Reviewer’s report

Title: Associations between psychological stress, eating, physical activity, sedentary behaviours and body weight among women: a longitudinal study

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Reviewer: Hanna Konttinen

Reviewer’s report:

The study contributes to the growing literature examining longitudinal associations between perceived stress and later risk of obesity. Unique strengths of the study are examining a high risk population (i.e. women living in socioeconomically disadvantaged areas) and assessing behaviors related to energy-balance in addition to weight outcomes. Limitations of the work include reliance on self-reported data, a modest response rate and a considerable loss of participants during the follow-up, but these are clearly mentioned in the discussion section. The study is well-conducted and well-written and therefore I have only minor suggestions for revision. Additionally, I have included some discretionary revisions that the authors can choose or not to take into consideration.

Minor Essential Revisions

1) Abstract: please replace the last word of the methods section “weight-related outcomes” with “weight-related behaviors” in order to be more specific. Moreover, it could be noted more clearly in the abstract that perceived stress was related to a higher BMI and to increased odds of being obese in cross-sectional as well as in longitudinal analyses.

2) Methods: on page 5, the authors mention “Where there were fewer than 150 women living in the suburb, all eligible women were invited to participate in the study.” Please describe how many suburbs had fewer than 150 women residents.

3) Results: Baseline characteristics of the sample and baseline distributions of the outcomes (BMI and weight-related behaviors) are shown in Table 1 and 2. However, some information on the distributions of the outcome variables at the follow-up phase would also be of interest.

4) Results: Percentages for BMI categories; number of children; potato crisps or salty snack foods; chocolates or lollies; and pies, pastries or sausage rolls do not add up to 100% (Table 1 and 2). Please check the numbers. Furthermore, a piece of information related to the proportion of participants in each BMI category is presented twice (in Table 1 and 2).

5) Results: when describing the cross-sectional results (page 10), please avoid using the term “predict”.


6) Results: linear regression analysis is appropriately used to examine the associations between perceived stress and continuous BMI variable. However, it remained unclear to me whether the regression coefficients shown in Table 3 and 4 were unstandardized or standardized coefficients. It would be worthwhile to report both of them, since standardized coefficient can aid interpreting the magnitude of the association.

7) Discussion: on page 13, the authors mention that “However, that study also found that mothers and fathers with high work-life stress had lower fruit and vegetable intakes, which we did not see in our study.” Please clarify whether this refers to the findings that are not shown in the manuscript or whether intake of vegetables/fruit was not assessed in the READI study.

8) Discussion: the authors appropriately mention the main limitations of the study, but the possible effects of these limitations (e.g., using self-reported weight and height to calculate BMI) on the findings deserve more consideration.

Discretionary Revisions

1) The manuscript presents results on seven variables related to food/beverage intake, including 1) potato crisps or salty snack food; 2) chocolate or lollies; 3) cake, doughnuts or sweet biscuits; 4) pies, pasties or sausage rolls; 5) fast foods; 6) pizza; and 7) non-diet soft drink. Perceived stress was found to be related to the consumption of fast foods (both cross-sectionally and longitudinally), but not to other food variables. The authors could consider reducing the number of food variables by combining similar food groups into same variable, for example 1, 4 and 6 can be considered to represent non-sweet energy-dense foods, whereas 2 and 3 represent sweet energy-dense foods.

2) Studies investigating the associations between symptoms of depression and obesity have generally provided similar results than the literature reviewed in the manuscript. Even though perceived stress and depressive symptoms are separate phenomena, they are closely related and therefore the large depression-obesity literature might be briefly mentioned in the introduction or in the discussion section. For recent systematic reviews and meta-analyses on the longitudinal associations between depression and obesity, please see e.g., Atlantis & Baker, International Journal of Obesity, 2008; Blaine, Journal of Health Psychology, 2008; Rooke & Thorsteinsson, Health Psychology Review, 2008; Luppino et al., Arch Gen Psychiatry, 2010; and Faith et al., Obesity Reviews, 2011.

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.