Reviewer's report

Title: cART prescription trends in a prospective HIV cohort in rural Tanzania from 2007 to 2011

Version: 1 Date: 25 October 2013

Reviewer: Kerry Uebel

Reviewer's report:

Comments for review

Abstract

Minor changes
In the Background section the second sentence should be changed: “Country based information on the uptake of these recommendations is needed to monitor their implementation.” I do not agree that the information is scarce There is good data in the WHO Global report of 2011.

In the Methods describe was this pharmacy data? Clinical data?

In the Conclusion section “switch patients off “is slag usage Please reword

Background

Minor changes
Please include a reference for WHO guidelines in Intro

Reword first 2 sentences of paragraph 2. They are awkward and do not read well.

Consider replacing cART with the phrase HAART a more widely understood acronym

Major changes

In the third paragraph the authors comment that the HIV guidelines of the NACP of Tanzania changed the preferred first line regimen in Feb 2009 from d4T/3TC/NVP to AZT/3TC/EFV with TDF/3TC/EFV as an option. It would be helpful here to state what these guidelines said about patients already on a d4T containing regimen. Was there any advice that all these patients should be changed to the new regimens? Or that patients on d4T should stay on it and only be swapped if they experienced side effects? When they comment that d4T/3TC/NVP was still a valid first line combination what do they mean? Do they mean it was a valid regimen for initiation OR for patients already on this regimen? Which regimen was recommended as the first line regimen? Under what circumstances was d4T/3TC/NVP considered a valid first line regimen? This would help to interpret their findings.

There is no discussion of the evidence on usage of d4T AZT and TDF based regimens in different countries. The authors have stated that information on usage of different regimens is scarce. This is not so. The authors refer to the
WHO report on the Global HIV epidemic of 2011 but do not discuss any of the finding in this report. There is a lot of data from many different countries in this report on usage of the different regimens. They should summarise and discuss the findings of this report to put their findings in perspective.

Methods

Major changes

What was the data base used? Pharmacy database, clinical records? A research data base or a programmatic database? Was it an electronic data base? It appears the researchers conducted a retrospective review they did not do prospective data collection for the purposes of the research?

How did they get all subjects to sign consent if this was a retrospective review of data in the database?

Results

Minor changes

The word enrolment is spelt wrongly throughout the text. Please do a spell check.

Major changes

It would be useful if the authors could give more description of the 3008 patient cohort. In Table 3 it is stated that 1846 patients were assessed for 2011. What happened to the other 1162 patients (how many deaths, how many LTFU, how many transferred?) Also could they give details of how many new patients were initiated each year? It also seems strange that the number of prescriptions assessed for 2009, 2010 and 2011 have not increased that much 1758, 1787 and 1846. What happened to the rest of the cohort. It wold be useful to know how many new initiations how many were lost to the cohort through deaths and transfers and LTFU. It looks as if the number of people lost to the cohort was almost the same as the number initiated each year.

The figures on changes in regimen 1 are confusing and there is no table of this data. Could the authors not put in a table for these 242 changes with figures for how many patients were changed to which regimens for each year?

The results presented would be much stronger if there was data on any evidence of side effects in patients remaining on d4T regimens and those who changed away from d4T regimens. It would also be helpful if there was any data on the number of patients who were assessed as having good treatment response. The authors report on the number of patients on Regimen 2 but give no indication of how many patients still on regimen 1 have evidence of treatment failure. In the discussion they comment that treatment is monitored clinically and immunologically. Do they have access to such clinical data in their database? If so they should present it as it would make the point more strongly that there seem to be a low percentage of people on regimen 2.

Discussion

Minor changes

The word counterindicated has been used in the first paragraph. I think they
mean contraindicated.

Major changes

The authors have commented on the changes in NACP guidelines but it is not clear what the 2009 guidelines recommended for patients already on d4T and under what conditions they should be changed to another regimen. The 2009 guideline is the one most relevant for this data.

The third paragraph is poorly written and needs rewriting as the meaning of some sentences is not clear (first and last sentence particularly are not clear). I think this is the main point of the article and it is not coming through clearly ie despite good uptake of WHO and national recommendations to initiate new patients on regimens other than d4T regimens, a large number of patients remain on d4T containing regimens and these patients are likely to develop side effects. Efforts should be made to implement new WHO recommendations to phase out Stavudine. The authors also need to discuss the WHO recommendations on phasing out Stavudine in the 2011 Global HIV report which they have referenced (Ref 10) but they have not discussed in the Background or here in the discussion

The last paragraph of the discussion is not well written. It should be stated that there were limitations to their report and what these limitations are.

References

Major changes

References are incomplete. No URLS for Ref 10 and 15. Are references 8,9,11 and 12 available on the internet? If so please include URLs. In all of these references 8,9,10,11,12 and 15 the reference includes the abbreviation In. but there is no indication of in what? These references need to be redone.

1. Is the question posed by the author well defined?
   No. I can not see any clear research question in the Background

2. Are the methods appropriate and well described?
   Methods need some Major changes see above

3. Are the data sound?
   The data appear to be sound but could be improved see above for Major changes

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Yes

5. Are the discussion and conclusions well balanced and supported by the data?
   Their conclusions would be stronger if they reported on more clinical data as outlined above
   The writing in the discussion and conclusion is poor and not always clear. Some sections need rewriting see Major changes above.

6. Are limitations of the work clearly stated?
This section is there but needs to be more clearly stated that these are the limitations.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Not necessary.

8. Do the title and abstract accurately convey what has been found?
Yes.

9. Is the writing acceptable?
There are a number of sections that are poorly written and some spelling mistakes, wrong words and use of slang terms. See above comments.

**Level of interest:** An article of limited interest.

**Quality of written English:** Needs some language corrections before being published.

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
I declare that I have no competing interests.