Reviewer's report


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Reviewer: Anne Nordrehaug Astrom

Reviewer's report:

Reviewers report regarding the revised article "Trends in tooth loss in relation to socio-economic status among Swedish women, aged 38 and 50 years. Repeated cross-sectional surveys 1968-2004"

The paper has been revised according to some previous comments. I would like to add the following comments to the revised manuscript

Major compulsory revision

Ad sampling method and non- participation analysis:

(2) The authors have now explained about the systematic sampling method utilized at each survey occasion. Number of participants aged 38 and 50 in each survey year and the participation rate have also been provided. The participation rate varies across the survey years and although it is quite high (87.4% in 68/69) this does not ensure representativeness of the sample as maintained by the authors on page 5 line 3. Moreover, the nonresponse analyses clearly shows that the non- responders differed from the responders with respect to number of remaining teeth and also regarding variables that influence this outcome variable. This illustrates that even with a high response rate – the non- responses have not occurred at random. Moreover, from the description of the non -participation analysis – the authors could be more clear about what yields the medical part of the study and what yielded the dental part. Was it only the dental part of the study that was included in the analysis of this paper? If so – I think it is unnecessary to mention about the medical part.

I could be of interest to know what kind of information was obtained from non-participants and how many of those who originally not participated gave information as late respondents?

Ad survey method:

From the description of the survey methods its seems that the outcome variable- number of remaining teeth was assessed differently in the various survey years – by OP radiograph and by oral examination?. How could those different methods have influenced the results?

Ad statistical methods:

In the multivariable regression authors claim to have used survey year as a continuous variable? I do not think a variable with 4 categories could be denoted a continuous variable?
Ad results:

4) In table 1 the authors should indicate between which survey years there were statistically significant differences in the mean number of teeth (post hoc multiple comparison test?).

To avoid confusion – when providing results about the percentage being edentulous as provided on page 9 – please add that this results were not presented in table 1.

Why not presenting the results regarding income level in table 2 and 3?

Were interactions between survey year and other independents on number of teeth tested for statistical significance?

The authors should explain what they mean with the sentence "The impact of social group on the number of teeth decreased in the models from I to IV". I would ask whether this claim is based on eye-ball or statistical testing?

Ad discussion:

The authors claim that the measurement methods have essentially been the same. However, - the outcome variable was reportedly measured differently across the survey year? This should be discussed and also some considerations about possible influences of the results.

The conclusions are based on both results regarding loosing all teeth and number of remaining teeth. This seems a bit odd to me and should probably be avoided as the whole paper considers number of remaining teeth whereas only a few sentences in the results section (page 9 under sub heading number of teeth) provides descriptive results of the percentages being edentulous in the various survey years.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests