Reviewer's report

Title: Birth weight by gestational age and congenital malformations in Northern Ethiopia

Version: 3
Date: 14 September 2014
Reviewer: Giuseppe Puccio

Reviewer's report:

Reviewer's report (second review):

Title: Birth weight by gestational age and congenital malformations in Northern Ethiopia
Reviewer: Giuseppe Puccio

Reviewer's report:

The authors did a good work in rewriting the paper taking into account the reviewers’ comments. Now the paper is much better and certainly clearer,

I confirm my previous judgement that the paper is “certainly of potential interest, given the very special nutritional problems of the population in that area, and the obvious consequences on pregnancies and births.” Now, the inconsistencies in the data analysis have mainly been solved, and the discussion corresponds well enough to what can be said given the available data. Some problems of interpretation do remain, but at least they have been correctly addressed by the authors in the discussion.

However, there are still a couple of minor technical points about data analysis and presentation that in my opinion should be corrected.

1) About Table 1, the authors say:

We did a simple chi square for the difference between male and female with malformations (P=0.034) and without malformations (P<=0.001; Table 1).

What does that mean? The 2x2 table of sex and malformations is:

<table>
<thead>
<tr>
<th></th>
<th>No malf</th>
<th>Malf</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>662</td>
<td>20</td>
</tr>
<tr>
<td>F</td>
<td>822</td>
<td>12</td>
</tr>
</tbody>
</table>

An this is the chi square and the p:

Pearson's Chi-squared test

X-squared = 4.0513, df = 1, p-value = 0.04414
Why do the authors give two different p values for the same 2x2 table?

2) I can't understand Figure 3, panels C and D. If the 3 points at each parity value represent the percent of different birth weight classes at that parity, why is the sum greater than 100% at each parity value?

Level of interest: An article of limited interest

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

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

Declaration of competing interests:

In the past five years I have received reimbursements and fees for some consultancy work from the following organisation: NESTEC LTD. However, I have no reason to believe, as far as I know, that the above mentioned organization may in any way gain or lose financially from the publication of this paper, either now or in the future. I declare that I have no other competing interests.