reviewer’s report:

General

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

There are serious problems in the statistical model applied in this manuscript. First of all, the title is inappropriate with regards to what is shown in the Results section. The authors examined the effect of maternal anthropometry and social factors to gestational age, not preterm birth. Second, maternal anthropometric measurements were done after delivery. Therefore, it is inadequate to include maternal weight, mid-arm circumference, and BMI in the statistical model to “predict” low birth weight or preterm birth. If the authors truly wanted to use these parameters to predict birth outcomes, they should have been measured before or early in pregnancy. Third, the reason for applying receiver operating characteristic curves to determine cutoffs for “predicting” LBW risk (but not preterm birth, see page 5, line 1) rather than applying other methods, such as logistic regression analyses, is not clear. The authors should clarify why they considered this model as more appropriate for their purpose, by citing other studies of similar purpose.

The results should be written in the text in accordance with the tables and figures. Please show the correlation coefficient values and the methods used to calculate them, between maternal anthropometry and birthweight and gestational age. Table 1 and 2 could be put together on a single table. On page 6 line 17, Fig 1 suddenly appears with no referral to the definitions or the distributions of maternal social class or educational status. The definition of social class should be written in the Methods section, and the social class status and mean educational length should be included in Table 1. Also on page 7, it is stated that 38% of the women had little or no education, but in Table 5, only the number of years of education is shown. Does this mean that under 8 years of education is considered as little or no education? Please clarify.

The Discussion section needs more refinement. How could you conclude that maternal characteristics cannot predict preterm birth when you haven’t done any analyses? Reference no. 8 is not appropriate to cite because the subjects in this manuscript is much older than the adolescent women in that citation. I do not understand the purpose of referring to previous studies on paternal height and
birthweight, because this has nothing to do with the parameters used in the current manuscript. There is nothing said about social class in this section, which should be added with appropriate citations on the subject.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

The authors reported that the newborns were weighed to the nearest 50 grams, but all birthweight values in the tables are shown up to 0.1 grams. This is misleading.

Table 1, the ranges for BMI is “13.5”, not “13.5..”. In Fig 3, what does “100-specificity” mean?

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Discretionary Revisions (which the author can choose to ignore)

none

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.