Reviewer's report

Title: Knowledge of Community and Family practices of Integrated Management of Childhood Illnesses and Association with Nutritional Status in Under-five Year-old Children in Northern Uganda: A Community-Based Cross-Sectional Survey.

Version: 3 Date: 21 May 2014

Reviewer: Ingunn Engebretsen

Reviewer's report:

First I’d want to acknowledge the authors for having made substantial progress with this manuscript. It looks at IMCI knowledge and undernutrition from a community perspective. Community studies from Gulu must be warmly welcomed, and it is indeed a knowledge gap on many processes from this region. The authors find a wasting rate of 8% which is worthwhile noting. This is a fact which would need further investigation and further implementation research. Smaller anthropometric studies like this is therefore important. Having said that there are still a few issues I think needs to be addressed before it is fully ready for the wider audience, but I think the authors will get there. Even if very much of the manuscript is far better structured than earlier, there are still a few things which is unclear that I address below.

Major:

It still appears unclear which reference that is used to calculate the z-scores. In the abstract they say something about WHO and NCHS, however, in the manuscript I do not see that fully explained. Further, from the answer to me – it looks like they use a type of “pre-categorisation” on the charts. If the latter is the case that must be very clear so the reader more easily follow what is done in the field and what is done “at the desk.” If they did that in the field – how have you “redone” that to new charts?

A better explanation harmonizing the abstract and the manuscript on issues regarding recording and transforming the growth information is needed. The normal thing to do would be to have the weight, length/height, gender and age information entered into a system (WHO Anthro) or use one of the macros to calculate the z-scores: From there the team could have provided the descriptive statistics for growth and of course also the “tail” statistics which are the undernutrition categories wasting, stunting and underweight at z-score <-2 level. The authors may feel free to contact me if they want further clarifications.

However, if it is a simple categorization made from growth charts for the undernutrition categories, from a theoretical perspective, that should not introduce errors – it’s just a ‘cumbersome’ way to do it and you reduce the flexibility of the data. Sorry, from the different versions and description to me now I still do not understand fully what is done. I might have overlooked something.
It looks like the abstract has not been re-polished…. Errors with spaces and dots all over the place. In fact this happens quite a bit in the manuscript as well. This might be a result of too much sending and re-sending in-between authors – especially if someone use the align text left and someone else “justify” by default or if you have different text programmes. Please check carefully the version which you uploaded to BMC. There are also some errors with presentation.

Minor:

Abstract
Please indicate what the 33% and 5% are referring to. Prevalence? E.g. “With a stunting “prevalence” at/of …”

Full stop end of sentence in Background
Either write: children between 6 and 60 months or children aged 6 to 60 months
By the way that information is repeated twice in the abstract!
Bracket ( ) missing end of results.
You could comment on how age influenced stunting too since you follow that for the Knowledge C-IMCI and rural status.

Minor - medium:

Background:
Stunting information varies from the introduction in the abstract to the background section.
Get terminology right: “… of under-fives”?

Methods:
The description of MUAC is confusing “tip of the shoulder blade and the tip of the elbow and dividing the distance by two.”
Please indicate if you do it according to e.g. Unicef http://www.unicef.org/nutrition/training/3.1.3/2.html
It would also be key to understand why you report this when we do not get any results from this investigation.
Please indicate which digital scale you used and how you used it in the field.

House hold vs houshold

Results:
I disagree that it looks ok to use 2 digits when presenting, e.g. proportions “51.60 percent females.”
Please do not give p-values without “size-estimates” – in the text, it is enough to say if it was significant or not.
They say they measured the kids, but we get very little info on the distribution of WLZ, HAZ and WAZ. That would be very interesting from this region.
Table 1: what is the time unit for the income is it per month? Give a little note by the end of the table for the readers to convert the unit into USD/E or similar.

I see 1 * after the head of household income – but not what the * is referring to. Maybe put the income information next to each other.

Do not need ” ; “ in all boxes in the table

Present wasting and stunting information in the same order both in the manuscript and for the tables

Table 1 is clear,

Table 2 is ok, please look at other templates. Can be reduced in size. (Totals not needed)

The headings have moved

Discussion:
You say you used an adequate sample size. You have extremely wide confidence intervals. Which arguments do you have for your statement?

Conclusion: The manuscript is still improving. It has a much better flow, better English and is more reader friendly. I would still not think it is ready for the open audience, but I think it is getting closer. I know very many of the authors are excellent doctors with excellent English, far better than mine. Some more critical co-reading of this manuscript from the group could be expected. Please check that all sections are updated and synchronized. It more or less looks like the authors forgot sections of the manuscript maybe just because it wasn’t commented on in previous peer-reviews. However, the abstract must be an abstract of the main manuscript.

Further, your discussion, particularly on stunting and wasting, where you find a 5% larger wasting rate in this study than in another would have benefitted from knowing if the z-scores were completely left – skewed. I have commended on that under my main comment.

Best of luck!

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

**Declaration of competing interests:**

See letter