Reviewer's report

Title: Changes in Dietary Intake during Puberty and their Determinants: Results from the GINIplus birth cohort Study

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Reviewer: Nathalie Michels

Reviewer's report:

This study examines the 5-year change of dietary intake between childhood and adolescence and explores possible determinants of this change. This is helpful knowledge for prevention and intervention designs. Nevertheless, a major limitation is that the FFQ at baseline and follow-up was filled in by a different responder (parent vs child). As the authors already mention, this might explain some of the detected time trends.

Major comments:
- Since change over time is the interest of the paper, please mention the test-retest performance of this FFQ.
- I have some hesitation about the allocation of food items to food groups, more specific about the dairy group: the cocoa/milkshake, pudding and ice-cream: can they not be considered under the sugar-sweetened food group? It is possible to do this re-allocation and to test whether other results are retrieved then?
- The authors have used 15 of the 17 FFQ food groups. Nevertheless, I was wondering why the group ‘water’ was not used, since this is an important target in some intervention studies to stimulate health.
- In addition to the comment above, I was also wondering why the EI% macronutrients and the antioxidant and fatty acid intakes were not tested. After all, the authors state that these data are available from this FFQ and this data would also be interesting for future interventions.

Minor comments:
- Textual remark: line 53 and 384: ‘that sex-specific subpopulations be considered’ -> ‘...should be considered’
- Textual remark line 195: a comma is missing before ‘pubertal onset’
- Methods: The BMI has been used as a dichotomous variable. Nevertheless, the authors did not mention what the cut-off was to create 2 groups
- Line 225 to 236: the authors mention a lot of numbers in the text that are already shown in the table. I would suggest to remove the numbers from the text, to decrease redundancy.
- Table 2: It seems there is an error in the energy intake: >8000kcal/day
- Table 3: I would suggest to include the p-values (males vs females) in this table
- Table 4: No units were mentioned for the food group intakes
- Figure 1: Is there any explanation why 5991 children were included in the large study, but only 3317 children completed the main questionnaire?

Discretionary comments:
- Since the title states ‘during puberty’, it might be helpful to see the pubertal status at follow-up
- If the study collected information about nutritional knowledge or child’s education performance or level (e.g. school type like vocational vs technical vs general/academic-oriented), it would be very interesting to test it as determinant of dietary change.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests