Author’s response to reviews

Title: Participatory Learning and Action to address type 2 diabetes in rural Bangladesh: a qualitative process evaluation

Authors:

Joanna Morrison (joanna.morrison@ucl.ac.uk)
Kohenour Akter (mary05kh@gmail.com)
Hannah Jennings (hannah.jennings.11@ucl.ac.uk)
Tasmin Nahar (tasminpcp@dab-bd.org)
Abdul Kuddus (kudduspcp@dab-bd.org)
Sanjit Shaha (sanjitpcp@dab-bd.org)
Naveed Ahmed (naveedahmed225@gmail.com)
Carina King (c.king@ucl.ac.uk)
Hassan Haghparast-Bidgoli (h.haghparast-bidgoli@ucl.ac.uk)
Anthony Costello (cihdcostello@gmail.com)
A.K. Khan (president@dab-bd.org)
Kishwar Azad (kishwar.azad@googlemail.com)
Edward Fottrell (e.fottrell@ucl.ac.uk)

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Author’s response to reviews:

Dear Editors,

We thank the reviewers for their comments and have responded to each point below.

Antonino Dipino, MD, PhD (Reviewer 1): For the authors:

1) In the Introduction: The authors described the percentage of death by diabetes. However, I think that it also may be useful to show the percentage of prediabetes that is a group more
Given that our research was undertaken in a low income setting, we could not find global estimates for intermediate hyperglycaemia, and the recent debates about the likelihood of progression from intermediate hyperglycaemia to diabetes.


We prefer to reference global figures of diabetes in order to introduce the topic and demonstrate the need for research and intervention in this area.

1) In the Discussion: The authors found that group interviews and focus group discussions increase the ability to have healthy behaviours. However, the authors don't report data about the adherence of treatment, in particular glucose and lipid lowering treatment and hypertensive therapy that they are essential in diabetic patients; please see these reference (PMID: 29260404; PMID: 28396537; PMID: 31050706) and comment these in the Discussion. Have you data about the treatment adherence?

We agree that adherence to treatment is an important area for research, but our paper reports on a qualitative process evaluation of a cluster randomised controlled trial of a population-based intervention. The trial results are reported elsewhere, https://www.thelancet.com/journals/landia/article/PIIS2213-8587(19)30001-4/fulltext and we did not measure adherence to treatment in the trial given that it was a population-based study, and in a population with limited awareness of diabetic status and care-seeking. Therefore, we feel it is not appropriate to add reference to adherence to treatment in this paper.

Anil Bhansali (Reviewer 2): Thank you for inviting me to review the manuscript entitled "Participatory Learning and Action to address type 2 diabetes in rural Bangladesh: a qualitative process evaluation".

The work highlights the importance of group activities in changing the social and cultural practices which eventually can be beneficial in controlling and/or preventing diabetes mellitus.
My comments are as follows:

1. DM is a growing menace globally particularly affecting the low- and middle- income group countries. This is a cause for enormous concern especially in Asian populations which contributes to approximately 50% of total diabetes population. Thus, this growing problem can only be circumvented by group activities by diabetes educators/social workers involving underprivileged people in far-flung areas where health facilities are inaccessible.

We thank the reviewer for this comment and agree that community based interventions are key to addressing diabetes, as demonstrated by our recent trial https://www.thelancet.com/journals/landia/article/PIIS2213-8587(19)30001-4/fulltext

2. The authors had a programme of group interviews and focused group discussions but no objective parameters anywhere in the manuscript have been mentioned regarding decreased consumption of calories, change in weight and BMI, improvement in HbA1c, quantification of physical activity, altered quality of life and finally the incidence of prediabetes and diabetes. Therefore, without any objective assessment, the outcome of the work accomplished seems to be futile as conversation is always to be substantiated by robust data to strengthen it.

We report on a process evaluation of a cluster randomised controlled trial. The objective of the process evaluation was to explore how our intervention worked or did not work. In order not to bias research it is advised to conduct process evaluation data collection before the trial analysis is complete. We provide reference to the trial towards the end of the introduction section where effectiveness and impact data are presented.

3. The data which has been presented sound nice but these are usual conversations without any solid or concrete evidence.

Qualitative research uses different assessments of validity and reliability than quantitative research, due to epistemological differences as detailed here.
https://nsuworks.nova.edu/cgi/viewcontent.cgi?referer=http://scholar.google.com/&amp;httpsredir=1&amp;article=1870&amp;context=tqr/

4. The practices adopted by the coordinators seem to be simple and they can be potentially meaningful if they really help in changing the lifestyle and individual and social practices. However, we did not find any questionnaire that was used by the investigators.

We felt that questionnaires would not be the best methodology to explore questions of how the intervention worked or did not work. We report further data in our trial paper as mentioned above and in another process evaluation paper:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6610980/

5. DM is the 7th largest cause of death- no reference has been quoted.
We have added a reference to support this fact.

6. "Intermediate hyperglycemia" is not an accepted term and it should be referred to as prediabetes.

Given that not all those who have intermediate hyperglycemia progress to diabetes, we prefer to use the term intermediate hyperglycemia, which is an accurate representation of a person’s status. WHO classifies IFG and IGT as intermediate hyperglycemia, and does not use the term ‘prediabetes’. Reviewers of our trial protocol and trial results found intermediate hyperglycemia to be an acceptable terminology to use, and this is what we measured in our trial.

Therefore, this manuscript is not suitable for publication in the aforementioned journal.

Giovanni aulisa (Reviewer 3): The trial is interesting and leads to useful results that can be used to combat type 2 diabetes in the future.

Finding approaches with a good efficiency / cost ratio is indeed necessary to overcome this epidemiological crisis.

However it could be useful to insert additions.

The "method" can be deepened in its dynamics. It is necessary to indicate more precisely the content of the meetings. (For example, precise duration and organization of the topics).

It may also be useful to update the "discussion" with a numerical view of the different groups. This can help to support the thesis.

We thank the reviewer for their encouraging remarks. We have provided detail of meeting content and the number of groups that conducted different activities in a recent publication which was under review when we submitted this paper. We have added reference to this paper on p 5 and have added data on numbers of groups on page 4.

Finally, I suggest adding at least one chart or table that makes the content of the discussion and the results more immediate.

Luca D'Onofrio (Reviewer 4): The aim, methodology and data presented in the study are extremely interesting and highlight novel strategies to address diabetes management in rural areas, improving patient's empowerment, health literacy/behaviour and social support.
However, minor issues arose reading the manuscript and for this reason, the manuscript needs few minor revisions prior to a publication:

Minor revisions:

1) please, could you provide more information on the discussion about the effectiveness of PLA intervention in this population? In the introduction, you stated that: "There was a 20% absolute reduction in diabetes and intermediate hyperglycaemia prevalence and 10% reduction in the two-year cumulative incidence of diabetes among the group with intermediate hyperglycaemia in the PLA versus control arm, and the intervention was highly cost-effective". Could you provide some specific data on the improvement of glycaemic control, body weight and other information that you consider useful from your previous papers?

We thank the reviewers for their interest in our research. We reference the trial paper in the introduction, where we present primary and secondary trial outcomes. Interestingly, initial analysis shows that interventions were associated with improvements in diabetes knowledge, but had no apparent impact on blood pressure, overweight and obesity, or on recalled fruit and vegetable consumption or physical activity. These data warrant further discussion and analysis which is ongoing and beyond the scope of this paper.

2) page 8 - line 12: please, consider to better explain what is a 'photovoice'

We thank the reviewer for this comment and have added further explanation and references to clarify the method.

3) page 17 and 18: please, consider changing the word "diabetics" with "subjects/individual with diabetes"

We thank the reviewer for identifying these errors and we have changed the text accordingly.

4) page 17 - line 53: "(Lee, Kim, Lee, & Moon, 2017)" what the names in the brackets stand for?

Thank you for identifying an error in our referencing which we have now amended.

Discretionary revisions:

1) page 6 line 12: please, consider to explain the word "upazillas" for whom do not know its meaning.

We have added a description on page 5.
2) page 7 - line 44 and 46: "who were &gt;30", I presume that you are talking about age, could you specify it?

We thank the reviewer for this comment and have added explanation as requested.

Georgia Argyrakopoulou (Reviewer 5): In the present study, the authors conducted group interviews and discussions with previously attenders and non-attenders (diabetic and nondiabetic individuals) of participatory learning and action (PLA) interventions in the rural area in Bangladesh, in order to evaluate the effectiveness of the aforementioned interventions in increasing the health literacy of habitants and their engagement to healthy behaviors. The lack of quantitative measurements is, as emphasised by the authors in the conclusion section, a limitation of the present study. Authors should explain thoroughly why this was the case, as well as the complex mechanisms that precluded them and possibly refer to techniques for further quantitative measurements. Overall is a well written, comprehensive text.

We thank the reviewer for their encouraging remarks. We have reported findings describing the implementation of the PLA intervention, which include quantitative measurements of how many groups conducted each type of action. We have added this reference to the introduction section. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6610980/

Trial quantitative outcome measures are reported in the introduction section where we also make reference to our trial paper.

Minor Comments

1. Page 17 - Line 54 Reference should be referred only by number in accordance to the rest of the text

We thank the reviewer for identifying this error. We have corrected this reference.

2. Page 18 - Line 42 - 46 seems to have a mistyping " and how the type of network and how it functions"

We thank the reviewer for identifying this. We have edited the text to clarify.

Anne Beiter Arreskov, M.D. Ph.D Student (Reviewer 6): Thank you for letting me review this interesting paper. I think it is an important subject to address. However, I think the manuscript needs some changes and elaborations. I have pointed out my comments below:

We thank the reviewer for this comment and appreciate her thorough and detailed review of our research.
Major:

- The analysis is still immature; e.g., there are overlapping themes. I suggest you use more time on the analysis and condensate the main findings.

We thank the reviewer for their comment. There is some overlap in themes, but we feel that this is due to the synergistic way that the intervention worked. Therefore, we do not view this as a weakness in the study, nor an indication that the analysis is immature.

- The discussion would benefit of elaboration of the results from a theoretical point of view.

We thank the reviewer for their comment. We have used the ecological perspective to analyse and present our data, identifying the levels at which change occurred explicitly in the Figure. We have now added sub-headings in our results section to identify these levels in the text.

- The paper needs language revision. Some sentences are too long, and some are a bit difficult to understand.

We thank the reviewer for this comment. We have proof-read and edited the text.

Minor:

Abstract:

- What is the difference between "group interview" and "focus group discussion"?

We have added to the methods section to explain the difference.

Introduction:

- Line 36: can you elaborate a little on PLA

We have added explanation and references to the introduction section.

- Line 56: can you elaborate a little on "ecological perspective."

We have added to the introduction to explain the ecological approach.

Materials and methods

- Line 12: what is upazillas?

We have added explanation of an upazilla.
We have done this in the beginning of the second paragraph.

The paragraph "setting" is long, and some of the information might be described in the "introduction" instead (line 43 and forward)

The introduction is now quite lengthy with the above additions and so we prefer to keep information about Faridpur in the setting section.

Data management and analysis

Does your analysis method have a formal name?

On page 10 we state: ‘We used inductive content analysis to generate theory from the data’. We have added a reference here.

Reference 23 has a wrong spell for "learning."

We thank the reviewer for identifying this error and have edited the reference.

Discussion

The discussion could benefit from a short presentation of the main findings in the very beginning.

We have presented the main findings at the beginning of the discussion section as follows:

“Participants reported that the group and group activities stimulated change at individual, household and community levels. The intervention was successful at increasing the health literacy of individuals and communities - developing their knowledge, capacity and self-confidence to enact healthy behaviours. Community, household and individual agency (ability to enact behaviours) increased through social support and social networks. This then created an enabling community context which further strengthened agency and enabled community action to be taken, which increased opportunities for healthy behaviour. The interaction between the individual, household, and community contexts enabled, reinforced and amplified change (Figure 1).”

Conclusion:

Line 19, what does "macro" refer to?

We have edited the text to clarify what we referred to.