Reviewer's report

Title: Association of infant growth with emergence of permanent dentition among 12 year-aged southern Chinese schoolchildren

Version: 2 Date: 04 Jun 2018

Reviewer: Ashraf Shaweesh

Reviewer's report:

General

This is a good article that is well designed with successful use of statistics. However, it is strongly recommended that the work be reviewed by a native English speaker to correct the many mistakes. There are many important points to be addressed as per my comments below.

Title:

"Infant growth and permanent tooth emergence at 12 years of age"

Title may be changed to "Association of infant growth with emergence of permanent dentition among 12 year-aged Southern Chinese (or Hong Kong) schoolchildren"

Abstract

Line 25: perhaps more explanation is required on why there is a need to investigate the relationship between permanent tooth emergence and infant growth.

Line 44: The conclusion could benefit from adding a sentence on the clinical relevance of such an association. Otherwise, the conclusion would simply look like a result.

Introduction

Line 70: "health are gradually recognised its importance…" a grammatical mistake

Line 78: "influence of body weight on primary tooth eruption and dental caries", please cite a recently published paper by Shaweesh and Al-Batayneh (2017)


Line 81: a reference is needed on the in-utero data
Methods

Line 101: "thus no data can be referred to calculate the sample size." I think statistical tests can be applied to calculate sample size irrespective of whether similar researches have been published earlier

Line 111: "Participants of the 'Children of 1997'". Is there any publication to cite related to this mega-project?

Line 123: "The clinical examination was conducted in the student's school with within two", delete "with"

Line 125: "to rinse their mouth before they lying" remove they.

Line 131: "plane" should be "plain".

Line 138: "Congenitally missing teeth were unavailable to assess as this study was conducted in the field where no radiographic equipment was available" This is worth some discussion in the discussion section. What about teeth that have been extracted? Were there any attempt to adjust for such factors?

Line 140: check grammar please

Line 142: check grammar please

Line 144: "picked out" is not a proper term.

Line 143: "To guarantee the consistence within and between examiners, blind duplicate oral exam was conducted among 10% participants who were randomly picked out from the study sample" do you mean you did an inter-examiner reliability test. This is not so clear here. Please move the methods on the inter-examiner reliability from results section to the methods section and just keep the outcomes of that in the results section.

Statistical analyses: properly used, however, could have benefited from editing the language used.
An alternative approach would have been to investigate the association between infant growth and individual tooth emergence. This is impossible to be done at this stage because the cohort is 12 years of age. Studying association with individual tooth emergence requires recruiting children with different ages from 6 - 12 years and dividing them into age groups. Although it is too late now, this may worth some discussion in the discussion section.

Results:

Line 209: "agreed" children did not agree but their parents/guradians did. This has to be made clear in the methods as well.

Discussion

Line 306: "When the effects of birth weight and growth rates during the first three months of life on permanent tooth emergence were further investigated for each tooth type (Table 6), significant association was found only for maxillary second molars. The significance was further confirmed by logistic regressions (Table 7)."

Firstly, authors should be cautious about using the word "effect" as they just demonstrated a relationship.

Secondly, given the age group of the subjects, studying the relationship of infant growth on individual teeth is impossible without including other age groups from 6 - 12 years. By 12 years of age all teeth apart from second molars and upper canines in some children (like underweight) will have been erupted. So it may be possible to test for association with second molars and canines but not the rest of the teeth. At 12 years of age, what is the chance of seeing NORMALLY unerupted mandibular incisor? Answer: zero %. This is why there is no need to discuss association with eruption of individual teeth, otherwise there will be a very clear bias. Instead, in the discussion section you can discuss the impracticality of studying individual teeth as a limitation in your study and provide some recommendations.

The impact of the environmental factors on the emergence of permanent dentition has neither been adjusted for in the multi-logistic regression model not discussed adequately in the
discussion section. Such factors include body weight for age, body height for age, nutritional factors, and Body Mass Index. Please see:


Conclusions

Line 356: avoid terms such as "more certain" use "more likely"

Line 359: "These findings may have clinical significance of predicting dental events later in life in terms of the risk for dental caries due to prolonged exposure in the oral cavity, and the probability of malocclusions due to unfavorable eruption sequence."

Other clinical relevance include forensic investigations.

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.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
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