Reviewer's report

Title: The effect of motivational interviewing on oral healthcare knowledge, attitudes and behaviour of parents and caregivers of preschool children compared to traditional dental health education: A feasibility study

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Reviewer: Tim T Newton

Reviewer's report:

This manuscript describes a study of 55 individuals from 6 settings, who had been randomly allocated to one of two interventions designed to improve their knowledge, attitudes and behaviour regarding their oral health, and specifically early childhood caries. The control group received an intervention based on dental health education, whereas the intervention group received an additional element of 'motivational interviewing.

There are several problems mainly with the conduct of the study, but additionally some problems of reporting, which should be addressed before the manuscript is reconsidered for publication.

1. In the introduction the authors may wish to make reference to Gao et al (2014) which is a systematic review of the uses of MI in dental settings.


2. The lack of equivalence in the control and intervention groups at the start of treatment is very problematic, and it seems impossible to control for this statistically given the very small numbers available for analysis.

3. The number of analyses performed is large given the small sample sizes. Could the authors restrict the number of analyses to only primary analyses or correct for the number of analyses performed?

3. A post hoc analysis of power might be informative given that I was unable to find an apriori sample size calculation.

4. The major problem I have with this is the nature of the intervention and control groups. We have known for some times that interventions based on dental health education in the absence of fluoride application are largely ineffective, if not harmful in terms of increasing inequalities. Why then was this chosen as a control? Secondly we have no information on the integrity of the intervention - how do we know that MI is what was delivered here? There are techniques for
assessing the extent to which the delivery matches the principles of MI (such as the use of the MITI, Moyers et al 2010). Reviews of treatment integrity in MI studies have noted that it is notoriously difficult to achieve.

The intervention as described has clear elements of goal setting and planning - both of which have been identified as highly effective brief interventions for behaviour change (see for example Michie et al 2013)

Moyers TB, Martin T, Manuel JK, Miller WK, Ernst D. Revised Global Scales: Motivational Interviewing Treatment Integrity 3.1.1. Alberqueque, University of New Mexico Center on Alcoholism, Substance Abuse and Addictions. 2010.


5. The drop out rate in the intervention is four times that of the control group - the authors should discuss this at length including the implications for the findings and the acceptability of the intervention.

**Level of interest:** An article of limited interest

**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.