Reviewer's report

Title: Social Determinants of Health and Periodontal Disease in Brazilian Adults: a cross sectional study

Version: 1 Date: 10 February 2013

Reviewer: Kerstin Öhrn

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1. The sampling procedure is somewhat unclear. The description ends with "until the number of adults needed for the sample was achieved, however, there is no information how many that was needed. It is stated that the sample size was calculated on the prevalence of perodontitis in the age of 34 - 44 of Brazilian adults but there is no reference to the figure. Later on you report that you used cluster sample and thus the sample size was multiplied by two, why? You ended with a total of 832 and out of those 21 were excluded which is 0.025% not 10.7% as reported. It is impossible to understand how you ended with 744 individuals. In the sampling procedure you report that a certain amount of participants agreed to participate, how many were asked? You later report that individuals who had cognitive difficulties were excluded, how many was that. I would like to have a clear description of the sampling procedures and exclusion and inclusion criteria and how many were excluded and why and how many dropped out.

2. I understand from the analyses that age were dichotomised into two groups why? and that household income was dichotomised into > 300.00 and < 300.00 why did you divided at 300.00? In the discussion you report that half of the population received 375.00 wouldn’t that be a better cut off?

3. I am very confused about the result. I would like to see figures on the correlation between periodontal variables and socioeconomic variables. You report on 3 different groups one group had presence of gingivitis, this is only 15 individuals according to table 1, group 3 comprised of widowed females which could not be more than 13 individuals according to table 1, it is hereby not possible to draw the conclusion you have done based on 13 individuals or less.

4. In the discussion you compare the results with other studies on prevalence on periodontal disease in Brazil based on CPITN. However, the figures exceed 100% which is very confusing. In addition, the figures is far more high than your results, which demand a discussion.

5. In the discussion you discuss who are likely to attend dentistry and who are likely to perform oral health behaviour, but this is not examined in your study

6. You conclude that socioeconomic and demographic factors apparently influence the onset of periodontal problems. You have only studies the correlation not the influence.

7. In table 1 there is one individual who did not respond to CPITN, isn’t it rather than she/he was not examined.
8. There is an urgent need to edit the language

9. In the introduction you discuss developing countries and have a reference to a Swedish study ref. 3 which is incorrect, Sweden is a developed country. Later I miss a reference after the statement "several pathological conditions are associated with the socioeconomic status of individuals in a cause-and-effect relationship"

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

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests