Reviewer's report

Title: Effects of maternal education on diet, anemia and iron deficiency in school-aged children in Korea

Version: 1 Date: 20 June 2011

Reviewer: Sophie Hawkesworth

Reviewer's report:

Major compulsory revisions

I feel that the authors have placed a lot of weight in this paper on the simple association between maternal education and anaemia/iron deficiency. It needs to be clearly stated that maternal education may instead be a proxy for an unmeasured characteristic, probably relating to social economic status. For example on page 10 the authors state that 'children of mothers with more education were less likely to develop anaemia and iron deficiency'. I would suggest that this statement cannot be concluded from the simple cross-sectional analysis presented.

The presentation of statistical results in the text requires some attention throughout the manuscript. Exact p-values should be presented rather than cut-off values as these are open to interpretation. P-values on their own in the text also do not provide much information and should be accompanied with an indication of the effect size.

Some comment is required about the lack of iron-deficiency anaemia in this population. Does this reflect the method chosen to assess iron deficiency? Why was serum iron concentration used to define iron deficiency and not a combination of the iron status measures obtained?

Minor compulsory revisions

The authors suggest that a factor which decreases the production or increases destruction of RBCs and is also associated with maternal education might explain the observed association but they have not expanded on what this factor might be and it seems unlikely to me.

Page 3, line 12: It is not clear what the authors mean by iron 'utilisation' here, are they referring to absorption which seems to fit the remainder of the sentence better?

Page 4, line12: Please expand on how the schools were selected for participation in this study. Is this a representative sample? How were children within the schools selected?

Page 5, line 25: Please provide more details on the measurement of dietary intake. Were the parents asked to record weighed amounts of food consumed? If not, how were portion sizes assessed?

Page 7, line 17: It would be useful to have an indication as to whether there was
a significant difference between the less and more educated mothers in terms of the proportion of subjects who consumed less than the iron EAR.

Discretionary revisions

Page 4, line 2: It would be useful for the reader if the authors expanded on the health impacts (both short and long-term) of anaemia and iron-deficiency which are not covered in much detail in this manuscript.

The English language requires some editing, particularly in the discussion section.

Level of interest: An article of limited interest

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