Reviewer’s report

Title: HIV Prevalence in Severely Malnourished Children Admitted to Nutrition Rehabilitation Units in Malawi: Geographical & Seasonal Variations A cross-sectional study

Version: 1 Date: 24 October 2007

Reviewer: James Tumwine

Reviewer’s report:

General

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

This study is on interesting subject: HIV and severe malnutrition. However the focus is too narrow to be of much scientific merit. What the authors have done is to study the prevalence of HIV infection amongst children admitted to the Nutrition rehabilitation units in Malawi without any significant focus> One is left with the nagging question: So what?

They aimed at describing the burden and distribution of HIV infection among severely malnourished child in NRUs in Malawi.

Specific:

They had the opportunity to classify the malnutrition by presence or absence of oedema and to see whether this influenced HIV test result. The authors have also denied us access (if the information is available) to the WHO/CDC classification of the stage of HIV in these children. We are also denied information on presence of opportunistic infections and on the outcome of these children. It is not clear why children under the age of 15 months were excluded yet the authors had access to DNA PCR for distinguishing true infection from maternal antibodies.

Several studies have shown that CD4 cell percentages are important in the classification and subsequent management of HIV infected children especially those who are severely malnourished. It is not clear why CD4 percentages were not done. At the end of the day, what proportion was referred for HIV care including anti retroviral drugs?

Clinical and laboratory features of micronutrient deficiency are routinely sought in the assessment of severely malnourished child children. It is not clear whether this was done in this study and what happened to the results.

Statistical issues:
The sample size calculation for a prevalence survey is straightforward. The sample size is estimated by the formula: \( pqZ^2/d^2 \) where \( p \) is the prevalence and \( q = 100-p \); and is the precision or error acceptable and is usually set at 5%.

It is no clear why a power of 80% was used here since no comparisons were being made. Or if comparisons were being made, it is not clear what was being compared with what.

Reference to the prevalence being higher amongst the boys is out of place since it could have occurred by chance.

The data management section lacks adequate detail. For example the authors talk about odds ratios being calculated using StatCalc utility. What were these calculations for? What was being compared with what? And there more robust programmes for this type of data analysis (STATA, SPSS etc) that EPiInfo.

The presentation of the data in several small two by two tables is problematic. All the work could present in just one table – with the exposure variables in the rows and the outcome (HIV test result) in the column.

The authors make unsubstantiated statements such as “Knowledge of underlying clinical infections contributing to SAM means….”

From the data presented we only have a glimpse of the HIV prevalence and that is all. We even do not have simple information as to what proportion of the children had for example: fever, diarrhea, cough, oedema, pallor of the mucous membranes, oral thrush etc. So there is really nothing clinical about this work. Yet such simple information is available even in the most rudimentary NRU.

No effort has been made to explain the key findings of this study: For example could religion and by proxy, the practice of circumcision, be a factor in the north–south difference in the prevalence of HIV?

Are the NRU based in similar institutions? Some I am sure would be based in referral centers such as teaching hospitals. One would expect those in referrals centers to possibly be more severe. If HIV care services were available in these centers they might attract more HIV infected children than the centers not offering specialist services and control for this in a logistic regression model.

References have been formatted with End Note programme using funny number (I, ix, vi etc) This needs to be changed please.

Why is it that HIV prevalence is lower in the rainy/hungry season? No plausible explanation has been given.

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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)
Discretionary Revisions (which the author can choose to ignore)

What next?: Reject because scientifically unsound

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

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 no competing interest