Reviewer’s report

Title: Childhood and adolescent phenol and phthalate exposure and the age of menarche in Latina girls

Version: 0 Date: 12 Dec 2017

Reviewer: Monika Kasper-Sonnenberg

Reviewer's report:

This is a nice study about associations between several phthalates and phenols and the onset of menarche in 200 Chilean girls. Up to now, study results are inconsistent when looking on influences between childhood EDC exposures and pubertal timing.

The longitudinal study design opens the possibility for looking more deeply on the influences of EDC exposures at both pre- and late-pubescent stages. The main results show that the associations found are dependent on the timing of biomarker assessment and that some results are modified by BMI Z-scores.

I have only minor suggestions for improving the manuscript.

Background

Page 4, line 83: Please provide some more information about the sources of exposure for humans. Please provide some references for both exposure sources and the extensive use of phthalates and phenols in consumer related products.

Line 84: selected, not select

Methods

Page 4, line 99: Please provide the age (range) of the girls when starting with the examinations.

Biomarker Measurements

Please provide the names of biomarkers that were analyzed (using abbreviations and referring to the abbreviation list).
Statistical analyses

Summation of the DEHP metabolites should be described.

The calculation of the AFT is not described within this section. Please clarify.

Results

Page 7, line 164: which biomarkers?

Please provide some information of biomarker concentrations in the girls. Are the concentrations comparable with other similar populations? Are the concentrations within background levels?

Page 8, line 187: Please refer here to the corresponding tables.

Page 9, line 217: please refer to table 5.

The authors are presenting a lot of associations in the tables 2-6. To follow the results, the reader must study the tables very intensively and the heading of the tables do not describe the analyses well. Therefore, the headers of the tables should be improved, and I would suggest providing a brief overview of the results at the end of the results section.

Discussion

Some important literature should be included in the discussion:


There is a recently published longitudinal study about childhood phthalate/BPA exposures and the timing of puberty. The reported results point in similar directions for the phthalates, particularly for the DEHP metabolites (Kasper-Sonnenberg et al. Pre-pubertal exposure with phthalates and bisphenol A and pubertal development. PLOS ONE: https://doi.org/10.1371/journal.pone.0187922 November 20, 2017).
Tables

Tables 3-6: Please provide more precise headers for each table to guide the reader through the multitude of analyses and results.

Some suggestions:

Table 3: …. restricted to subsets of associations where no interactions with Tanner B1/B4 were detected.

Table 4: …. restricted to subsets of associations where significant interactions with Tanner B1/B4 were detected.

Table 5: …restricted to subsets of associations for significant interactions with Tanner stages.

Table 6: …restricted to subsets of associations for which interaction with BMI Z-score was significant.

Figures

All: Please provide the unit of the median time of menarche in the y-axis (years)

Fig. 1+2: Please do not provide the bars in red and green. When printing in greyscale no differences between the two colors could be seen. Same for red-green color blindness.

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

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

Acceptable

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