Reviewer's report

Title: Outdoor Advertising, Obesity, and Soda Consumption: A cross-sectional study

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Reviewer: Keryn Pasch

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Outdoor Advertising, Obesity, and Soda Consumption: A Cross-Sectional Study

This manuscript describes a study that explores the association between outdoor advertising of food and beverage products and obesity and soda consumption among adults in two cities. This manuscript addresses an area of research that has been understudied, outdoor food and beverage advertising; however there are some concerns as outlined below.

Major Compulsory Revisions

1. The introduction would be strengthened by additional background on the importance of advertising and why outdoor advertising may be important.

2. The main survey method for the present study is the use of telephone survey, while the response rates are similar to the BRFSS, this needs to be included in the limitations of the study as those who did not participate and those do not have land line telephones were not included in this study and this may be a very different group than those who participated.

3. Please discuss the length of data collection in the limitations section. Given the likely changing nature of the outdoor advertising environment, can data collected a year apart be compared? Were the census tracts randomly selected for data collection, if not would there be any systematic bias?

4. Is there a rationale for including Asian and Other in non-minority?

5. The discussion section of the manuscript could be strengthened by putting the findings in context of other types of food and beverage advertising as well as other types of outdoor advertising.

Minor Essential Revisions

1. In the abstract, please include that this study was conducted with adults

2. Throughout the manuscript, please refrain from using causal language as this study is cross-sectional and cannot determine causality

3. Please include the comparison group in the study purpose sentence in the background section. Additionally, the study purpose as written sounds like the
comparison will be made with those in areas with high advertising to those in areas with low advertising, but I believe from the methods and results sections the advertising variable is continuous.

4. In the first sentence in the statistical methods section, please clarify that self-reported height and weight were used to create BMI categories.

5. Please include a citation for the sentence that states that percentage-based measures are useful because the effect of advertising is reduced when it must compete with other advertising.

6. Is there a reason for not including other foods, like fast food, which is prevalent in outdoor advertising in the current study? If fast food was included on the survey, its addition would add to the current manuscript.

7. Why were age in years and years squared both included in the model?

8. Did the models associating food advertising and soda consumption also control for other variables such as BMI, etc.?

9. In the discussion section, the paragraph on previous outdoor research could be revised to include better transitions throughout. Also, the citation for Pasch et al is not correct, alcohol advertisements predicted increased alcohol intentions not alcohol consumption.

10. Please provide examples of other unmeasured variables that could explain the associations found in the present study.

11. The final paragraph of the manuscript seems out of place.

12. On table 4, please clarify the title so that the exposure and outcome are clear.

Level of interest: An article of importance in its field

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