Reviewer’s report

Title: Are environmental area characteristics at birth associated with overweight and obesity in school-aged children? Findings from the SLOPE (Studying Lifecourse Obesity PrEdictors) population-based cohort in the south of England

Version: 0 Date: 25 Jan 2020

Reviewer: Mirjam M. Heinen

Reviewer's report:

This study aimed to examine how environmental area characteristics at birth are related to childhood overweight and obesity prevalence. This study included 5,636 children for whom weight data was available. There were mixed results between area characteristics at birth and overweight or obesity at later ages. The authors concluded that local access to natural green spaces at the time of birth was inversely associated with becoming overweight or obese by age 10-11 regardless of migration to another area. This study is important as most studies in this area are conducted using a cross-sectional design; whereas this study is prospective of nature. Furthermore, this study had access to a large cohort of children in the south of England, with very detailed and objective measurements.

The manuscript is very well and clearly written. There are only a few minor issues that could be addressed.

Minor comments

Line 99: Here it says, 'around 10 weeks pregnant'. Should this not be pregnancy?

Line 103: Here it is stated that the latest available reference data was used. Suggest to add 'national', to clarify that this is UK data.

Figure 1 and line 186: Numbers on 'children born before September 2014' don't match in the figure and in the text.

Discussion: In the variable of 'exposure to unhealthy food outlets', bakeries were also included as unhealthy food outlets. Could be authors elaborate on the fact that bakeries could also sell healthy products such as bread. Or maybe the majority of bakeries available in the UK mostly sell the unhealthy types of baked goods?

Figure 1: Should the number of mothers in each of the boxes not going down? Instead boxes 3 and 4 are higher than the first two. How is this possible?
Table 1: At the top it says 'year R'. Should this not be an age instead of R?

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?
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Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

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