Reviewer's report

Title: Prevalence and factors related to dental caries among pre-school children of Saddar Town, Karachi, Pakistan: A cross-sectional study

Version: 2 Date: 23 May 2012

Reviewer: Donald Chi

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I would like to thank the authors for thoughtfully addressing most of the concerns raised in the initial review.

Major Compulsory Revisions

1. I believe the authors misunderstood my point regarding dental caries and mortality. In the US, every year or two a child dies from an infection caused by untreated tooth decay. Many more are hospitalized and placed on IV antibiotics. Therefore, classifying dental caries “as a not life-threatening condition” is inaccurate. We know caries can be a life-threatening condition. Please correct this.

2. In the Abstract and throughout the paper, the reporting of the Adjusted Odds Ratio (AOR) is confusing. For instance, the AOR associated with hygiene is 0.309. Does this mean that children with plaque were less likely to have caries? Same with hygiene – children with poor oral hygiene were less likely to have caries? The finding in regards to milk is also counterintuitive. If these findings are correct, there is a need for discussion on the counterintuitive findings. Also, the AOR regarding age does not make sense. What is the reference category? Typically, age is included in a regression model as a continuous or categorical variable – where are the age 3, age 5, and age 6 children in the regression model?

3. In table 4, I am confused that the age 4 and age 5 year old children had significant lower odds of caries than 3 year olds. Also the OR for toothpaste use was 1.5? Are you certain that your coding is correct? I am assuming your binary outcome is caries (no/yes) and that the reference group is no? This needs to be clarified. Also, how did you establish alpha=0.025? This is unusual.

4. There is no discussion about the AORs that were significant but not in the hypothesized direction (milk, plaque, hygiene). Please see comments above. Also there needs to be more attention to study limitations. The study was cross-sectional, which precludes causal inferences. Was selection bias a potential problem? Etc.

5. The future recommendations are not in line with the study findings and need to reflect more closely what was found in the study. With over 50% of children having caries, recommendation #3 (regular oral examinations) seems misguided.
There is no discussion on next research or intervention steps. An epidemiologic study is important to develop baseline disease rates, but what’s next in terms of interventions or policies?

6. There is a need for English language editing. For instance, background page 3, the word “player” is inappropriate.

**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:** No, the manuscript does not need to be seen by a statistician.