Author’s response to reviews

Title: PREVALENCE OF ANEMIA AMONG ADULTS AT HAWASSA UNIVERSITY REFERRAL HOSPITAL, SOUTHERN ETHIOPIA.

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Author’s response to reviews:

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Title_ The prevalence of anemia among adults at Hawassa University Referral hospital, Southern Ethiopia.

Authors

1. Misganaw Birhaneselassie Mengesha

2. Gezahegn Bekele Dadi

Version: 1 _ Date: 21 May 2018

Dear Editor,

The manuscript is revised as reviewer’s suggestion. The information provided from the reviewers was valuable. Moreover, the manuscript benefited for English language concerns from the reviewers - I am really grateful. It is my hope to improve the paper further in subsequent revisions for publication.

Best regards,

Misganaw
Dear Reviewers

Thanks for the constructive comments and for helping to improve the work. Please find below the answers to your questions. Changes made are highlighted in the revised manuscript.

Best regards

Misganaw, corresponding author

Reviewer 1  Amel Renaud BIDIAS, M Sc.

TITLE. I think the title is not very specific and appropriate. Since you studied the prevalence of anemia among adults using convenient sampling that might not respect the representation of the total population criteria in Southern Ethiopia, I think the location of study (Hawassa University Referral hospital) should be captured in the title. I suggest “Prevalence of anemia among adults at Hawassa University Referral hospital, Southern Ethiopia”.

- Comment well taken. Title is changed to ‘’ Prevalence of anemia among adults at Hawassa University Referral hospital, Southern Ethiopia”.

ABSTRACT. Structure this in 04 paragraphs with each contains Introduction or Background, Material and Methods, Results, Conclusion respectively. The statements lack continuity, grammatical construction should be revised.

This has been corrected.

Introduction section has to be rewritten: what do you mean by magnitude? If it is classification of anemia (wild/moderate/severe) refer to WHO definition, I think it is better to ‘classification rather than magnitude.

Magnitude has been removed in some places and used interchangeably with prevalence in some points. Magnitude denotes the prevalence, and of the different types and degree of anemia.
Your objective is not specific: remove magnitude.

Done where possible.

Why it is important to assess the prevalence of anemia?. Is it for drawing on a knowledge to consider the implications for treatment guidance for example?

This information is included in the Introduction.

Methodology section: state how many patients were included in your study? “Anemic patients … based on Hemoglobin (HGB) result”, if they were anemic already, why to perform their CBC? This section has to be revised.

Done and revised. Number of patients included was presented.

Result section: how did you considered a result statistically significant? This section has to be revised.

Corrected.

Key words section: CBC and type are not appropriate. I suggest ‘prevalence’, ‘anemia’, ‘adults’, ‘Ethiopia’.

Comments are well taken and corrected accordingly.

INTRODUCTION. You must include a stronger review of established data on anemia in sub-Saharan Africa and particularly Ethiopia. However, in paragraph 1: I went through the references (1,2,3) and they are not well appropriate to support your statement. Please bring more specific references. Moreover, in paragraph 3, the aim differ from the one in abstract and more citation should be done.

Paragraph 1 has been tried to be improved as of the Reviewer comment. Data from different African countries on anemia prevalence in adult men and non-pregnant women have been included as a paragraph. Additional citations were also incorporated in the Introduction.

MATERIALS AND METHODS (Is there sufficient detail provided on the methodology?).

Yes, some additional information have been incorporated.
Description of study section: precise if you followed manufacturer’s protocol for hematology analyzer? Give reference too.

- All the procedures were done /performed/ following standard operating procedures and protocol for hematology analyzer.
- Done

Study subjects section: I am confused whether your study subjects were patients visiting the laboratory for CBC nor patients anemic only. Please clarify this. But I think that your study subjects should be those visiting the lab, then you will investigate among them those with anemia and easily have a prevalence. I suggest to put out the sentence “The study subjects … hematology analyzer”.

- The study subjects were patients who visited the laboratory for CBC investigation, of whom anemic patients were selected to calculate the prevalence and for further investigation on anemia. Those study subjects were sourced from patients visiting the OPDs of the Referral hospital for various clinical examinations.

Done.

Study design: which calculation formula you used for prevalence? Could you clarify if it is a convenience sampling technique (consecutive participants were recruited).

This has been corrected in the section.

Sampling procedure: *Every patient with CBC result was considered daily. Participants were recruited consecutively. Then, patients with anemia were selected and prevalence was calculated from the total patients with CBC during the study period. Sample size: *Using the prevalence formula, \( z^2pq/d^2 \) and a maximum \( p \) of 0.5, the maximum sample size for a cross sectional survey is about 384 at 95% CI, where normal standard deviation is 1.96 and degree of freedom of 5%. The study however considered a contingency of 5% which makes the total sample size required about 400.

Done.

Since HGB values below 12.0 g/dl was unique for both men and non-pregnant women in your setting, you can’t use the WHO definition of anemia.
That was a mistake in statement. This study considered a different HGB value for male and NPW. Anemia in males was defined as HGB < 13.0 g/dl. However, the subjects involved in this study had HGB value < 12 g/dl during data collection. It would not be a problem to set HGB value 12g/dl or 13 g/dl on SPSS data analysis, because all the HGB values in the data were <12g/dl.

Done

Study methodology: Too much use of the “WHO definition of anemia” in your manuscript.

This has been corrected. Unnecessary information has been removed. Statistical analysis: Modified.

* RESULT/DISCUSSION. (Firstly, are the main results clearly laid out? Secondly, does your results corroborate or not with some that have been observed comparing to methods followed?). I say NO, your results and discussion are not well presented.

Improved. The results were presented following the Objective and method presented.

* The presentation style is very clumsy and lack clarity. This should be seriously revised please.

Corrected. Presentation style is modified throughout the manuscript. Result and discussion are now readable with more clarity.

* How did you obtain the overall prevalence (13%) of anemia in the study area with a total of 400 anemic patients considered?

During the study period 3,076 patients were investigated for CBC, of which 400 were anemic. That gives an overall 13% prevalence of anemia.

* All your results are in Table1, then figures (1,3,4) are no more useful in my assessment.

Yes, the information on Fig 1, 3 and 4 can be obtained from the Table, and hence are removed. But the relation between MCV vs age (Fig 2 now) and Figure 1 showing severity of anemia as age increases are maintained.

* In order to state that the frequency of anemia is high, these CBC parameters must be compared to a control population from the same area who are not anemic.

This unfortunately was not done. However, the study results have been tried to be compared to other studies of similar methodology and grounds in Africa and local works in Ethiopia.
CONCLUSION. I think the conclusion section is not clear on indicating how your findings should be applied going forward, maybe more mention could be given about what factors have to be considered in the monitoring of patients with anemia in your setting. That would be a major conclusion. To make this section clear, answer the question “does it relate to the aim of the work and is the implication of the work clear?”

Done. The comment has been tried to be addressed in the conclusion.

REFERENCES. Please ensure conformity with Vancouver style, supposed number of authors before et al. should be written, other non-conformities should be addressed. Done.

I strongly recommend that the English language within your manuscript should be revised, I recommend that you address this before submitting to another journal. You can either get your manuscript reviewed by someone who is fluent in English or, if you would like professional help, you can use any reputable English language editing service.

Reviewer 2: Ademola Samson Adewoyin, MD

TITLE: title of the manuscript does not completely fit the objectives of the study, as the main obj of the study is to define magnitude and prevailing anaemia categories in the study group.

This has been corrected and title is changed.

ABSTRACT: suggested revisions stated in the body of manuscript

All are well taken.

INTRODUCTION: Please review comments

Well taken. Done.

METHODS: not completely reproducible, please read review comments. In the data analysis, how did you define level of significance

This has been revised and some more details presented. Data analysis and Calculation formula were included.
RESULTS: please take note of comments

All comments were well accepted.

DISCUSSION: should be completely revised

Revised.

REFERENCES: does not fully conform to Vancouver style. Please maintain uniformity in the arrangement

GENERAL COMMENTS: The numerous grammatical and typographical errors needs to be corrected

Below are corrections for the suggestions made on the body of the manuscript.

- TITLE=changed/corrected as suggested.

- ABSTRACT: all comments in this section were well taken, and correction was made, phrases were re-constructed. Abstract, page 2, words and phrases in line: 1, 3,4,9,10,11 and 20 were corrected. Key words: corrected, as suggested

- INTRODUCTION: page 2: Introduction section is largely modified and re constructed, as suggested. Words, phrases and sentences were well taken from reviewers.

- MATERIALS AND METHODS: Description of study: page 3, line 1 the word ‘magnitude’ is removed, line 5 added. Study subjects: re constructed. Information from reviewers was taken, sample size was presented. Inclusion criteria: exclusion criteria incorporated. Procedure, page 4, repeated information was removed. The HGB cut off value for men and NPW was re – written, and reason was presented. Ethical consideration: IRB Ethical review paper scanned, attached. Data Analysis: page 5, level of significance included.

Qn: How is the size of 400 statistically achieved. this needs to be stated. I agree with adequacy of sample size but should be state.
Normal sample size formula used which produces 384 samples, however with 5% contingency the total sample size required would be about 400.

Qn: what are the exclusion criteria for the study.

• Infants and young children including pregnant women have variable CBC and other hematological values due to physiological and other conditions, and were excluded. Hence, it was preferred to include adult male and female who are non-pregnant.

Qn: this is in contrast with what was stated under study subjects. Did you use a single reference point of 12 g/dl to define anaemia across all groups or there was a separate criteria for males and non-pregnant females in the study

As stated, the HGB values used in this study were different for male and NPW. However, all study participants had a maximum upper limit of HGB 12 g/dl when data was collected. Besides, from literatures the HGB value for moderate and severe anemia is equal for male and NPW, which this study followed. This study infact used proper reference values to define moderate and severe anemia in both male and NPW.

• RESULT: Too verbose ...... the entire result does not have to be fully presented in prose, since the tables and figures are explicit. Procedure should not be stated in results, please expunge. PLEASE REVISE

Too verbose-unnecessary information reduced, result and discussion re constructed. Sentences that are procedure were removed from the Result section, and paragraphs that should be presented in the Result section were moved from the Discussion to Result section.

• DISCUSSION: words, and phrases well taken, and corrected to improve the readability of the manuscript.

Qn: Compare additional literatures from African sub region for a more robust discussion Additional information was considered as suggested from the reviewer, and useful information was included in the discussion (suggested article reviewed and information used in the manuscript)

Qn: This is not clear to me. Were the CBC requests not clinical requests from clinicals?
The CBC requests were clinical requests from clinicians, however, those CBC orders/requests/ were not specifically sent to diagnose patients for anemia. The patients had the CBC investigations for any general clinical examination, not directly and peculiarly to anemia.

Qn: PLEASE NOTE: Anaemia classification based on morphology include microcytic hypochromic, normocytic normochromic and macrocytic normochromic (not hyperchromic)
- The morphologic classification of anemia were noted, and a mis-term “hyperchromia” removed.
- Figures and Table referred in the discussion section removed as suggested.

Qn: this is RESULT, not discussion. Figures and Tables should not be referred in discussion.
- Paragraph section that represent result were moved from the discussion section and taken to result section, in subsequent paragraphs in discussion as possible.

CONCLUSION: re constructed.
REFERENCES: corrected following BMC referencing style.

Reviewer 3: Karen Cordvil, M.E.

The article is interesting because it represents epidemiological data on the prevalence of anemia and its different types. However, the work presents some deficiencies that can be reviewed to increase the quality of the study. 1) The introduction is deficient. to improve incidence and prevalence data in the world, in Africa and Ethiopia on anemia. better define the aspects and types of anemia.

This has been done as a new paragraph in the introduction. More information from your suggestions were also incorporated to develop the Introduction further.

2) The goal needs to be clearer.
Improved.
3) The presentation of the results in figures is very deficient. Pick up some specific literature that teaches about graphical presentation of epidemiological data.

This has been improved, and unnecessary figures with repeated information removed.

4) I suggest reviewing the title of the work after all modifications.

Everything has been revised across the manuscript. Title is changed.