Author's response to reviews

Title: A youth-led social marketing intervention to encourage healthy lifestyles, the EYTO (European Youth Tackling Obesity) project: A cluster randomised controlled trial in Catalonia, Spain.

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Author's response to reviews: see over
Dear Natalie Pafitis,

Thank you for the opportunity to submit a revised/improved version of our manuscript entitled: A youth-led social marketing intervention to encourage healthy lifestyles, the EYTO (European Youth Tackling Obesity) project: A cluster randomised controlled trial in Catalonia, Spain.

In submitting this revised version, we have taken into account all of the Reviewers’ comments (itemised in the following pages) and, where required, we have made appropriate changes in the main text. The changes are highlighted in yellow in the main text, and the page/line numbers are noted in this response-to-reviewer document.

We hope that the revised version has met the quality requirements for inclusion in the *BMC Public Health*.

Yours sincerely,

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Comments from the reviewers

Reviewer_1: Andrew Springer

- **Level of interest:** An article whose findings are important to those with closely related research interests
- **Quality of written English:** Needs some language corrections before being published
- **Statistical Review:** No, the manuscript does not need to be seen by a statistician.
- **Declaration of competing interests:** I declare I have not competing interests

Reviewer's report:

This paper “…describes the “Som la Pera” intervention Spanish study that is part of the EYTO [European Youth Tackling Obesity] project.” Overall, the authors have been very responsive to my previous critiques, and the paper continues to be enhanced. Strengths of the paper include an innovative approach for involving youth in obesity prevention via social marketing as well as a thoughtful approach for applying social marketing criteria to youth-led obesity intervention. These strengths notwithstanding, I continue to have concerns with the paper in its current form. Among my main concerns is the writing style and flow of the paper, which is difficult to follow at times, as well as the issues noted below:

Thank you for your valuable commentaries that encourage us to improve our manuscript.

Major & Minor Revisions:

**Point 1.** P. 6, lines 139-142: The authors cite only two examples of factors that may influence healthy eating (availability, quality and pricing) and physical activity (access to sports grounds and green spaces). These factors are limited in terms of the broader body of evidence on interventions aimed at preventing childhood obesity and increasing healthy eating and physical activity. Furthermore, both studies cited appear to be based on cross-sectional analyses, thus precluding inferences about causality. I recommend that the authors conduct a more thorough review of successful intervention strategies for preventing obesity or promoting physical activity and healthy eating, given the numerous review papers that have been conducted on these topics.

**Response 1.** As the reviewer recommended, we conducted a broad review of intervention strategies for preventing and tackle childhood obesity. We introduced this paragraph in pg 6, ln 139: “Specific recommendations based on expert opinion or supported by clinical studies are proposed [10]. These recommendations are the periodic surveillance of obesity status of children and adults, education of children and families about healthy lifestyles, community enrolment in health advice and health education, assure a balanced nutrition and breastfeeding in early infancy and perinatal period, school-based interventions on health education focused on healthy eating and physical activity, home-based interventions, and support of health authority and registration. The authorities should contribute in encouraging people in disadvantaged areas to eat healthier by improving the availability, quality and pricing of healthy food in these localities [10] and encouraging them to perform more physical activity by providing access to sport grounds and green spaces [11].”

This new reference had been added to the manuscript.

Reference:

Response 2. We deleted “In recent work” sentence (pg 7, ln 158), and we improve the sentence “Social marketing when it is conscientiously applied, has been identified as a possible strategy to change behaviours [21]”.

Response 3. As the reviewer suggested, we added “For example” to connect both sentences (pg 8, ln 178): “…can reduce the overweight or obesity prevalence among children and adolescents. For example, there are some social marketing campaigns that…”.

Response 4. We agree that “integrative description” can lead to confusion, so we proposed the next change (pg 8, ln 191): “The European Youth Tackling Obesity (EYTO) project looks to contribute the description and evaluation of interventions to tackle obesity in adolescents by recruiting young people to design and implement peer-led social marketing interventions that promote healthy eating and physical activity among young people aged 13-16 years with low income who are vulnerable to obesity.”

Response 5. We agree with the reviewer comment, and we included the aim of the paper in the last paragraph of the introduction (pg 9, ln 201): “This paper describes the “Som la Pera” Spanish intervention study design of the EYTO project, which proposed performing a school cluster randomised controlled trial”, and we deleted this sentence in pg 9, ln 219.

Response 6. We explicitly stated the study design in Spanish study design section (pg 10, ln 227): “The “Som la Pera” intervention is a school cluster randomised controlled trial”.

Response 7. The authors describe five phases of the project, which are a mixture of intervention and evaluation content. On p.12, the authors continue to describe the intervention, and then on pp.13 & 14, the primary and secondary outcomes of the study are described along with the statistical analysis plan. I recommend beginning with a clearly described intervention approach, and then following with the evaluation approach. For the evaluation, I would also recommend reducing the text on the statistical analyses, measures, etc. as that information is more pertinent for the main outcomes paper. For this paper, I recommend that the focus be clearly on the intervention...
description, the theory behind the intervention, the empirical evidence that supports the intervention and/or points out the gap in evidence.

Response 7. As the reviewer proposed, we reordered the methodology and evaluation section to be clearer. The changes are not highlighted in yellow in the manuscript (because important changes in the order were performed and that will supposed highlighting a lot of text), but basically we had change the order according of the suggestions of the reviewer. Moreover, the statistical section was summarised.

Point 8. P.10: As cited in my previous review, I am still not clear why physicians led the implementation of the study, including recruitment, and why they were in charge of “…designing, performing, and evaluating the self-reported behavior aspects of the study”? Were these physicians trained in behavioral science or program planning or evaluation? This seems analogous to stating that behavioural scientists oversaw heart surgery.

Response 8. We improved the physicians tasks as the reviewer recommended (pg 11, ln 253):

“Physicians: physicians specialist on health education and promotion led the implementation of the study from the recruitment process to the end of the experimental protocol by meetings with stakeholders like high-schools’ director or local policy-makers and health and educators administrators. They were in charge of designing, performing and revising the evaluation process throughout the study”.

Point 9. P.11: Similarly, the authors state that nutritionists also led the high-school recruitment (in addition to the physicians?) and that they “…contribute to evaluating the primary and secondary outcomes through the questionnaire.” This section is still not clear to me. Did the nutritionists do a literature review and identify the self-administered behavioral measures? Or did they conduct anthropometric measures of students? Further clarity is needed.

Response 9. We improved the nutritionist tasks as the reviewer recommended (pg 11, ln 258):

“Nutritionists: nutritionists with expertise on health education and health promotion led the high-school recruitment process by meetings with parents and adolescents explaining the project, recollected the informed consent of parents and adolescent to participate in the study and, coordinated the logistical issues of the study. They contributed to support the evaluation of primary and secondary outcomes through the validated questionnaire in high-schools computer classrooms to solve adolescents’ questions of lifestyles and behaviour evaluation questionnaire. The nutritionists were responsible for the dietary and healthy lifestyle training of the 5 ACCs”.

Point 10. P.11: “Publicists and journalists were responsible for the communication training of the 5 ACCs. They led the global communication campaign of the “Som la Pera” Spanish intervention. This is confusing to this reviewer. My understanding was that the youth led the intervention. Did these professionals, then, help disseminate the messages that the youth developed? Also, why did they lead a global communication campaign if the focus was on two Spanish intervention schools?

Response 10. We improved the publicists and journalists tasks as the reviewer recommended (pg 11, ln 268):

“Publicists and Journalists: publicists and journalists experts on health communication were responsible for the communication training of the 5 ACCs. Even though the 5 ACCs were in charge of the communication and dissemination campaign (lifestyles messages and intervention challenges), publicists and journalists are in charge to disseminate the general information of this intervention and European project to general population through local, national and international newspapers and television media”.

Point 11. P.15: The discussion still merits further fine-tuning. As an example, the study purpose is repeated twice (at the beginning of the discussion and in the third paragraph).
Response 11. We deleted the repeated study purpose on the third paragraph of the discussion (pg 16, ln 382).

We improved overall discussion (pg 15, ln 351):

“The peer-led model is effective when it is applied in school-based studies and generates more positive results in health behaviour than adult-led instruction [33]. Also, key principles to create new approaches that fight obesity are set to guide the development of strategies to address unhealthy diets and physical inactivity, and should include: best available scientific evidence, comprehensiveness, multisectoral and multidisciplinary approaches, a life course perspective, addressing poverty, gender and culture sensitivities, and the accountability of all stakeholders to achieve success [Waxman, 2005].”

This new reference had been added to the manuscript.

Reference:

- Waxman A: Why a global strategy on diet, physical activity and health?. World review of nutrition and dietetics. 2005, 95(R), 162.

Edits

Point 12. • p.4, line 84. I recommend separating these two sentences. E.g. “This paper describes…”

Response 12. We separated these two sentence (pg 4, ln 83).

Point 13. • p.4, line 87: “In Spain, the research team decided perform[ed]…”

Response 13. We introduced the change proposed by the reviewer (pg 4, ln 87).

Point 14. • p.4, lin 92: “…(ACCs) [insert comma], …”

Response 14. We inserted the comma (pg 4, ln 91).

Point 15. • p.12: “The ACCs chose” (past tense)

Response 15. We introduced the change proposed by the reviewer (pg 12, ln 294).

Point 16. • p.13: “….intervention and assessment [are] presented in Table 4’.

Response 16. We introduced the change proposed by the reviewer (pg 15, ln 361).