Author's response to reviews

Title: Parent and child perceptions of school-based obesity prevention in England: a qualitative study

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Author's response to reviews: see over
Dear Editor

Re: “Parent and child perceptions of school-based obesity prevention in England: a qualitative study”

Thank you for your email dated 2nd October 2015, detailing feedback from peer review of the above paper. We are grateful for the reviewer comments which we found to be very useful in improving the manuscript. Please find below a point-to-point response to reviewer concerns. Reviewer comments are written in black type; our responses in green type.

Reviewer 1:

1. Throughout the manuscript, it is not clear what the intention was of the qualitative study. What was the reason to do these focus groups? What elements were hypothesized to be clarified or discussed during these focus groups. More insight in the rationale of the study is needed. For example, reasons why the intervention may have worked/not worked, what was liked/disliked in the intervention etc. are elements which could help in explain the interventions effects, but these are not discussed in the manuscript.

The relevant part of the Background section has been amended to address these issues, and now reads:

‘This qualitative study aims to explore parent and child experiences of the WAVES study childhood obesity prevention intervention, in order to gain understanding of the mechanisms by which the intervention results in behaviour change, and provide context to support interpretation of the main trial results. Although a number of studies have investigated parent and child views in the development phase of obesity prevention interventions [10-14], there is a paucity of published research on their views in the evaluation phase of such interventions. In addition, recent guidance emphasises the importance of considering and presenting qualitative findings ahead of the main trial outcome to minimise interpretation bias [15]. This qualitative study was conducted as part of the WAVES study process evaluation [16]; related findings from interviews with teachers have previously been reported [17].’
2. More information should be given about what was indicated among the children and what was indicated among parents. Were all topics discussed among both children and the parents? How were the subcategories made based on analyzing the data both from parents and children separately? Was there a difference in elements indicated by children compared to parents? Was there a difference according to gender, SES?

To make it clear what was indicated among the children, and what was indicated among parents, Table 3 has been created. This table (which also responds to Point 17) indicates whether themes arose from both parent and child discussions, or just from the parent discussions.

**Table 3: Themes identified from focus group discussions exploring experiences of school-based obesity prevention**

<table>
<thead>
<tr>
<th>Overarching theme</th>
<th>Sub-theme</th>
<th>Discussed by parents and/or children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact (of the WAVES study obesity prevention intervention)*</td>
<td>Improved knowledge and skills among children and parents</td>
<td>Parents and children</td>
</tr>
<tr>
<td></td>
<td>Children trying new foods</td>
<td>Parents and children</td>
</tr>
<tr>
<td></td>
<td>Implementing changes in the home</td>
<td>Parents</td>
</tr>
<tr>
<td></td>
<td>Parental empowerment</td>
<td>Parents</td>
</tr>
<tr>
<td></td>
<td>Role modelling</td>
<td>Parents and children</td>
</tr>
<tr>
<td></td>
<td>Children as agents of change in the home</td>
<td>Parents</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Sustainability of messages</td>
<td>Parents</td>
</tr>
<tr>
<td></td>
<td>Sustainability of school-based programmes</td>
<td>Parents</td>
</tr>
<tr>
<td>Responsibilities for obesity prevention*</td>
<td>Role of parents</td>
<td>Parents</td>
</tr>
<tr>
<td></td>
<td>Role of schools*</td>
<td>Parents and children</td>
</tr>
<tr>
<td></td>
<td>Schools in partnership with parents</td>
<td>Parents</td>
</tr>
</tbody>
</table>

*themes arising from topic guides; all other themes ‘emerged’ from the data

To make it clear how the subcategories were made based on analysing the data from parents and children separately, the following has been added to the Methods section:

‘At first, child and parent data were analysed separately, but due to the identification of common themes, the two datasets were subsequently reviewed together by all authors to identify and map overarching themes.’

There were no clear differences in elements indicated by gender. With the children, it was not always possible to identify gender from the discussion recordings. For parents, the following is stated within the limitations:

‘When the views of participating fathers were compared to those of mothers, the authors found no clear differences in opinion between male and female participants.’

We did not collect any demographic data on participants, other than their gender. This decision was made to help assure participants of confidentiality.

3. It is acknowledged that the intervention effect may be stronger among less affluent families. The qualitative design of the study should allow to determine why this would be the case. Previous studies also found different intervention effects according to family SES, most often increasing the
good practices among families who were doing already better at baseline. How can this study give insight on why family SES moderates the effectiveness of interventions?

This discussion point has been expanded:

‘This study also revealed a differential intervention impact on individual families, with some parents and children reporting significant behavioural changes, and others, despite appreciating the intervention as valuable education for children, reporting no impact as they considered themselves to be already leading healthy lifestyles. In considering the differential impact that the intervention might have had in different strata of the population, we posit that disparities observed could possibly be explained by the socio-economic circumstances of families, as our observations were that the parents who reported higher knowledge and existing healthier practices at home tended to be from schools serving areas of higher socioeconomic status. We propose that an important factor in this apparent potential of the WAVES study to affect positive lifestyle changes among families with poorer prior healthy lifestyle knowledge (which in this study tended to be amongst the participants from more deprived communities) was that the intervention targeted simple and achievable behaviour change. This variable impact, depending on family circumstances, resonates with some previous health behaviour change intervention research that showed greater effects amongst populations from lower, compared to higher socio-economic backgrounds [28-29].’

4. Abstract: Indicate which program was used for the analyses.

This has been added into the Abstract:

‘Data analysis (conducted using NVivo 10) was guided by the Framework Approach.’

5. Be more precise in what the aim was of the focus groups, what was aimed to obtain via the focus groups? (in the abstract)

The relevant section of the Abstract has been amended and now reads:

‘This qualitative study aims to explore parent and child experiences of the WAVES study obesity prevention intervention, in order to gain understanding of the mechanisms by which the intervention results in behaviour change, and provide context to support interpretation of the main trial results.’

6. Results in the abstract are not completely clear without reading to full manuscript.

The results section of the abstract has been changed to address this point, and now reads:

‘Three over-arching themes were identified: ‘Impact’, ‘Sustainability’ and ‘Responsibilities’, under which sub-themes were determined. Participants were supportive of the school-based intervention. Parental involvement and the influential role of the teacher were seen as key ingredients for success in promoting consistent messages and empowering some parents to make positive behavioural changes at home. Parents recognised that whilst they held the primary responsibility for obesity prevention in their children, they faced a number of barriers to healthier lifestyles, and agreed that schools have an important role to play.’

7. Introduction: Line 43: explain a bit more in detail how the qualitative data can be informative

The sentence has been amended and now reads:
‘Qualitative techniques can be useful in generating data which provide insight into the attitudes, perceptions, motivations, concerns and opinions of participants [7]. This in turn helps us to understand and contextualise the active ingredients, and their mechanism of action, within interventions [8].’

8. Line 52: each school day an additional 30 minutes PA?

To clarify, the sentence now reads:

‘Incorporate an extra 30 minutes of physical activity into each school day.’

9. Line 68: clarify which individuals were seen as the two stakeholder groups

This section has been changed, and now reads:

‘This qualitative study aims to explore parent and child experiences of their participation in the WAVES study obesity prevention intervention.’

10. Methods: Was every individual invited to take part in the qualitative part of the study? Or what determined who was invited to participate in the study?

Within the Methods section, it now states:

‘In the 10 participating schools, teachers were given letters of invitation to distribute to the parents of all children in their class (380 letters in total).’

11. Results: The first paragraph in the result section may be better to include in the method section.

This paragraph has been moved to the Methods section as suggested.

12. The focus groups included parents/children across different schools? Can something be said about the response rate of the participants.

Separate focus groups were held in individual schools. This is now clarified in the Methods section:

‘Child and parent focus groups were conducted separately, within the participants’ school.’

A comment on the response rate of participants has been added into the Limitations:

‘With the exception of one school (School 10), the response rate from parents was quite low. Through an analysis of field notes taken during focus group discussion, we were able to consider group dynamics, both between participants, and between participants and researchers. Some of the focus groups had small numbers of participants (e.g. 2-3 participants), leading to (in a minority of groups) a reduced level of interaction between group members and limited exploration of shared perspectives. However, in most of the groups, good participant interactions were evident as they worked together to describe their experiences.’

13. Line 111-113: next to the mean of the attendees per focus group, please provide the range of attendees of the focus groups.

This section has been amended as requested, and now reads:
‘Seven parent focus groups (mean group size, n=4; range 2-12) (plus one interview (n=1) because only one parent attended a planned focus group), and 13 child focus groups (mean group size, n=5; range 2-7) were conducted.’

14. It is noticeable that several quotes were taken from participants in school 5. Can you maybe give some more information about the participants? Gender, age for example?

There are 6 quotes from school 5, which is not significantly higher than from any other school. For the parent quotes, we are able to say whether they are male or female (labelled ‘mother’ or ‘father’). However, for the child quotes it was not always possible to identify the child’s gender from the discussion recordings, and we thus decided to refer to them all as ‘child’ rather than ‘boy’ or ‘girl’. We did not ask parents their ages or any other demographical information. All children were aged 6-7 years (stated within the manuscript in the Abstract and Methods sections). The participant table (Table 2) shows the numbers of male/female participants by school.

15. Line 157: this is an important finding, this may explain why less affluent parents may have benefit more from the intervention. Were there specific elements in the intervention aiming to target less affluent parents, those at the highest risk of obesity? Were there other elements that were differently perceived based on their SES or gender or other characteristics?

SES perceptions and interpretations have been expanded in point 3 (please see above).

No, there were not specific elements in the intervention aiming to target less affluent parents.

Gender/other characteristics perceptions have been covered in point 2 (please see above).

16. Line 177: it is not clear what this paragraph and the first quote illustrates.

This section has been clarified and now reads:

‘From parental reports, it emerged that some children were helping to affect changes within the home environment, by encouraging parents to change their habits; ‘my son... he actually does have an issue with what I put in his lunchbox, you know, and it’s like ‘oh don’t give me a croissant all the time or don’t give me this all the time mum, you know, it’s not good’ so he’s made me think about it instead of just rushing around trying to get everything in there and get him off to school, it’s made me think twice about what I actually do put in his lunchbox’ (School 5, mother). Some parents viewed this positively as a role reversal; ‘all them years of nag, nag, nag, nag ‘that’s not good for you, that’s not good for you’ but as soon as they do it in school ‘you can’t put sugar on my [cereal]...’ (School 10, mother).’

17. A visual summary of the results would maybe clarify the results. Now, there are quotes and subtitles, but you get lost in the result section.

Table 3 has been devised to visually present a summary of the results (please see point 2).

18. Discussion: The authors discuss the potential negative effect of eating disorders and stimulating interventions involving the creation of a positive body image. How do the authors think this would be possible in practice?

This section has been expanded to cover this point:
‘It has been suggested, however, that programmes could simultaneously prevent eating disorders and obesity based on the idea that they have common risk factors [31]. In such a programme, the focus would be on health and behaviour change, regardless of weight status, alongside the promotion of positive body image and the acceptance of the diversity of body shapes and sizes [32].’

19. The discussion is relatively short, and doesn’t really give a clear message. The discussion has been revised and expanded upon, including the addition of discussion points on ‘neophobia’ (as suggested by Reviewer 2) and physical activity behaviour changes. The discussion point on SES has been expanded upon (as per point 3). Attention has been paid to clarity of messages conveyed within this section.

20. Additionally, it is not really clear what the results are of this study. What does this mean practically? This should be better explained what we have learned and via which pathways the intervention may have worked or not. What were the barriers for example why parents or children indicate the intervention did not fully work? The results and discussion sections have been amended accordingly. The ‘barriers’ section in the results has been clarified and now reads:

‘However, a number of barriers were discussed by children and parents that sometimes interfered with parents’ ability to deliver their responsibility. These could equally be seen as barriers to the effectiveness of the intervention, and included perceived high cost of healthy foods and activities, lack of local activities, limited space at home, siblings’ vying needs, the draw of sedentary activities, competing demands (e.g. religious practices) and lack of time; ‘it is difficult a lot of the time ‘cause I work, so by the time I’ve gone to work, get home from work it’s the timescale really, it’s bedtime before you know it’ (School 6, father).’

Within the discussion section, the following has been added:

‘Several practical barriers to behaviour change, which could reduce intervention effects, were also discussed.’

21. Line 355: in which way do you think this may have affected the results or interpretation? This sentence has been expanded to offer explanation:

‘The fact that the researchers had some knowledge of participating schools and had previously met some of the participants on school visits as part of the WAVES study may have affected participant responses (e.g. social desirability bias). There may also have been a risk of bias in data interpretation (e.g. researcher pre-conceived ideas about schools or participants based on prior knowledge and experience).’

Reviewer 2:

1. The first regards focus groups with children. I agree that this is an appropriate research method, however, interviews/focus groups with children require special attention and data interpretation has to be evaluated carefully. In your article you did not really addressed this topic at all. What I ask you is to describe more specifically 1) how focus groups with children were conducted (in methods).
To meet this point, the following paragraph has been added into the Methods section:

‘Due to the young age of the children in this study (6-7 years), the facilitation of focus groups required special attention. As recommended by Stewart and Shamdasani [19], the moderators (JC and TG) were experienced in working with young children. First names were used to moderate the hierarchical adult-child relationship [20], and a short, fun ice-breaker helped the children to feel comfortable and relaxed. Discussion was encouraged through the use of photographs of the intervention activities, and further prompts were used when necessary to clarify children’s responses.’

2. Describe more specifically the dynamic during focus groups among participants and between participant and researchers, reflections on the data you have gathered through this source (in discussion)

The following has been added to the Discussion (limitations) section:

‘Through an analysis of field notes taken during focus group discussion, we were able to consider group dynamics, both between participants, and between participants and researchers. Some of the focus groups had low numbers of participants (e.g. 2-3 participants), leading to (in a minority of groups) a reduced level of interaction between group members and limited exploration of shared perspectives. However, in most of the groups, good participant interactions were evident as they worked together to describe their experiences.

The fact that the researchers had some knowledge of participating schools and had previously met some of the participants on school visits as part of the WAVES study may have affected participant responses (e.g. social desirability bias). There may also have been a risk of bias in data interpretation (e.g. researcher pre-conceived ideas about schools or participants based on prior knowledge and experience).’

3. Data analysis: you said that there were three overarching themes emerging from the data. However, at least two (impact and sustainability), are topic which are already part of the interview guide. I think that the organization of the results works well, but please specify better which topic/themes were decided on beforehand (i.e. impact) and which ones were “emerging” (i.e. “improved knowledge and skills”).

This has now been rectified. Those themes arising from the Topic Guide have been identified (‘Impact’ and ‘Responsibilities’, NB not Sustainability), and this has been indicated in both the text and in Table 3. The first paragraph of the results section now reads:

‘Three overarching themes were identified from the data: ‘Impact (of the WAVES study obesity prevention intervention)’, ‘Sustainability’ and ‘Responsibilities for obesity prevention’, under which sub-themes were determined. The ‘Impact’ and ‘Responsibilities’ overarching themes, and the ‘role of schools’ subtheme arose from the Topic Guide, and thus were researcher-led. All other themes emerged from the data analysis. Fewer themes were generated from the focus group discussions with children than with parents, and these were mainly assigned to ‘Impact’. Table 3 shows all themes, and indicates whether these arose from both parent and child discussions, or just from the parent discussions.’

4. Recommendations for improvement When it comes to results, I’ll suggests the authors to “dig” more in the richness of their data material. For instance. By reading your results, I found it very
interesting that the kids seemed to have become more curious and less afraid to experiment with new, healthy food. I think that is an original finding, as it is reported in literature that children are conservative (neophobia). You may elaborate more on that (also using a “new emerging theme”).

A new theme has been added – “Children trying new foods”:

‘Children trying new foods

Many children excitedly reported trying new foods as part of the intervention; ‘I never tried Weetabix with strawberries and bananas on it; it tastes really nice, now I eat it’ (School 5, child), although not all reported enjoying them; ‘I tried a blueberry but I didn’t like it’ (School 2, child). This exposure to healthy foods was an aspect of the programme that parents especially liked, a number of whom recounted children trying foods at the Cooking Workshops that they wouldn’t try at home. Equally, some parents reported that, since the intervention, children were more willing to try new foods in the home environment; ‘she’s willing to try more fruits and vegetables, that’s what I’m pleased with probably more, before she was quite picky with what she’d have, but now she is willing to try new things’ (School 7, mother). One parent, whose child was not keen to try any new foods at the Cooking Workshops, was still happy that children had been given these opportunities, and saw it as a positive learning experience; ‘unfortunately my son’s such a fussy eater, even though we tried, he wouldn’t try anything, I ended up having to try all the food [laugh] and he just wouldn’t even attempt it, but you know, he has learnt what is good and what is bad’ (School 6, mother).

In addition, the following has been added to the Discussion:

‘Food neophobia (a reluctance to try new foods) is believed to peak at the age of six years [24], and research suggests that novel food needs to be presented in a positive light, including highlighting the fun of preparing or cooking the food [24]. Willingness to try new foods has also been shown to increase when more people around the child consume the food [25]. We describe how the practical cooking aspects of the intervention, including preparation and trying of new foods by children (aged 6-7 years) alongside their classmates, parents and teachers, facilitated many to try new, healthy foods. This aspect of the intervention may have been successful in behaviour change which was translated to the home environment.’

5. Other times I would have liked that you used more actively the qualitative material you have. Qualitative data, as you clearly pointed out in the introduction, helps us understand better why people do what they do. In some instances you just report “quotes” from parents or children, without focusing on essential parts that could be enlightened by qualitative methods. For instance: line 193-195 p.10, I’d like you to reflect more on why is “OBVIOUS” that one goes back to old habits? Why is obvious? What have we learned from our interviews that will make this less obvious? The same may apply also to other parts of the text. Of course, this is partially due to the chosen methodology (descriptive-interpretative), but I am sure that you could have got much out of your data.

Going back to the transcript from where this particular quote originated, it became apparent that this participant used the word ‘obviously’ nineteen times within the focus group, suggesting that this is perhaps a word that they use a lot without attaching any significant meaning to it. However, the text relating to this particularly point has been further unpicked and expanded upon as follows:

‘Opinion differed on the sustainability of messages received through the intervention; some parents thought that the one-year intervention could have a long-term impact; ‘hopefully there’s enough
embedded in them now that it’ll stay with them, you know, when they get older’ (School 3, mother), whilst others questioned the sustainability of effects. For example, in one focus group, parents discussed one of the Villa Vitality challenges (‘Eat 5 a day’) which involved children recording what fruits and vegetables they ate each day for one week. Whilst noting a positive impact in terms of children’s awareness and behaviour whilst undertaking the challenge, a longer-term effect was more questionable once the novelty of the intervention had passed; ‘...obviously once they've sort of had a few weeks of it, it just sort of disappears back into what they were sort of doing’ (School 1, mother).

In addition, a number of times in the results, essential parts of quotes have been unpicked and expanded upon within the results section. As an example:

**Improved knowledge and skills among children and parents**

'It was evident that children could recall key messages from the WAVES study intervention programme, and were enthusiastic in sharing their knowledge within the focus group discussions; ‘fibre gives you an energy boost and it gives you energy for longer not like sugars, the sugars just give you energy for one minute’ (School 5, child). Children also displayed an understanding of the importance of healthy lifestyles; ‘if you don’t eat a healthy breakfast every morning then when you go to school you won't be able to learn, you'll go to sleep or something’ (School 5, child).

Following the intervention, participants reported that their interest in food preparation had increased. Children were particularly proud of their new skills (for example, in the safe use of knives to chop vegetables). They were equally keen to demonstrate their learning and practise their skills within the home environment, as one child explained; ‘I teached my mum how to cook it when we cooked in Aston Villa. And I chop a bit at home because I learned how to chop at Aston Villa’ (School 10, child).

Alongside reports of improved knowledge of children, a number of parents also reported that their own knowledge had improved as a result of the intervention; ‘I think it’s educated us as a parent a lot’ (School 10, mother). For others, the intervention served more as a reminder, with some parents intimating that although they already possessed the knowledge required to lead a healthy lifestyle, the intervention helped them think about, and possibly refine, their family health behaviours; ‘it’s always good to reinforce these things ... it reinforces you to stick with what you know is best’ (School 3, mother).

We confirm that this manuscript has not been published elsewhere and is not under consideration by another journal. All authors have approved the manuscript and agree with its submission to “BMC Public Health”. We have no competing interests to declare.

Thank you for your consideration.

Yours faithfully

Professor Peymane Adab
Professor of Chronic Disease Epidemiology & Public Health