Reviewer’s report

Title: Uptake of HIV testing and outcomes within a Community-based Therapeutic Care (CTC) programme to treat Severe Acute Malnutrition in Malawi: a descriptive study

Version: 1 Date: 19 November 2007

Reviewer: Haroon Saloojee

Reviewer’s report:

General

I found this an interesting read.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. “The presence of one or more proxy indicators commonly used in Malawi for identifying HIV affected households and individuals in combination with MUAC < 110 mm provided the best balance between Se (95.5%) and Sp (54.5%), performing considerably better than all 3 clinical algorithms”.

The authors interpretation of the data is seriously flawed. How was the “best balance” determined? The clinically most appropriate way to do this would be to calculate a positive likelihood ratio for each algorithm (results below)

<table>
<thead>
<tr>
<th></th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>Pos LR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>20</td>
<td>94.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Original</td>
<td>9.1</td>
<td>96.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Action</td>
<td>60</td>
<td>62.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Proxy and MUA</td>
<td>95.5</td>
<td>54.5</td>
<td>2.1</td>
</tr>
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</table>

This indicates that the proxy indicator and MUA approach performs worse than the South African adaptation and the original IMCI algorithm.

I recommend that the authors include the positive likelihood ratio in the table.

The following paragraph in the discussion has to be removed or edited appropriately “The best combination of indicators for identifying HIV-positive children in our population was a combination of nutritional (MUAC < 110 mm) and one or more proxy indicators. This suggests that simple assessments for identifying HIV risk can be done where testing is not available and that CTC protocols should be adapted accordingly.”

2. The argument about delaying ART in children with SAM based on their
response to CRT, on the basis of the RC survival findings is weak. Recent work clearly indicates the benefits of initiating ART in infants on diagnosis, i.e. as early as possible (Violari, et al.), and postponing ART in children in resource poor settings on an untested hypothesis as suggested by the authors does most children requiring ART a great disservice. The results of this study cannot reasonably be used to argue that nutritional therapy are a substitute for (can delay the use of) ART, since this requires a randomised control trial.

Reference


3. Explain why uptake rates were different between parents and children, i.e. why were parents willing to have children tested but not themselves?

4. Comment on reasons for 99 refusals, and how they compared to study sample for baseline demographics.

5. Offer an explanation for higher family history of TB in RC and higher number with oedema in PC.

6. Why was the prevalence of HIV in parents in the study cohort (61/1214 [5%]) half that of adult population in region (9.8%)? This also has relevance to the surprisingly low HIV prevalence in children with SAM.

7. Need to add demographic data on HIV positive and negative children in Table 3 or in the text- e.g. age, sex, weight on admission.

8. Explain reasons for the higher default rate in the HIV positive children.

9. Don’t understand why low HIV prevalence can be explained by “better accessibility to access to care in the community as opposed to hospital-based programmes”. Please elaborate.

10. Also explain why high general HIV mortality results in low HIV sero-prevalence in children with SAM.

11. Is a possible explanation for the low HIV prevalence not related to the age at testing- an average age of 2.5 (PC) to 4 years (RC) – by which time more than 50-70% of vertically infected HIV positive children would already be dead in resource poor settings if there was no access to ART?

12. Explain the concept of “survival bias” to the reader, as this is not obvious.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. In abstract, add a sentence that says that the average age at CTC admission was 30.0 months and at study enrolment was 47.2 months for RC (and similar
relevant data for PC), before line that 3% of SAM were HIV positive, as this helps interpret the low HIV positive rate.

2. Reference this statement “Unfortunately, the majority of all HIV-infected children in Africa never receive any nutritional care either because their status is not known or because their care-givers (often HIV infected themselves) are unable to bring them to hospital or remain with them for extended periods”.

3. P3 “Find” not “found”

4. P3 Use consistent citation system- numbers

5. Provide Reference at end for citations- e.g. “national protocols, (Ministry of Health and Population, 2003).” Same criticism for other occasions in paper where this occurs

6. P4 Where adult HIV prevalence was 9.8% in 2003

7. P5 2004/2005 hunger period

8. In Table 3 – what does the “others criteria” mean?

9. P8 RC children were not malnourished (WFH > 80% reference median and no bilateral pitting oedema)

10. P8 “However, 6 of the 24 with WFH>80% and no oedema had a MUAC below 125 cm including 1 with a MUAC<110 mm giving an overall malnutrition rate of 35.7% (10 out of 28) in HIV infected children compared with a nutritional relapse rate of 2.0% (22/1094) in HIV-negative children (p=0.001).” Cannot call this a nutritional relapse rate- more correct to call it a malnutrition rate

11. P9 L7 “CTC programme can be used”

12. P9 L10 “recovered their nutritional status”. Better to say “recovered to a satisfactory nutritional status”

13. P9 L11 “for most HIV-infected children” Would argue that 59% is not “most”. Prefer “many”

14. P9 L11 Furthermore, the majority of the infected children identified after discharge in the “retrospective cohort were still adequately nourished. Add “in the retrospective cohort”. Prefer “about two thirds” instead of majority.

15. P9 “in developed countries” prefer in other settings” as this is not only true for developed countries, also common in middle income countries (such as South Africa) and some developing countries.


17. P9 last line What is phase 1? Explain.

18. P10 As observed in the HT and a recent NRU study [1,2,25].- prefer author names for studies as don’t know which reference is referring to which study

19. P10 Provide reference or indicate if this is your belief- “HIV-positive children may need more Ready-to-Use Therapeutic Food than HIV-negative children to achieve similar growth rates and improvements in other nutritional indices.”

20. P10 Provide reference or indicate if this is your belief “Increasing the amount
of daily energy offered to HIV infected children may improve their weight gain and reduce the length of stay in the programme, and continued nutritional surveillance and supplementation after discharge may also help them to remain well-nourished.”

21. P10 Provide examples of the “myriad of non-HIV related causes of SAM in rural Malawi”

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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