Reviewer’s report

Title: Prevalence of Gingivitis and Calculus in 12-year-old Puerto Ricans: A Cross-Sectional Study

Version: 0 Date: 07 Jan 2017

Reviewer: Aliye Akcali

Reviewer’s report:

Reviewer Comments to Author:

The authors reported cross-sectional findings for prevalence of gingivitis and calculus in a sample of children aged 12 years living in 11 regions of the island Puerto Rico.

The study fulfilling the tasks of epidemiologic research by providing data on the prevalence of gingivitis and severity of the condition as well as important etiologic factor of gingivitis i.e. dental calculus. However, there are important issues in methodologic elements that needs to be clarified and expanded by the authors. Following comments are listed that the authors may wish to address.

Major comments:

1) The authors studied the prevalence of caries among the same population in their previous report. According to this study the authors stated that 'Prior to the dental examination and under supervision, children brushed and flossed their teeth. During the dental examination, each tooth was air-dried to remove plaque/debris and to check for surface contour, color changes, minor cavitation, or sealants.' It is important to clarify if the periodontal assessment was performed prior to the caries examination or not or in any other day etc. Because if it is done before the assessment the data will not reflect the real situation. Please give more details related to the timing of the clinical measurements.

2) Please clarify the objective of the study. Was it the estimation of prevalence of gingival bleeding (Page 12, line 237) which I believe not. Or prevalence of gingivitis and calculus?

3) Was an orthodontic treatment exclusion criterion?

4) Clinical assessment of inflammation was performed by modified Løe-Silness Index. The authors did not add citation for the used Index for bleeding and were they referred to the modified Løe-Silness Index in 1967 or? Because the authors measured the gingival bleeding in binominal fashion. Please clarify.

5) Why plaque index score was not recorded parallel with the gingival index?
6) Page 8, line 155: 'Gingival status was not assessed around teeth with extensive dentinal caries or sub-optimal restorations since these areas are prone to plaque stagnation an inappropriate oral hygiene.' Caries is an important plaque retentive factor in gingivitis. Why did the authors did not apply the same rule for calculus measurement?

7) The authors performed partial-mouth examination. Therefore, it is crucial to know how many sites were assessed per person? The findings may better read if the authors give data as; Person% of all had gingivitis at number of sites/person.

8) What is the number of teeth and number of missing teeth? Average of teeth/person?

9) Please describe the setting, locations, and relevant dates, including periods of recruitment in methods section. Is there any excluded patient from the analyses? The number of participants were randomly and equally included in terms of gender (page 8, line 142-143) but the percentage was not equal at the end (53% females, 47% males). Please explain.

10) Today, although no uniform criteria have been established for epidemiologic research, case definition of gingivitis is mandatory (i.e. threshold values for defining the disease or any citation).

11) The authors used Hu-Friedy PCP-126 periodontal probe which has markings 3-6-9-12 mm. Page 8 line 160: The probe was inserted not more than 2 mm into the gingival sulcus starting…The recognition of 2 mm by using this probe does raise questions.

12) Page 9 line 167: 'insignificant level of gingival inflammation'. Please explain this statement, does it refers to periodontal health or lower than %25 BoP?

13) Subgingival calculus is found in most periodontal pockets. 19.78% subgingival calculus detection was reported in the present study. High percentage of subgingival calculus detection rise questions about the diagnosis of the periodontal disease. Did the authors record probing depths and clinical attachment levels?

14) Page 12 line 247: The authors performed partial-mouth examination therefore, it seems not possible to comment on localized disease associated factors according to the present findings.

Minor comments:

1) In the title of the study 'high level of gingivitis' is not describing the present findings. Because the severity of gingivitis was not evaluated.

2) Page 3 line 36: Please revise as '12-year-old Puerto Ricans' or 12-year-olds'

3) Some parts of the conclusion are the repetition of the results. Please revise. (i.e. Page 4 line 58-60 and Page 15 line 310-311).
4) Page 4, line 74 the sentence is not relevant with the content.

5) Page 5, line 81 please correct as 'due to the…'

6) Page 5, line 95, statement needs citation.

7) Page 6, line 98, 'varies widely' please give range.

8) Page 12, line 241, which nations?

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

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

No

**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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