Author's response to reviews

Title: Early childhood caries and its relationship with perinatal, socioeconomic and nutritional risks: a cross-sectional study

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Author's response to reviews:

Dear Editor,

Thank you for considering our manuscript. Please note the following changes, as suggested by the reviewers.

1st Referee

Abstract:

Methods: Please find the addition to the description of the statistics: “For statistics, Pearson’s chi-squared and the multivariate Poisson analysis were used to determine the association among variables.”

Please read the objective as follows: Aim: This study aimed to assess the prevalence of early childhood caries (ECC), perinatal factors (gestational age, teenage pregnancy and birth weight), family income and nutritional risk in children.

We added to the methods the information about the logistic regression analyses. Results for the Poisson multivariate analyses are more robust and reliable.

Conclusion: We respectfully disagree. Because it is a transversal study, our aim was to verify the association among variables.

The key words were changed as follows: Dental caries, child, obesity, teenage pregnancy, birth weight, prematurity.

Introduction:

Following the reviewer’s recommendation, the first reference and text were removed.

The literature reports on the association of enamel defects with perinatal events rather than with ECC.

We made the rationale more explicit in the last sentence of the Introduction: “Therefore, this study aimed to assess the prevalence of early childhood caries and its association with perinatal factors such as gestational age, pregnancy and
birth weight, along with family income and nutritional risk, to produce incremental evidence-based knowledge to the state of care in a fast-growing society.

Methods:

The examinations were conducted by a calibrated examiner for visual exams following the criteria established by the World Health Organization\textsuperscript{11}. The kappa coefficient for intraexaminer agreement was $K = 0.90$.

The pilot study was conducted with 10\% of the sample in the yards of the schools, in a knee-to-knee position, with natural light and using a dental mirror and wooden spatula. Children received oral hygiene instruction and supervised tooth brushing before the exam. The children who took part in this trial were included in the final sampling.

According to the literature, the term was nutritional risk, as proposed by the CDC (Center for Disease Control)\textsuperscript{13}.

Please consider the following:

- The measurement of body weight was recorded by the researcher, with the child standing with minimal clothing without shoes on a portable calibrated scale with a precision of 100 g, and the height was measured with a tape strip scale.
- The examiners administered a questionnaire, which was previously validated in a pilot study, to parents and guardians at the pick-up time at school to obtain information on family income.

To test the association between two categorical variables, the chi-squared test was used. To explain the prevalence of early childhood caries and its association with the other risk factors we chose the Poisson regression test, which is similar to logistic regression, with the advantage that the prevalence ratio (PR) is more stable and the value for OR varies in a smaller range. The margin of error was 5\%.

Results:

Three hundred and twenty preschoolers were evaluated. There were no losses or drop-outs because the schools were not very far from each other and we could always return to see those that failed to attend school regularly.

The exact p values are shown in Table 1.

Discussion

Please find in the discussion the following paragraph that should be in agreement with your suggestion: Due to the worldwide increase in childhood obesity across populations and the polarization of dental caries, several studies\textsuperscript{28,29} have reported on the association of obesity and infant caries; however, the results of these studies are still controversial. In 2006, a systematic review\textsuperscript{30} found only one study that consistently showed a direct association between obesity and dental caries with high level of evidence. The findings of this work show an association between childhood obesity and dental caries, as in some previous epidemiological and cohort studies\textsuperscript{28,29}. Looking at the results of the study, it is possible that the conflicting results could be related to variations in the way the data were collected, the socioeconomic status of the sample, the parameters to
analyse nutritional status and caries diagnosis.

Thank you for your help in improving this report.

2nd Referee

Thank you for your kind review.

1-There is a category for income labelled "No," which means "no income."
2-Statistics: Please review the methods section.

To test the association between the two categorical variables, the chi-squared test was used. To explain the prevalence of early childhood caries and its association with the other risk factors, we chose the Poisson regression test, which is similar to the logistic regression with the advantage that the prevalence ratio (PR) is more stable and the value for OR varies in a smaller range. The margin of error was 5%.

Kind regards,

Dr. Valdeci Elias