Reviewer's report

Title: Prevalence of anemia before and after initiation of antiretroviral therapy among HIV infected patients at Black Lion Specialized Hospital, Addis Ababa, Ethiopia: a cross sectional study

Version: 0 Date: 25 Aug 2017

Reviewer: Bamlaku Enawgaw

Reviewer's report:
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Reviewer's report
Title: Prevalence of anemia before and after initiation of HAART among HIV infected patients at Black Lion Specialized Hospital, Addis Ababa, Ethiopia: a cross sectional study.

Version: 1 Date: August 25, 2017
Reviewer name: Bamlaku Enawgaw
Reviewer's report:
Major compulsory Revisions
The manuscript by Gashaw Garedew Woldeamanuel and Direshichew Haile Wondimu entitled "Prevalence of anemia before and after initiation of HAART among HIV infected patients at Black Lion Specialized Hospital, Addis Ababa, Ethiopia: a cross sectional study" retrospect the prevalence of anemia before and after treated by HAART of HIV patients in Addis Ababa. This study described the relationship of anemia and immune status or CD4 levels in HIV patients. The authors also compared risk factors such as sex, age, regimen type and disease history etc. They claimed that the prevalence of anemia in HIV patients decreased by HAART.
The research is significant in clinic and the subject fits the journal. It is also clear and logic. Data are creditable. However, some expressions need revision. There are typographical errors in the manuscript and revise carefully according academic English writing. I suggest the following concerns being addressed before this manuscript can be considered for publication:

Concerns:
- There are a significant number of similar studies in the country including the study are (Addis Ababa), that describe as HAART decreases anemia. Therefore, what is the need of this research? What additional value it adds? Is there any gaps with previous studies?
- Page 2 line 33: What is the type of study design? Is it retrospective cross sectional or retrospective cohort type?
- In this study, paired T-test was used for analysis. Do you assess the normality of the data?
- Line 36 and 107, "BD FACSCount" should be "BD FACS Count"
- Line 59, "disorders(2)" should be "disorders (2)". line 61, "counts(3)". line 62, "survival(4)" should be "survival (4)".….and others.
- Use auto spacing between paragraph
- Line 90, January 2017 to April 2017 should be "January to April, 2017"
- Line 91, why only adults included?
- Line 95, why patients transferred in from other health institutions excluded?
- Line 112 - 116, Anemia definition and classification: needs reference
- Line 118: paired T test was use: Do you check the normal distribution of the data?
- Line 129 & line 147 Table 2: Does the title represent the content? The content is only Red blood cell parameters and CD4 count. There is no WBC parameters as well as platelet parameters. Therefore, it is difficult to use "Hematological parameters" as a title.
- line 134 -135, initiation respectively should be "initiation, respectively"
- Table 3 & 4: The authors try to associate anemia with different factors but I didn't see any opportunistic infections such as TB. How do you rule out these infections?
- Line 180/182: table 4: The authors stated as NA (not applicable) for X2 and P value of age categories as chi-square requirement is not met. What is the requirement?
- Table 4: CD4 count classification base is not clear. What is the base for this classification?
  Currently patients start HAART if CD4 count is below 350cells/mm³. I suggest to CD4 classification as <350cells/mm³, 350 - 500cells/mm³ and >350cells/mm³
- Table 5: I prefer line graph presentation instead of table.
- Line 192: Table 5: The authors claimed that p value is derived from Paired t-test. Does paired t-test used for categorical variables? The table is useless.
- Line 200 - 215, the authors stated the decrement of anemia after HAART initiation and compare their results with different studies. They forward the reasons for the observed differences might be due to the heterogeneity of study population, sample size difference and variability in the definition of anemia. These conditions must be explained. What was the heterogeneity of the population? How anemia was defined in this study as well as other studies?
- Line 224 - 230, is the difference significant? If not why it is stated as "in contrast with the findings?"
- Line 225/226: The statement and the references are not matched. Hawassa (refer 13) Vs Ref 4 Vs Arbaminch (refe 4); Jimma (12) and Addis Ababa (17), Vs Ref. 16 & 17 Vs Gondar (refer 16) and Addis Ababa
- Line 244 - 246, needs modification. The study in Gondar (Refer 20) is a comparison between HAART naïve patients with those patients on HAART not before and after HAART.
- Statistical review: I have assessed the statistics in my report. Normality Test must be performed and also Paired T test is not used for categorical variables (Table 5)

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?

If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review.

Quality of written English

Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

Declaration of competing interests

Please complete a declaration of competing interests, considering the following questions:

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