Reviewer’s report

Title: A mixed methods feasibility study of the Kusamala Program at a nutritional rehabilitation unit in Malawi

Version: 0 Date: 14 Aug 2018

Reviewer: Sarah Jane White

Reviewer's report:

This paper is a report of an internal pilot study using mixed methods to explore the implementation of the Kusamala Program in an NRU setting and developmental outcomes in children with SAM six months after inpatient treatment. There is a strong rationale for the study with the intervention being evaluated being potentially effective and able to be delivered at an opportune time for developmental outcomes to be improved. I have the following comments on the paper, particularly on the quantitative elements which is my expertise.

1. Line 281 - 'Child, primary caregiver, and household characteristics did not differ between intervention and comparison arms in the internal pilot trial.' Were actual statistical tests conducted (results not shown) or is this statement made on the basis of looking at the descriptive data? Either way it is not generally considered good practice to compare baseline characteristics between intervention and control, just to present the descriptive data as Tables 1-3. By definition, as the participants have been randomly allocated to intervention or control they are random samples and therefore comparable.

2. Line 306 - 'Although not the primary aim of the....' This hypothesis testing should not be reported. In the reporting of pilot trials it is better practice to report difference in means and 95% confidence intervals. As was stated this was not one of the aims of the study so difference in means and confidence intervals are not necessary either.

3. Line 320 - this sample size calculation may be correct but further information is required.

   a) Was the ICC calculated from your data?

   b) What is the average cluster size?

   c) Why an effect size of 0.5?

   d) Does it include any adjustment for loss to follow-up?
4. Figure 1 - this makes it looks like all potential participants were assigned to clusters and then the clusters randomised to intervention or control. Once in a cluster participants were enrolled into the study and data collected. Is this correct? If so, this is not clear in the Methods section. If not the figure needs the enrolment/eligibility boxes at the top of it.

5. Figure 2 has no title, can not tell if it is data from discharge or follow-up. I would suggest presenting both on the same figure and not including additional file 2.

Minor comments

The Abstract on the title page differs from the Abstract on the manuscript, the latter being the better version.

Line 225 - 'difficult' should be 'difficulty'

Tables 1 to 3 - columns are not aligned

Line 337 - 'willing participate' should be 'willing to participate'.

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