Reviewer’s report

Title: Did HealthKick primary school nutrition intervention improve dietary diversity and decrease intake of unhealthy snacks by children in low-income settings in South Africa?

Version: 2 Date: 26 June 2015

Reviewer: Charlotte Evans

Reviewer’s report:

This is an important study set in primary schools in South Africa reporting original and informative results on dietary quality. I have some recommendations to make, particularly concerning the results where some of the tables do not contain enough information to help the reader determine the impact of the trial

Major compulsory revision

1. Statistical Analysis: In line 151 it says the data was analysed at the school level but I think you mean individual/child level. It would be ideal to analyse this data using a multilevel model to take into account the fact that children within the same school may be more similar to each other. If this method was not used then this needs to be discussed in the discussion under ‘limitations’.

2. Some of the tables do not adequately provide information on whether there were differences between the control and intervention schools in terms of food items eaten. All tables should include a column to give difference between control and intervention group in 2011 adjusted for baseline (or difference between change). As well as the difference in percent/number the 95% confidence interval should be provided. Usually the p value is also given. To fit this in maybe the 2010 data should be excluded from the tables (or put in additional tables shown online only). In the text in the results it says that proportion consuming certain foods changed but gave no indication if this was statistically significant or not in the text (p9) or in the tables (1 and 2). This is a missed opportunity to provide some informative results in this area.

3. Can the authors ensure that the information provided in the statistical section matches up with all the results as it seemed that some results were reported that were not detailed in the methods and some information was in the methods but not available in the tables.

4. Line 188 – considerable improvement in number of dietary groups eaten but is it a statistical significant difference?

5. The discussion will need to be updated with the additional analysis.

Discretionary revisions

1. This is a randomised controlled trial but trial is not used in the title or abstract
2. It is not clear whether the primary outcome of the HealthKick programme is dietary diversity or reduction of unhealthy snacks until quite a long way into the
paper. Perhaps it would be better to use “improve dietary quality of children in low-income...” in the title or rather than specifying both aspects of diet or just use dietary diversity if this is the primary outcome. This would shorten the title which is quite long at the moment.

3. If dietary diversity is the primary outcome then perhaps results on this should be provided first?
4. In the discussion it is more common to put the recommendations before the conclusions.

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