Reviewer's report

Title: The Lipid Profile of HIV-infected patients receiving Antiretroviral Therapy in Rural Cameroon

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Reviewer: Michael O Iroezindu

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REVIEWER’S COMMENTS
Title of Manuscript: The Lipid Profile of HIV-infected patients receiving Antiretroviral Therapy in Rural Cameroon
Manuscript ID: 1378114710104211
Authors: Bekolo et al

GENERAL COMMENTS
This study investigated a very important aspect of HIV Medicine that highlights the growing burden of a non-communicable disease in PLHIV in the era of HAART. Generally, the paper was well written. The relevance/justification for the study in the context of Cameroon was appropriately highlighted. The Methodology was fair enough and the discussion was in line with the findings. In line with the BMC requirements, I have the following general responses:

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Yes, to a fairly good extent
3. Are the data sound? Yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
6. Are limitations of the work clearly stated? Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? Yes
9. Is the writing acceptable? Yes, after revisions

SPECIFIC COMMENTS
Major Compulsory Revisions
Discussion

1. There is evidence in the literature that hypertriglyceridaemia associated with HIV disease tends to be more profound at the late stage of the disease when
there is severe immunosuppression. Bearing this in mind, how would the authors explain the high proportion of patients with hypertriglyceridaemia in this study despite on-going HAART which would expectedly lead to immune reconstitution as suggested by the fact that 63% of patients had CD4 count > 350. This is another reason why the authors should include the baseline (Pre-ART) CD4 count of the patients.

Minor Essential Revisions

Abstract

1. Background
Line 3: suggest you write “.....should be monitored” rather than “.......must be monitored”

1. Methods
Line 5: suggest you write “.........was used to assess for factors” rather than “.........was used to screen for factors”

2. Results: How was smoking defined? Is it Ever smoked or current smokers? This should be clearly defined in all relevant sections of the manuscript

Methods:
1. Line 2 under study site: change “2nd” to “second”
2. Ethical aspects: It is not sufficient to have a written consent. The authors failed to specify if it was a written informed consent
3. How did the authors define “Young age”. Ths needs to be clearly written in the methodology

Results:
1. Actually, a cohort study would have been a very good design to highlight the role of HAART in dyslipidaemia in PLHIV. However, a cross-sectional study with a control arm would also be a good option. Although the authors pointed out the limitation of their study design in terms of not being able to establish causality, I think they could go a step further. In the absence of a control group in this study, I would suggest that the authors find a historical control group which can be a study in rural Cameroon that investigated lipid profile in either HAART-naive HIV-infected patients or Lipid profile in the general population in rural Cameroon. As part of the results, the lipid parameters can then be compared between the patients in this study and the selected historical control provided the study chosen to be the historical control is properly cited/referenced. In this way, it would be possible to make a case for HAART as part of the reason for the high prevalence of dyslipidaemia. But if the picture is the same in the historical control (whether HAART-naive HIV-infected patients or the general population in rural cameroon, then the high rate of dyslipidaemia reported in this study may simply be a reflection of the overall picture in rural Cameroon. If there are no such studies that could serve as historical control, this should further be pointed out in the limitation.
2. The authors should be specific about the metabolic conditions they identified in the patients. Was it Diabetes mellitus or what?

3. It will be very good to include the pre-ART (baseline) CD4 cell count of the patients in the results. This should also be shown in Table 1. This is important because HIV disease (without ART) is associated with dyslipidaemia which pattern may be influenced by the degree of immunosuppression.

4. In a few places the authors did not write the result section in reported speech e.g “86 (72.8%) are females”. This should read “86 (72.8%) were females

5. The authors should write absolute figures before the percentages quoted in all the places

6. Last line: insert the word “antiretroviral” in the sentence “Having ever interrupted treatment”

7. The significant association between smoking and dyslipidaemia is well known. Considering that the number of smokers in this study was quite few (6 out of 114) the significant association between smoking and dyslipidaemia should be reported (as well as interpreted) in the light of the small population of smokers

Discussion

1. The finding that alcohol use was associated with a more healthy lipid profile was not exhaustively discussed. The major limitation here is that the quantity of alcohol consumed was not captured. The relationship between alcohol and cardiovascular disease is said to be J-shaped so excessive alcohol consumption would actually be associated with dyslipidaemia. Therefore, the authors should clarify in the discussion that it is possible that the observation that alcohol was associated with a more healthy lipid profile may be so if the majority of their patients had low-to moderate alcohol use. This is plausible in a study where 3/4 of the patients were women especially in rural African population where women are not likely to engage in excessive alcohol use.

Minor issues not for Publication

Discussion

1. There were few typographical errors e.g Discussion paragraph 6 last line: “it might be therefore be....”

Also see Discussion paragraph 10 line 1

Also Discussion penultimate paragraph last line: “thus defaulting”. I guess the authors meant to write “those deaulting”

2. Discussion Paragraph 9 last line: the word “fallacy” appears to be inappropriate. The authors should find a better word

3. Table 1:
   - specify that the stated CD4 count is post-ART CD4
   - Include pre-ART CD4 count

4. Table 2: the authors should CROSS-CHECK the odds ratio (95% CI) statistics for the association between Age and LDL-C, CD4 and LDL-C and NRTI
regimen and LDL-C.

Discretionary Revisions

Introduction

1. The last 3 lines of the introduction should be modified to possibly read “It is hoped that the findings of this study would inform............”

Methods

1. The authors pointed out that the HIV clinic offers VCT. In line with current trends regarding HIV testing/counselling, I should think that Provider-initiated HIV counselling and testing (HCT) would be a more appropriate initiative

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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’