Author’s response to reviews

Title: Oral health and obesity indicators

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Author’s response to reviews: see over
Dear Editor,

We thank the reviewers for their comments on our manuscript “Oral health and obesity indicators”. Please find enclosed our answers to their questions and comments. Changes in the manuscript are marked with yellow colour.

Yours sincerely,

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ANSWERS TO QUESTIONS AND COMMENTS FROM REFEREES

Title: Oral health and obesity indicators

Reviewer 1: Bernadette Drummond

Overall Comment
This paper reports information on a very important area - that of the impact and relationships of oral health on general health. Thus it is really important that the authors clearly explain how oral health was measured. This is almost totally overlooked in the paper so that the reader has no real detail of what was measured or recorded. It is therefore difficult to understand the results or to agree or disagree with the discussion.

The paper is written well and the tables are well described. The references are appropriate.

Major Compulsory Revisions
- Who carried out the oral examinations?
  Answer: The oral examinations were carried out by two calibrated and specially trained dentists. This has been added to the text, please see page 5.

- Under what conditions were the examinations carried out?
  Answer: The patients were summoned to one special dental unit. This has been added to the text, please see page 5.

- How was dental caries determined - what indices were used?
  Answer: Manifest dental caries was clinically determined or radiographically diagnosed when reaching the dentin. This information has been added to the text, please see page 5. No indices were used (for instance DMFT).

- How was the periodontal health determined?
  Answer: The periodontal status was not used as a variable in this study. However, this has been explored in another study from the same data collection (Stenman, Wennstrom et al. 2009).

- Were posterior bitewing radiographs taken?
  Answer: No.

- What conditions were recorded in the oral mucosa?
  Answer: Suspected oral lesions were registered, however not the focus for or reported in the current study.
- Was there any effort made to determine why the teeth were lost? There is some suggestion in the discussion that this was due to periodontal disease but there are no results to suggest this.

Answer:
No.

- What was the panoramic radiograph used for?

Answer:
The panoramic radiographs were used to determine the number of teeth and pathological lesions. Please see for instance Frisk & Hakeberg (2005).

- How was xerostomia determined?

Answer:
Information about the subjective experience of having a dry mouth, that is self-reported, was collected in the questionnaire in the study. The length in time was questioned with the following options: no/one week/one month/6 months/>6 months. This information has been added to the text, please see page 5.

- The authors might like to consider the findings in relation to restored teeth and unrestored teeth. Given the age group, the current caries rate would not be expected to be very high. It is curious that more restorations was related to lower obesity. Perhaps this is because the restorations might have been quite old and the teeth with more severe decay had been removed. It would be good if the authors could investigate and report these relationships in more detail.

Answer:
We thank the referee for this comment. The design of this specific study was cross-sectional and no information about the age of the restorations is included. However, this is a good research question for further data collection in “The Prospective Population Study of Women in Gothenburg”. We have added a sentence in the discussions section on the matter, please see page 11.

- A further question relates to the timing of the introduction of fluoride use in these women. The younger women would be expected to have had more protection from fluoride even if they had a tendency to obesity.

Answer:
Thank-you also for this highly relevant comment! We have now discussed this in the paper, please see page 11.
Reviewer 2: Lia Rimondini

Reviewer's report:
The paper is not innovative. However I believe it is valuable because the big sample size.

The data are well managed and the paper is clearly written but the references list is not update. I suggest to scan scientific literature of the last few years regarding the relation between oral health and obesity and include proper comments in the discussion.

Answer:
We have completed the literature search and the references have been updated. Please see the discussion, page 11 (Chaffee and Weston 2010; Franchini, Petri et al. 2011).

Quality of written English: Not suitable for publication unless extensively edited.

Answer:
The English language has been reviewed by a native, professional English reviewer.
Reviewer 3: Silvia Sales-Peres

Reviewer's report:

1. Is the question posed by the authors well defined? Yes.

2. Are the methods appropriate and well described? How the authors divided female and male to analyze the WHR?
   **Answer:** Only females were included in the study (The Prospective Population Study of Women in Gothenburg) and that is why we present only standards for measuring WHR in females.

3. Are the data sound? Yes.
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes. The authors claimed that the concordance with other studies found low quality of life in obese people. However, this topic is not included into the methods.
   **Answer:** Self-perceived general health, regarded as an aspect of quality of life, was investigated in the current study. This has been clarified in the discussion's section, page 11.

6. Are limitations of the work clearly stated? I believe that the limitations of work should be better explained.
   **Answer:** The limitations of the findings are now more discussed, specifically about the generalization possibilities, please see page 10.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
8. Do the title and abstract accurately convey what has been found? Yes.
9. Is the writing acceptable? Yes.

These points need review by the authors. They cited others studies and related only one.
   **Answer:** We regret that the space for/number of references is limited. We have tried to re-formulate these paragraphs, please see the manuscript page 11.

Pg 10
Self-perceived mouth dryness was related to obesity, in accordance with the findings in other studies [25] however, this association was modified by other factors in the full models.
Pg 11
This was supported by the finding that the interaction between dental anxiety and dental visiting habits was significant, in accordance with other studies [5]. The self-perceived general health was also lower in this group, which is concordant with other studies finding low quality of life in obese people [26, 27].

References

