Reviewers report

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

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Reviewer: Morenike Folayan

Reviewers report:

High Levels of Gingivitis and Calculus in a representative sample of Hispanic children: Cross-Sectional Study

The aim of the study was to determine the prevalence of gingivitis and calculus among 12-year-olds Puerto Ricans and to explore differences in distribution by gender and school type (public and private). The

Abstract

* Please include all the p values for the tests of association conducted

* Conclusion should be focused on the findings related to the study objectives. Where feasible make recommendation that are driven by evidence identified from the study. Please modify the current conclusion to this section

Background

* The authors wrote - Hispanics are the largest ethnic minority in mainland U.S. [23]. The Hispanic population in the U.S. reached over 56 million in 2015 [23]. Puerto Rico (PR) is a U.S. territory with a population virtually all Hispanic. This sentence stands hanging with no link between it and the previous and subsequent paragraph. Please delete if not relevant

* The author wrote - The transition from gingivitis to periodontitis is unclear; however, the presence of a dental plaque microbiota imbalance or dysbiosis in susceptible hosts seems to mediate local and systemic inflammatory responses progressively [7]. Ultimately, the overexpression of pro-inflammatory cytokines, such as Interleukin-1 (IL-1) alpha/beta, Tumor Necrosis Factor alpha (TNF-alpha) among others, is responsible for periodontal tissue destruction and progress to periodontitis [8]. If the authors shows so clearly that the transition from gingivitis to periodontitis has a lot more to do an inflammatory response that may be mediated beyond thee calculus induced inflammatory response, then the justification given for the study - This information is valuable to evaluate the oral health needs of Puerto Ricans and to plan strategies for gingivitis management and prevention of more advanced periodontal disease - is not evidence informed. In effect, the authors have not given a good justification for the study. I suggest they should try and develop a
conceptual framework for this study. This may help them develop a justification for the study.

Method

* The authors note - private school attendance likely representing a higher family SES. Why the term likely as this may have implications for the interpretation of results and its generalisability? Also, are the SES dichotomized to lower and higher? The use of this terminology connotes relatively and not a definitive status further creating uncertainty about the interpretation of the data.

* The authors refer to selection of schools from the 11 regions. This is not clear as there is no information on the study location - are there 11 regions in PR?

* Please be specific on the details of the medical history, and demographic information obtained for each study participant.

* Why was the analysis limited to urban and rural public schools? Why were the private schools not dichotomized to urban and rural also? What was the limitation in identifying private schools in the rural area if any?

Results

* Based on the plan for study participants recruitment, 2660 students should have been recruited (10 girls and 10 boys form the 102 public and 31 private schools). The study however recruited 1,586 children. Please discuss this disparity in sample size and actual sample. the plan to recruit 2660 school children was also significantly higher (more than 20%) of the determined sample size of 1,500. Can this variation be explained?

* The authors need to improve the way the results have been presented. In this example- Boys presented a slightly higher prevalence of gingival bleeding, 81.29% (95% CI: 77.40, 85.17) compared to girls 79.57% (95% CI: 74.16, 84.98) - the authors presents percentages in the narrative in a way that it is left hanging. A way this can be presented is - More boys (81.29%) presented with gingival bleeding than girls (79.57%). This gender difference was not statistically significant (p>0.05).

* Please the exact p values for all the analysis not a representative value. p>0.05 is a representative not an exact value.

* The authors wrote - (Table 2, 83.24%). Please note that is not presented this way. You need to first refer to the Table and state what the table highlights. Then discuss its content.

Others
* The authors need to get an editor who would help them address the grammar. There is also wrong use of punctuation marks and paragraphs.

* Data presentation is poor. Please use the STROBE to help guide you on how to present study data in the result section and the discussion also.

* Please improve on the heading of the subsection. They are currently poorly written and not representative of the content of the sections

* Ensure uniformity in font size and type used.

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

Yes

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

Yes

**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 am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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