Reviewer’s report

Title: Low birth weight, preterm birth or small-for-gestational-age are not associated with dental caries in young Japanese children

Version: 1 Date: 8 January 2014

Reviewer: Sam Leary

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Major compulsory revisions:
1) The authors need to make clear that the birth weight and gestational age variables are from obstetric records, for example in the abstract they state “data on birth conditions were obtained using a questionnaire” which made implies they were self-reported and therefore less reliable. The authors also need to provide more justification for the need for their study (e.g. are the published studies smaller? Are they based on less reliable data?)

2) The term “statistically significant” should be avoided; see Sterne JAC, Davey Smith G. Sifting the evidence: what’s wrong with significance tests? BMJ 2001;322:226-31. The authors should talk of the strength of statistical evidence instead.

3) The last paragraph of the results section seems to appear out of nowhere; the hypothesis was not pre-specified so therefore the findings need to be treated as exploratory. There is no discussion of the results / comments on whether any of the published studies have looked at this issue.

4) At the end of the conclusions the authors state that further studies are needed – what specifically needs to be studied?

Minor essential revisions:
5) In the methods the authors state that out of the 8269 eligible children, 8064 were provided with questionnaires; why weren’t the others given questionnaires?

6) Presumably it was the researchers rather than the parents that classified the children as having dental caries, being low birthweight etc but could the authors please clarify this.

Discretionary revisions
7) As the literature in this area is quite limited it would be worth including papers that have looked at associations between birthweight (across the whole distribution) and dental caries for example “Is there a relationship between birthweight and subsequent growth on the development of dental caries at 5 years of age? A cohort study” by Kay et al.

8) Additional confounders such as parity and maternal age at the time of birth have also been included as potential confounders in previous work in this area; are these data available for this study? Also the authors state that gestational
age was removed from models when pre-term birth was assessed, but shouldn’t it have also been removed when SGA was assessed?

9) The low response rate is obviously an issue, but the authors have highlighted this. However the discussion would flow better if the data provided on the comparison with the population census were first introduced in the results section, and just commented upon in the discussion.

10) It has been suggested that the earlier eruption of deciduous teeth in babies that are larger at birth may offer one explanation for a possibly higher risk of caries in the deciduous teeth of babies of higher birthweight; it is unlikely that the authors have the available data to be able to look at this in their study, but the issue should mentioned in the discussion.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests