Reviewer’s report

Title: Preterm Birth and the Timing of Puberty: a Systematic Review

Version: 0 Date: 02 Apr 2017

Reviewer: Ulla Sovio

Reviewer's report:

The authors sought to assess whether preterm birth is associated with the timing of puberty. Their systematic review is methodologically sound. However, I think they should have excluded studies which did not provide a quantitative measurement of the association (e.g. just stated "no significant difference" or "no association"), as well as datasets where the participants were <15 years old at follow-up.

Unfortunately, the search for studies meeting the inclusion criteria yielded very disappointing results. Only 15 studies were eligible and a third of them did not document how gestational age was calculated. The heterogeneity in the summary measure for the timing of puberty (mean, median, alternative) ruled out a meta-analysis, and there was insufficient data on confounding variables. Overall, the data quality was poor for the purpose of the review, and the number of preterm births was quite small in many of the studies. In my opinion, the results of the present review are inconclusive.

However, the authors identified 3 large datasets which contained relevant information for the study, but the analysis had not been done. There are more large datasets which have the relevant information, for example the Northern Finland Birth Cohorts 1986 (https://www.ncbi.nlm.nih.gov/pubmed/25180275) and 1966 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3308310/). The analyses required are straightforward and quick, even with adjustments for confounding factors. The review would be much improved with the inclusion of additional datasets with good quality data and sufficient numbers. I acknowledge the possibility of issues/delays regarding access to original data or the relevant analysis results, but I would suggest the authors investigate this option and only include studies with sufficient good quality data in their systematic review. This would also give a possibility to do a meta-analysis.
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.

Yes

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

No

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

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