Reviewer’s report

Title: Association of breastfeeding and three-dimensional dental arch relationships in primary dentition

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Reviewer: Fernando Herkrath

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The authors properly took into account most of the previous suggestions. However, considering the great importance of the issue addressed in this paper, some points might still be improved. Clarifying the limitations of the study would make possible a more judicious interpretation of the results by the readers.

Major Compulsory Revisions

1) Methods, sampling:
a) sampling still needs to be clarified. The information about the universe of 869 kindergartens in Hong Kong, as well as their distribution over the three territories should be explicited in the text. The territorial distribution of the 17 selected kindergartens and of the ten included in the study are also important. Was the sampling selection stratified by territorial distribution?
b) Stating that the sampling was conducted without randomization (Discussion, 7th paragraph) does not seem to make sense considering the type of study.
c) The authors stated that socioeconomic status among the included kindergartens was similar. More important than this would be elucidating whether there are differences between the included units and the total sample or, at least, between the included ones and those that did not agree to participate. Furthermore, the sentence “The social economic statuses revealed by the questionnaire evaluation…” leads the reader to believe that the questionnaire was previously mentioned, which is not true. As it is the first mention to it, replacing "revealed" by "was assessed". This information could also be placed in the first paragraph of the Methods, data collection.

2) Methods, data collection: In this section, the variable “overjet” is described as increased when greater than 3.5mm, as well as in tables 2 and 5; however, in the Discussion (page 16) it is stated as equal or greater. Please correct it.

3) According to the groups defined in the study, individuals exclusively breastfed for 6 months (as recommended by WHO) were included along with those individuals who breastfed exclusively for 15 days, 1, 2 or 3 months. This is a relevant issue to be discussed. Breastfeeding exclusively for 1 month might be different from breastfeeding exclusively for 6 months. Even though the study has found statistically significant results only for the group older than 6 months, but not for 0-6 months (except for incisal relationship), the results could have been
different if the grouping had been distinct.

So, the statement “In this study, we found out that the duration of 6 months exclusive breastfeeding recommended by the WHO also benefits primary dental development.” (Discussion, 6th paragraph) is not supported by the study findings. The WHO recommends breastfeeding exclusively for 6 months with continued breastfeeding along with appropriate complementary foods up to two years of age or beyond, and not exclusively for more than 6 months as it is cited in the last paragraph in the Discussion.

4) The table included with the descriptive data of the study must be placed before the others. The descriptive data of all variables assessed (including ‘primary canine relationship’, ‘primary molar relationship’, ‘anterior crossbite’, ‘posterior crossbite’, ‘anterior overbite’ and ‘anterior openbite’) must be presented, and not only those that ended up presenting a positive association with the duration of breastfeeding. The table will remain with an acceptable size (14 lines more). Thus, there is no need to put them as supplementary data.

5) Discussion, 4th paragraph: actually we do not know if the slight mean differences found in the study means limited clinical significance. The discussion should involve not the direction of the alterations, but the magnitude of them and the maintenance in the long term. Replace the term “benefits”.

Likewise, why is it better in the long term an incisal relationship lesser than 3.5mm (that includes 0.5 or 1.0mm)? Consider also the craniofacial growth pattern of the Asian population.

Minor Essential Revisions

1) Introduction, last paragraph: The words "intra-arch" and "interarch" dental or occlusal relationships would be more suitable.

2) I suggest the authors present the number of exclusions and losses separately. This information can be helpful for future studies.

3) Discussion, 2nd paragraph, line 8: There was no association of breastfeeding with canine relationship. Please, make it clear on the text. Also, there is a typographical error in this line (associations).

4) Reference 19: the correct author's name is "Victora" and not "Victoria".

Level of interest: An article of importance in its field

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.

Declaration of competing interests:
I declare that I have no competing interests.