Reviewer's report

Title: Dental health behavior of parents of children using non-fluoride toothpaste: a cross-sectional study

Version: 2 Date: 23 October 2013

Reviewer: Jan Mulder

Reviewer's report:

Comments 1, 2, 4, 8, 9, 15, 16, 18 and 22 are minor essential revisions. The other comments are mayor compulsory revisions.

Abstract:

1. In the abstract comes the important things from article. In this abstract the information in line 8, “completed forms were collected by post”, and line 13, main result percentage of non-fluoride toothpaste users, is only in the abstract. My suggestion is that the information from line 8 is removed from the abstract and added with more details how collected by post, in methods. The main result should be added in the result section.

2. On page 3 line 1 odds ratios are given but also confidence intervals. For all other variables only odds ratios are given. My suggestion is to present this in a uniform way and remove the confidence intervals.

3. Page 3 line 2-3. This part of the sentence is not clear to me.

Background:

4. In line 15 is written “people using fluoride toothpaste” while the article is dealing with children. Should it be children?

Methods:

5. From all questionnaires 30% were not returned. Is there any information about background variables that can give an explanation? In Table 1 we can see there is no selectivity in gender and age. This can at least be mentioned.

6. Nearly 15% of the questionnaires was not used because one or more items were missing. Is there a selection for the response group? Did you consider the method of multiple imputation?

7. 348 children did not use toothpaste or did not brush his/her teeth. The goal of ‘Healthy Japan 21’ is that 90% or more school children use fluoride toothpaste. Why did you remove this children from your sample? In my opinion they belong to the target population to improve.

Survey method:
8. On page 7 line 2 at the end of the sentence I should add “in December 2010”.

9. The last sentence of this section should be removed and a better explanation about the way the questionnaires were collected in March 2011 should be given.

Analysis:

10. The most used way for selection of variables for a multilevel logistic regression is that the level of significance is less than .15 and not .05. Is there a reason why .05 is choosen?

11. In Table 2 the effect becomes bigger with increasing grade. Why did not consider to add grade as a continuous variable or dichotomies this variable?

12. For “measure against oral malodor” and “contains salt” you had only 43 and 42 times “yes”. Why did you add these variables in the multilevel model?

13. For question 5 you have 16 possible answers. Did you consider the possibility to do a Factor analysis to find domains?

14. If you use a model with all variables that are significant, some can have a strong relation with another one. In that situation only one of the two should be selected for the model. There is no information about this in the article. Did you check for relations?

Results:

15. It would give a better insight in the results, if Table 2 and 3 should be combined. The 95% confidence interval in Table 2 could be removed and the odds ratio, 95% confidence interval and p could be added. It is better to use the word p-value in the table instead of p.

16. The result about school-level variance (line 13-14) in the text is not in Table 3. It should be added in the table.

17. There are some strange results in the tables without mentioning them. For instance “frequency of tooth brushing”. You expect that if frequency decreases the odds ratio becomes bigger. That is not so for “less than once a day”. Is there an explanation for it? The odds ratios for the other two possibilities are significant. There is also nothing about it in the discussion. Why not?

Discussion:

18. The discussion could be more straightforward.

19. Many arguments are without a literature reference. Is there no literature?

20. A statistical test could be done for some of the arguments, using the collected data. For instance the correlation between “television or newspaper advertisements’ and ‘low price’. This could be tested in a 2x2 table with
Chi-square test. Why was this not done?

21. In Table 2 Grade is a significant variable. In Table 3 Grade is no longer significant. Which variables caused the disappearance of the significance?

References:

22. Out of 13 references 9 are in Japanese. For most international readers impossible to read. Are there only Japanese references or is it possible to find references in English?

Level of interest: An article of limited interest

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:

I declare that I have no competing interests