Reviewer's report

Title: Individualized and institutionalized residential place-based discrimination and self-rated health: a cross-sectional study of the working-age general population in Osaka city, Japan

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Reviewer: Ayako Hiyoshi

Reviewer's report:

Major comments
Thank you for the opportunity to read the manuscript. The authors addressed an important public health issue. Data were collected with care, and the paper would make a useful contribution to the literature. However, a revision is needed to clarify a number of points.

1. In Background, literature review leading to this work appeared not to be sufficient. Importance of this work was not fully understood from the current manuscript. What are the findings from relevant studies? Also, please clarify ‘although relatively little attention has been paid to the entire spectrum of population’.

2. In 2nd paragraph in Background section, I consider that some of the information about Buraku and Nishinari in supplement should be included in the main text. Buraku and Nishinari have been mentioned a couple of times in the manuscript, but never been explained.

3. It was still unclear whether the aim of this paper was to examine mechanisms (pathways) of institutionalised PBD, and if so, how was this supposed to be examined. Institutionalised PBD and institutionalised pathways were not clearly explained. Were individualized and institutionalised pathways tested in the analyses?

4. In 2nd paragraph in Background (and Discussion), I wonder what does ‘a range of individuals from the whole Osaka city’ mean? What variation does this imply? More detailed account of the study area would be useful to understand the settings of the study.

5. Regarding the sampling framework, it was unclear how authors identified the residents and the reliability of the source (the level of completeness).

6. In 1st paragraph in Individual-level PBD, what dimension of life does ‘social life’ in the question of ‘how often have you suffered discrimination based on geographical place of residence in your social life’ mean? Does this mean primarily interpersonal relationships or marriage, or include aspects such as employment opportunity, admission to schools, receiving services or crime investigation? I wonder whether the reference for the information about the validity and reliability of the question is available.
7. In 2nd paragraph in Results section, what does ‘except for the second quartile of ALPBD’ mean? The table 2 appeared to be correlation using continuous scale of each variable.

8. Regarding Table 4, I am not familiar with the common style of reporting multilevel analysis, but some explanation about factors listed under ‘random effects’ would be useful for readers.

9. While authors reported significance in chi-square test in Table 1, it would be still of interest to see bivariate analyses for each covariate. p-values do not tell the direction of association.

10. Why multiple indicators were used for area level unemployment and home ownership? How the discrepancies in results should be understood?

11. In Statistical analyses, authors mentioned ‘Each area-level characteristic was tested in a separate model because of potential multicollinearity between the area-level indicators’. In the Table 2, apart from the two correlations that authors mentioned, correlation coefficients in relation to ALPBD appeared not to be too high. Were these variables supposed to be included in the analyses using PBD if multicollinearity was not a problem? Why authors mentioned as ‘potential’ but did not examine whether it was really a problem in their analyses if it was what they wished to do.

12. The outcome is subjective measure of health which may be under- or overestimated, depending on how respondents rated their health compared to their objective health. Also, there may be a common tendency when respondents rated on their experience of discrimination and subjective health, which may lead to overestimation of the association (for example, please see Dowd 2012 SSM). The interpretation of the results needs caution, and such possible bias should be discussed.

13. 1st paragraph in Discussion section was difficult to understand why this is the new evidence and how education and ethnicity were related to the argument. Also, since the inclusion of SES variables in model 4 attenuated the association of area level PBD to non-significant level in the conventional threshold, it would be misleading to express it as ‘independently’.

14. There was no mentioning about non-respondents which were about half of approached samples. I wonder whether there were any characteristics which may be relevant to the interpretation of the study results.

15. Is the study sample 3244-263-12-7=2962?

16. Please check the estimation of Model 3 area-level PBD 3rd category, some CIs in Tables 4 and 5.

Minor points
1. 1st paragraph in Area (tract)-level indicators in Method section, what does ‘(according to both method)’ refer to?

2. For the Table 5, it is easier if variables used for adjustment were provided in footnote. ‘additional’ was difficult to understand to which model it was ‘additional’. 
3. In 1st paragraph in Institutionalized discrimination, what ‘small measures of individual social determinants’ means? small number of? Also, please clarify the sentence ‘In general, studies adjusting for more individual level measures of SES found smaller measures of association between area-level SES and health’.

4. In 1st paragraph in Drawing policy.. section, it would be more informative if the aims of the policies were stated, and please revise the sentence: ‘Place-based policies making such as the Special Nishinari Project and the Reform of governmental organized wards in Osaka are now in progress’.

Discretionary Revisions

1. In 1st paragraph in Area(tract)-level indicators in Method section, is there an agreement that housing and unemployment are the representative of social determinants of health? References the authors provided appeared not to be sufficient to support such a statement.

2. 1st paragraph in Individual-level covariates in Method section, it would be useful to provide the number of years of education for “high school” and “college or more”.

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

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.