Reviewer's report

Title: Randomised controlled trial of an intervention to improve parental knowledge and management practices of fever

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Reviewer: R. Oostenbrink

Reviewer's report:

The paper addresses an important topic, how to inform parents on fever, and evaluate the effect of developed information material in a trial.

I have 3 major comments

1. The manuscript very much focus on knowledge of fever in terms of definition temperature, and management strategies. Knowledge of alarming signs and risks of fever is not included at all in this paper?
2. The manuscript describes the trial and a qualitative analysis of the developed material. This is confusing, as they include the qualitative analysis in the part describing the comparison of intervention group and control group (although the qualitative analysis comes from the intervention group). Next I wonder what the value is of this qualitative analysis as they also performed such analysis in refs 1,2,6. So, I would expect a more thorough description of the value of these additional results to the previous refs. Anyway, I suggest to include this part of the analysis in a separate paragraph
3. The trial compares knowledge of parents on fever at two timepoints after providing information material (intervention) to a control group. There is no T-zero comparison of knowledge between the groups before the intervention. One could argue that if randomised properly, differences between the intervention and control group are related to the intervention. However, the groups seem quite different (nationality, age children, etc). In this sense lacking a Tzero comparison makes that current conclusions on the effect of the intervention are far too strong, and should be more nuanced. Next, please explain why not a Tzero comparison has been performed. Discuss the effects of potential differences in the compared groups.

Further comments:

Study outcomes:
Why is the primary outcome knowledge of definition of fever, as even literature applies different definitions (over 38 vs over 38.5 degrees C).

Sample size:
For measurement on second timepoint the power is not achieved, as 50 persons per group are required. This is not discussed at all.

Data treatment/analysis
See my previous remark to differences in control/intervention group. One could argue that evaluation of the effect of the intervention should be controlled for potential confounders or differences in the two groups.

Why not used a repeated measurement approach including the comparison at various timepoints?
Results
These are written very complicated. The main question is what the effect of the intervention is on outcomes. So only oddsratios for the intervention at the timepoints are informative. A table with the percentages for the different outcomes could be provided additionally. Please provide better insight what is the main outcome and the secondary ones

The results are not coherent with the described secondary outcomes (improvements in knowledge of management practices to use antipyretics and tepid sponging (methods) versus use medication, alternating medication, using medication together, use tepid sponging, satisfaction leaflet (results).

I wonder what the value is of including parents with children aged 16-29 years in this analysis, as these parents reflect old knowledge of fever (usually young children are affected by fever most, with highest risks, so they are the main focus of such interventions, education of parents on fever currently may be different from 10-20 years ago).

Discussion
The discussion goes beyond the topic of the trial.

I would expect that if the development of the information material is published before (ref 1,2,6) how to provide information etc is not a topic of this paper (paragraph 2 and 3 of disc).

Costeffectiveness (paragraph 4 disc) is not a topic of this study?

Discussion of the results given limitations of the study (see above) should be extended

Conclusions:
Please focus more on the primary outcome and the conclusions should be more nuanced
Are the methods appropriate and well described?  
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?  
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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