Reviewer's report

Title: Changes in Diet and Physical Activity Resulting from the Shape Up Somerville Community Intervention

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Reviewer: Ana Rito

Reviewer's report:

Remarks to the Author

General:
This is a useful paper describing the outcome of a multiple community based intervention to promote healthy behavioural changes in primary school aged children, although the intervention had occurred 10 years ago.
It has a number of limitations that the authors need address before it can be published.

• Major Compulsory Revisions

Abstract- Overall the abstract do not fully describe the study.
The purpose of this study was to describe the outcome of the Shape up to counteract childhood obesity? To create environmental and policy change? Or to describe behavioural changes in children? This purpose is also unclear throughout the main paper.

Methods
How were the communities recruited? Why? What was the age range of children recruited and completing the study?
State length of time over which intervention was administered
Indicate how the intervention items were assessed particularly fruits and vegetables consumption

Conclusion:
How much does it cost? Would it be feasible to roll out for free, or would people have to pay? How do the results compare with other interventions?

Main paper

Background
You describe Shape-up program as an approach to childhood obesity prevention and stated that it resulted in a significant reduction in BMI zscore, yet this study was about behavioural changes in children as an outcome of a community based program, so the authors should focus their introduction on the previous literature
about children’s diet, physical activity, sedentary habits and its recommendation values as well evidence from other community based programs in order to support your findings.

Methods

This section should be improved. The authors send us to another article to fully understand the details of the program. Nevertheless, the results depend on the evaluation of each intervention activity. Here it should be described which concrete activities took place, how many? On a daily basis? How were they administered? What do you mean by the breakfast program? Which changes were made to school lunch etc..

Since this is not clear, the study cannot be replicated elsewhere, so authors are encouraged to fully describe all the interventions activities of the program (how, where, how many).

In the discussion you disclose a little bit more of these activities. This should be brought to methods.

You should explain why you chose those criteria to include the two other communities.

What was the age range of children?

The Family survey form had 68 item, so does it mean that regarding diet there were only two questions about Fruit and Vegetables and sugary beverages? Did it explain what a “serving” mean? How would parents describe the consumption of Fruits and vegetables, where these listed? Did it explained what should be considered as a typical day?

Discussion.

The fist paragraph, again state that the Shape Up program is an intervention to realize significant effect on BMI zscore. This confuses the reader and again the purpose of this particularly paper was not to access reduction in children’s BMI.

Be more specific. Although you compare your results with other studies, you should specifically compare the size of the changes quoted, on each intervention activity, in the other studies with those that you found. Overall is your intervention more or less effective than others, and why?

Again it would help if you had compare your results with the recommendations values particular for fruit, vegetables, physical activity and screen time.

Limitations:

A key weakness that should be stated is that these results refer to almost a decade ago.

Another is the lack of longer-term follow-up. Most studies of this type show an initial positive impact, but few are able to demonstrate sustainable change over a period of 2 years. In this particular program it would be interesting if author could
also suggest if after a period of 10 years this communities have change their characteristics or remain the same.

Conclusion
A key question is how much the intervention cost per participant? Would it be feasible to roll out for free within a community, or would people have to pay? If so, would it be attractive to families on low incomes?

• Discretionary Revisions

Results
Results are well described, but it would have helped if in this paper, daily recommendation values (children’s consumption of fruit and vegetables, physical activity/day; limited time for screen viewing …) should have been stated and this would then enrich the paper.

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:
DECLARATION OF COMPETING INTERESTS
I declare that I have no competing interests.