Reviewer's report

Title: Factors associated with Haemoglobin levels among Bangladeshi pregnant women

Version: 3  Date: 19 May 2014

Reviewer: Judith Stephens

Reviewer's report:

REPORT
Key to comments:
DR - Discretionary Revisions
MER - Minor Essential Revisions
MCR - Major Compulsory Revisions

1. The question is well defined
2. The methods though appropriate are not well described
2.1 There is no information on the selection of the pregnant women and what informed the sample size. (MCR)
2.2 Though the frequency of ANC attendance, Iron supplementation and Health Education are discussed and recommended, the methodology does not mention that this data was collected. (MCR)
2.3 Blood sample collection:
   - The amount of blood collected or drawn from the pregnant women is not indicated. (MCR)
   - The method of blood collection is not described. In my view it is not sufficient to say that blood was collected by a qualified technician. (MCR)
   - The method of haemoglobin assessment is not described. (MCR)
2.4 Statistical Analysis: Analysis done should be clearly stated in the text. ‘appropriate statistical analysis’ is not enough to describe the tests that were run. (MCR)
   - Ethics: Ethical Clearance from an accredited research review board was not provided. (MCR)

3. Data:
Data collected is sound:
4. Standards of data reporting and disposition
The manuscript mostly adheres to the relevant standards of data reporting and disposition. However, the following need attention:
4.1 Table headings are not adequate. They need to be revised so that each table
can stand on its own by adding the subjects of the study and place. (MER)

4.2 Table 1:
- Educational level: The frequency values add up to 100.1 It should be revised to 100. (MCR)
- ‘Number of living children’ is not important to this study. The information collected in the study was the parity which is different from the number of living children. Parity is the number of deliveries and they include both living and nonliving children. (MCR)
- The frequency of the gestation groups (trimester) should be included in Table 1. (MER)
- The frequency of the gravid status (primigravida, multigravida) should be included in Table 1. (MER)
- Information on ANC attendance should be added to table 1 (if collected). (MER)
- Information on Iron supplementation should be added to table 1 (if collected). (MER)
- The footnote: The first asterisk * should appear in front of the category heading and in front of Monthly (*Monthly) to cover the first part of the footnote. (MER)
- There should be two asterisks (**) to explain the BDT. (MER)

4.3 Table 2:
- The general comment on the heading above applies. (MER)
- Each category should add up to the sample size (224). (MCR)
- The numbers (n) for each subgroup should be indicated and should add up to the sample size. The following disparities were noticed: (MCR)
- Age: Frequency for <25 adds up to (99%). (MCR)
- INSERT (%) to differentiate the frequency from the observations. (MER)
- Occupation: Total (n) in both Tables 1 and 2 = 224. However the ‘Housewife’ category in Table 1 is 209 as opposed to 183 in Table 2. (MCR)
- Living Area: For the ‘Living Area’ category Table 1 shows 207 for the Urban group as opposed to 200 in Table 2 which brings the total of observations to 207 in table 2 as opposed to 224 in Table 1. Please see highlighted areas in attached tables for clarity. (MCR)
- Trimesters: 124 observations accounted for, 100 observations are unaccounted for. (MCR)

4.4 Table 3: Heading comments for Tables I and 2 should apply. There is no test statistic for iron supplementation. This analysis is needed to support statements made about iron supplementation. (MER)

4.5 Table 4: There is no Table 4 so it must be replaced with Table 3 in the text. (MER)

4.6 Figure 1:
- Heading needs revision to reflect the pregnant women and place. (MER)
- Revise heading to show anaemia instead of haemoglobin level. (MER)
- Include axis label and units for the y-axis. (MER)

5. Discussion and conclusions: The discussion and conclusion are not well balanced.

5.1 Discussion: The discussion touches on most of the factors observed in the study. However, the reason for using age 25 as a point of reference is not supported by the reference Ogbeide et al., (xxxx), cited in the paper. (MER)

The discussion is silent on the impact of gravid status on heamoglobin levels among pregnant women which is a very important factor especially in malaria endemic areas. (MCR)

There is no information on antenatal attendance to justify the statement made to support the rate of anaemia in this study. (MCR)

Reference to ‘overall improvement of health care in the studied community’ has also not been previously made except for an allusion in the ‘setting’ under methods which is not adequate. The paper must describe these programmes and their bearing on the study. (MER)

5.2 Conclusion: Anaemia cannot be both ‘common’ and prevalent among the pregnant women while ‘majority’ have normal haemoglobin levels. The conclusion needs to be re written to reflect the standing of the paper. (MCR)

The paper does not have data on Antenatal Care to justify the call for education on the importance of Antenatal Care (MCR)

6. Limitations:

No limitations have been mentioned. There are confounding factors such as malaria parasitaemia, worm infestation and other blood disorders which affect heamoglobin levels among pregnant women. These have not been mentioned. (MER)

7. Authors have clearly acknowledged published work

8. The title and abstract largely reflect the findings

9. Writing is acceptable with modification

**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, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests