Reviewer's report

Title: Effectiveness of Australia's Get Healthy Information and Coaching Service(R): maintenance of anthropometric and behavioural changes after program completion

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Reviewer: Johannes Brug

Reviewer's report:

I provide my feedback hereafter based on the questions BMC PH asks reviewers to answer regarding the manuscript. In general, this paper is interesting because it explores the longer-term effects of a real-life intervention aiming to contribute to curbing the obesity epidemic. Such longer term monitoring of effects is not often conducted. All comments here after are in the major compulsory category.

1. Is the question posed by the authors well defined?
This is an interesting study exploring the longer-term effects of a telephone based weight maintenance coaching intervention. The fact that longer term monitoring of outcome variables was conducted is a strength of his study, since such longer-term maintenance monitoring is not often conducted. Limitations of the study include the self-report measures, the non-controlled research design. The research questions are well defined by the authors.

2. Are the methods appropriate and well described?
   a. In the Background section, the authors state that they will explore differential effects according to socio-demographics. This is however not followed-up in the statistical analysis paragraph, nor are the results described. To assess differential effects, effect modification, i.e. interactions should be explored and analyzed, followed by stratified analyses (if evidence for significant interaction is found). The authors merely adjust their analyses for socio-demographics.
   
   b. The research design is observational, and basically a before-after measurement with no control group. Why was stronger research design not considered, i.e. including a control group/comparison groups?
   
   c. There is quite a large loss to follow up. The authors recognize this as a limitation, but claim that such a loss to follow up was to be expected and that the participants lost to follow up have similar risk and socio demographic profiles as the respondents who did provide maintenance data. This does, however, not guarantee that respondents more likely to have maintained their weight loss were more likely to maintain in the study. The authors have conducted a complete cases analysis. This analysis probably result in ‘effects’ biased to the positive side, i.e. towards better maintenance, because respondents who did maintain their weight and behaviors may have been more likely to stay in the study. The authors could have explored the ‘sensitivity’ of their results by also different
‘intention to treat analyses’, including a worst case scenario where all respondents who were lost to follow up are regarded as non-maintenance respondents.

3. Are the data sound?

a. The authors use self report weight, height (BMI) and waist circumference as their main outcome variables; in a sub sample they have compared these self reports with measured weight, height and WC to validate the self reports. These comparisons show that the self reports do adequately represent true anthropometrics. However, under-reporting of weigh, height and WC after being exposed to a weight maintenance intervention may be more substantial than in a non-intervention situation; social desirability bias may be much larger after being exposed to an interventions. This should be discussed, I believe, in the Discussion paragraph.

b. The authors have used two different physical activity questionnaires, i.e. the 3Q-PA and the AAQ at different time points. Why?

c. Please provide basic validity and reliability information regarding the PA and F&V measures in the manuscript. All these measures have very limited validity, but better alternatives for such large population studies are just not available.

d. Why were F&V included? The association between F&V intakes and weight loss/weight maintenance is not that strong, and there are other dietary behaviors that show stronger associations with weight. Why other dietary behaviors considered for inclusion?

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?

a. The authors claim to report ‘effects’ throughout the manuscript. However, because this study did not include an appropriate control group, and the study was merely observational, I believe that the authors should be more careful in claiming causality. Changes and maintenance in weight, WC and self-report behaviors were observed, and I recommend to describe and discuss the result in those terms more consistently.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

a. See my earlier remarks regarding the design and ‘effects’, measures, sensitivity of the results etc. These issues should be more explicitly discussed, I believe. I would urge the authors to be a bit more self-critical about their study and their results.

b. The conclusion is far to conclusive given the limitations of the study

6. Are limitations of the work clearly stated?

a. See 5

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

a. Yes
8. Do the title and abstract accurately convey what has been found?
   a. I believe the title would be better as ‘Self-reported anthropometric and 
      behavioral changes after completion of Australia’s Get Healthy Information and 
      Coaching Service
   b. The conclusion in the abstract is to conclusive given the limitations of the 
      design, measures etc.

9. Is the writing acceptable?
   a. Yes

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a 
statistician.

Declaration of competing interests:

None