Reviewer's report

Title: Changes in metabolic profiles after the Great East Japan Earthquake: a retrospective observational study

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Reviewer: Tomoko Nakagami

Reviewer's report:

This study has examined the change in metabolic profiles among the evacuees living in temporary houses before and (1 year) after the Great East Japan earthquake. The study reported that significant higher values of body weight, body mass index, waist circumference, and HbA1c and lower HDL cholesterol at post-quake than at pre-quake. The significant higher proportion of people with HbA1c over 5.7% at post-quake (34%) were observed compared to that at pre-quake (15%) among evacuees due to tsunami. Multivariate regression analysis showed that variables of regional factor (living in Area 2) and regular clinic visit and waist circumference before the earthquake were significant and independent predictors of the deteriorating HbA1c. Thus, the study has concluded that the natural disaster could affect metabolic profiles and careful follow-up for the survivors should be planned.

The major strength of this study is that the paper includes precious findings to be reported.

The major weakness of the study is that the current database is not large and thus limited for further analysis. These evacuees, however, will be carefully followed and not-too-distant future will provide precious information about their health reaction by distressful natural disaster.

Major comments:

1. Re: regression analysis
   (1) Please introduce which variables were tested in the univariate model.
   (2) Please refer more details about how to deal with independent variables (categorical or continuous etc.) in the multivariate model.

2. Does this cohort include people under treatment for diabetes, dyslipidemia, hypertension or other chronic diseases (for instance, cardiovascular diseases etc.) before and after the earthquake? If yes, please refer the proportion and medications for each metabolic disorder. The change in means might have been affected by medications.

Minor comments: None

Discretionary comments: It is interesting to see the impact of change in weight, BMI, or waist circumference on change in HbA1c.
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:
No