Reviewer’s report

Title: Weight Loss and Weight Gain Among Participants in a Community-Based Weight Loss Challenge

Version: 0 Date: 14 Mar 2018

Reviewer: Ingrid Lofgren

Reviewer's report:

General

The name Challenge is a little confusing. It is referred to as a 3-month community weight loss Challenge - was Challenge the name of the program? Is Challenge the name just used in this manuscript? It was confusing throughout the document.

Some of the language is awkward and needs revising. For example - in the first paragraph of the Introduction - "... as over 70% of the US population does not live at a healthy weight." and the first sentence of the second paragraph of the Introduction. In that sentence, it is not clear if the population of interest in the study is only a subset of obese and doesn't include extreme obesity.

Operational definitions are needed and then consistency in language would make this paper stronger. For example, provide operational definitions of "weight loss" "weight loss maintenance" "weight gain" and "weight change" earlier to clear up some confusion when reading through the introduction and methods. Move some of the definitions from page 7 to earlier in the Introduction.

Abstract

Consider including study duration in the abstract.

Introduction

Page 3: Lines 7-9: A transition sentence is needed between the first and second sentence so there is less of a jump from the concepts of obesity and weight loss.

Page 3: Line 20: Consider putting the statistic at the beginning of the paragraph to strengthen the Introduction - provide more of a hook. Also - does this statistic include underweight as well as overweight/obese? Since this paper is looking at weight loss maintenance - having a statistic on percent of US adults that gain weight back would be good.
Page 3: Second paragraph: Consider changing the organization of the information as it seems to bounce between weight loss, maintenance and weight regain.

Page 3: Line 27: "Various" may not be the best word as only two methods (caloric restriction and physical activity) are mentioned.

Page 3: Line 40: What diets are referred to here? Do all of these diets include caloric restriction? The Ornish diet includes behavioral and lifestyle changes and one could argue that the Atkins diet also includes some lifestyle changes.

Page 3: Lines 47-49: What is meant by "longer periods"? How many months / years is this? Also this is the start of a long sentence that has a lot of concepts to unpack - consider breaking it up into two sentences.

Page 3: Line 52: What are the social factors that play a role in weight loss? Do they also play a role in weight loss maintenance?

Page 4: Lines 7-12: What is the statistic on obesity of Mexican-Americans in South Texas? How does it compare with the rest of the US? Provide statistic on number of Mexican-American population to make strong argument.

Page 4: Line 19: What is meant by poor metabolic health? What is the impact of these conditions on healthcare costs?

Page 4: Lines 21-26: In order to extrapolate from the current study to other areas with Mexican-Americans - it is important to know what percent of the population is Mexican-American (this gets back to the feedback on lines 7-12 on page 4). Also - data on race and language are collected but not if someone is Mexican-American or not so it is not known how many Mexican-Americans participated in this research.

Page 4: Lines 30-49: This seems more like Methodology rather than Introduction. The program can be mentioned earlier in the Introduction but the discussion of what it is and planned protocols should go in the Methods. Clarify that 1200 participants were 1200 participants in a single Challenge year and not a total over a number of years (if this is the case). The original 400 could have re-enrolled each year correct? Is there a theoretical framework / rationale for allowing participants to pick which lifestyle changes supported the changes they wanted to make? Have other weight loss and maintenance programs also done this? Justification should be provided as well as highlight and explain how this is unique. There is minimal context for evidence-based program design/development.

Page 4: Line 52: Consider using consistent language, for example are "weight loss and weight loss maintenance" and "weight change" being used interchangeably? If so, please clarify.
The language around the objectives is a little difficult to follow in terms of is the first aim describing classes offered within a 14-week Challenge and an annual Challenge event referring to the whole 14 weeks?

Methods

Page 5: Line 13: What are the inclusion/exclusion criteria? From the Introduction, this reviewer thought the population of interest would be overweight/obese but it seems like anyone could join and therefore those at healthy weight could join? This is an issue as people who are at a healthy weight and are doing the Challenge to maintain weight or to eat healthy and be active would severely skew the weight loss and weight loss maintenance results.

Page 5: Line 25: Should read "or who did not return" to have it in the proper verb tense.

Page 5: Line 37: Did participants receive any reminders about the classes - encouragement to go - via phone, in-person, text, etc.? Who taught the various classes? Trained study staff? What were their credentials - did RDs teach the nutrition and ACSM-certified folks teach the exercise classes? More details on each of the types of classes provided would be good - for example, was weight taken in any of the classes, did participants keep food records for any of the dietary classes, etc.

Page 6: Line 6: Specify measurement units for waist and hip measurements. Did the tape measure have a tensometer attached to do the waist and hip measurements?

Page 6: Line 35: Was any data collected on which programs/classes were most popular and frequency of program attendance? If so, how was this tracked by the staff or self-reported by the participant and can the numbers be provided?

Page 6: Line 52: Could participants be involved in random years or did they need to be involved in consecutive years to be included in data analysis?

Page 6: Line 54: Sometimes finale is used and sometimes final is used - please be consistent and use final.

Page 7: Line 17: The capitalization of "Aim" has been inconsistent throughout the document - please be consistent throughout.

Results

Page 8: Lines 31-36: Why such a difference in the number of Spanish-speaking males in Aim 2? What could account for this large shift between Aim 1 to 2?
After 2 events - does this mean after 14-week events?

By "events" do you mean a "Challenge"? Again use consistent language throughout the manuscript.

What is meant by "larger gap"? How many years is this?

Discussion

Good references for weight loss maintenance are cited early in the paper (Introduction) but the Hill and Wing references are not included in the Discussion where they probably should be.

Consider discussing the "set point theory" as it pertains to weight changes to round out the discussion.

There is a lot in the Discussion about exercise and calorie restriction but it seems like more discussion about community-based programs should be included as that is the focus of this article - bringing weight loss and weight loss maintenance interventions to the public in a community setting.

Did males have more weight to lose than females? Could this be why they lost more weight?

It should be included in the Methods that participants could enroll individually or as a group. The rationale behind this should also be described in your Methods or Introduction. The Discussion section on this is a little surprising since there was no justification for this comparison earlier in the paper.

While the reviewer understands that this was supposed to be in a real-life setting, it is a major limitation that the participants were not randomized into various interventions. This could have been done and still complete in a community setting. More justification as to why not doing randomized (larger number of people, etc.) and discussion of it as a limitation. And because of the lack of randomization, there is a lack of a control group so it is unknown if others in the community experienced weight changes.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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