Reviewer's report

Title: Factors associated with Haemoglobin levels among Bangladeshi pregnant women

Version: 3 Date: 16 May 2014

Reviewer: Nuwan D Wickramasinghe

Reviewer's report:

- Major Compulsory Revisions

Overall

1. Throughout the article the importance of addressing the concept of “maternal anaemia” is highlighted and that is substantiated by relevant previous publications. Yet, the authors have discussed/analyzed on the variable “haemoglobin status”. It would be better if they could alter their study to find out about “maternal anaemia” rather than “haemoglobin status of pregnant women”.

Title

2. The title of the article includes “Bangladeshi pregnant mothers”. But the study has been conducted in a selected area of Dhaka city. Hence the generalizability of the study findings to the whole country is questionable (in the absence of reasonable justification)

3. As suggested earlier a more appropriate title would be “Factors Associated with Maternal Anaemia among Pregnant Women in Dhaka, Bangladesh”

Introduction

4. The objective of the study is not clearly laid down. It was mentioned “The study was aimed to determine the hemoglobin status pregnant women who were attending antenatal hospital”, whereas the study was aimed at determining the associated factors for maternal anaemia among a group of pregnant mothers.

Methods

5. Setting-In the last sentence though it was mentioned that “represents the subgroups of Bangladeshi pregnant women”, it is not clear as to how that setting represents the different subgroups.

6. Study Population-Study population was not clearly defined, which is a main drawback of this section. Whether any inclusion or exclusion criteria were used or not, was not mentioned. In this study it’s of utmost importance to describe the study population clearly in accordance with area of residence, parity, age, gestational age etc as these variables were regarded as associated factors in the literature.

7. Sample size calculation and sampling technique are very important aspects to consider in a descriptive cross sectional study of this nature. Yet, those aspects were not mentioned. For example the usage of a probability sampling technique
is a requirement in the case of interpretation of study findings in case of the generalizability.

8. Statistical Analysis-The statistical tests used in the assessment of the associated factors were not mentioned. (the fact that Chi squared test was used, was only mentioned in the table results). As all necessary data were available they could have calculated the odds ratios for each variable, which could have been more informative.

Results

9. When presenting the statistical significance, the p value for each variable was mentioned as less than (<) a certain value. In fact the absolute values have to be mentioned such as p=0.031 etc.

10. The p values calculated (or either reported) for some variables are not correct, which is a major drawback in the results section. For example age. Hence, the calculations have to be made again and interpreted accordingly.

11. It was mentioned that raw variables such as age, education, living area as significant associated factors rather than mentioning about the direction of association. (eg: it would have been more informative if they could have come to the conclusion that “maternal anaemia(rather than haemoglobin status) is significantly associated with low income status”(rather than income)) This limitation of interpretation was due to the application of Chi squared test as the test of significance. If the authors had analyzed findings to calculate the measure of association ie. Odds ratio for each variable, this limitation could have been overcome.

12. It was mentioned that “The distribution of iron supplements of pregnant women was showed in Table 4.” But, in fact it was illustrated in Table 3. Above all the relevance of this analysis with regard to primary objective of the study is not clear.

Discussion

13. Many of the studies mentioned in the discussion section for comparative purposes have also had a very small sample size/s which might not be appropriate to generalize the findings.

14. The limitations of the study which might hinder the applicability of study findings were not discussed. And the measures taken to minimize the biases and measures taken to improve the quality of data were not properly addressed.

Conclusion

15. Please refer comments mentioned under the results section regarding the terminology ie. Maternal anaemia vs haemoglobin status.

16. With the results mentioned it is debatable how the authors have concluded that “there is an urgent need to educate pregnant women and their families about the importance of antenatal care” which is beyond the purview of this study.

- Minor Essential Revisions
Overall
17. Throughout the article the authors have used different spellings for the most important variables of the study, viz “anaemia” and “Haemoglobin”, which have to be corrected promptly.

Introduction
18. Most of the facts were repeated in this section, owing to the fact that it was not written in an orderly manner. It would have been better if the introduction section was written in several paragraphs to,
- introduce the main variables and the gravity of the problem
- highlight the prevalence of maternal anaemia(world, regional, local setting)
- describe the important associated factors according to the relevant literature

Results
19. When presenting the results in some instances only the absolute number or the mere percentage was mentioned.
20. In the tables, the p value for each variable has to be mentioned rather than just mentioning that it is not significant. Together with the p values the Chi values could have been provided.
21. The figures given at the end are not properly labeled. In addition to that the axes of the graphs are not labeled. Hence, this is not a proper graphical illustration of the study findings.

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.