Reviewer’s report

Title: The association between antibiotics in the first year of life and child growth trajectory

Version: 0 Date: 23 Jul 2018

Reviewer: Harrie Lafeber

Reviewer's report:

This well written paper describes a possible relation between overuse of antibiotics during the first year of life and an increased BMI at 6 years. The study is performed in 586 selected infants of which 33 had possible overuse of antibiotics. As a conclusion the authors warn us to beware for overuse of antibiotics during the first year of life. Some points that stay unclear to me:

- This population was chosen because of a high quality survey including a lot of information regarding possible co-founders like breastfeeding etc. Unfortunately this population is not representative of the majority of children in our Western world. 94% of the infants had no overdose of antibiotics, more than 33% received breastfeeding. We do not know what percentage of the 33 overdose antibiotics infants received breastfeeding. The sample size of this study is rather small to make conclusions.

- The terminology used by the authors remains rather vague: in the title it is mentioned > child growth trajectory < but in fact the authors have chosen for a cut of point of a BMI z score > 1.64 quite arbitrarily as parameter of obesity.

- Another enigma remains the reason of the possible antibiotic overuse: what was the underlying illness. Inflammatory processes that needed steroids? Or wrong prescribing?

- The authors have no proof in this study of the negative effects of antibiotics on the gut microbes leading to obesity at 6 years. Therefore statements in this direction should be made with care.

- For me the conclusion of the authors on the advice of judicious use of antibiotics during the first year of life can be made without this study

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess
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.

Unable to assess

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:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no competing interests
I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.