PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	PERSPECTIVES OF UK PAKISTANI WOMEN ON THEIR BEHAVIOUR CHANGE TO PREVENT TYPE 2 DIABETES: QUALITATIVE STUDY USING THE THEORY DOMAIN FRAMEWORK
AUTHORS	Penn, Linda; Dombrowski, Stephan; Sniehotta, Falko; White, Martin

VERSION 1 - REVIEW

REVIEWER	Cindy Gray Institute of Health and Wellbeing, University of Glasgow, UK
REVIEW RETURNED	07-Jan-2014

GENERAL COMMENTS	Aim of paper: To investigate views of Pakistani women participants to inform intervention optimisation. Background: Provides a clear summary of the context of intervention delivery. However, I am less clear about the intervention – initially I got the impression this was a physical activity intervention and then in the penultimate paragraph nutritional aspects are mentioned. I wonder if it would better to describe the original intervention with more clarity in the introduction and the cultural adaptations in the Methods? Also what training did the CIC founder who delivered the programme have – were they trained in the intervention by the research team? Methods: Can the authors provide some indication of what the 'population' was – i.e. how many women were taking part in the intervention, how many were invited to take part in the qualitative interviews and how many responded, and well as the numbers interviewed. The analysis is process is clearly described and appears robust. Page 6, para 5 – is co-incident the right term? Results: p7 para 1 – it would be helpful to spell out acronyms in full first time they are used. Some context and interpretation should be provided for the IMD scores (which is an index specific to England and not a UK-wide index) as I am not clear what and IMD of 43 means. Also could the authors make clear which area of town (i.e. 1, 2 or 3) the participants were from? The description of the cross cutting themes is not clear – however, reading closely I think they are psychological health, family role and inclusion – could this be made clearer (i.e. disentangled from their

	content)? Also why is there no direct mapping between these cross cutting themes and headings in the results? I find the remainder of the results section rather difficult to follow in terms of how it addresses the research aim (to inform optimisation of the intervention). It is a bit too descriptive to be useful in terms of intervention optimisation. Could it be restructured look at issues around recruitment, ongoing engagement, delivery (by women the participants trusted and could identify with), facilities, acceptability and views and experiences of components, etc in a way that maps onto specific aspects of the intervention that need to be considered during the optimisation process? Page 8 quote 3 – is this really action planning? P 9. Quote 1 – likewise, is this really goal setting? Page 11 para 3 – why are health concerns coded in two places (emotion and intentions)? The distinction between the two is not clear. P14 quote 1 –is one group of women refusing to exercise to music really tolerance – or did they sometimes agree to do so? Perhaps the heading is not quite right? Discussion: The discussion does not make it clear how the research presented here adds to existing evidence or informs intervention optimisation. P16, para 1 the results presented do not support the assertion that the intervention had "a potential positive impact on the women's own psychological health including reduction in feelings of isolation and depression". P17, para 1 why is the "process" of the cultural adaptations being discussed when this is not the subject of this paper? P17, para 3 – the women seemed satisfied with the facilities (at least there is no evidence from the results that they did not) – where does the assertion that they were not ideal come from? P18, para 1 – this is the first mention that the group was specifically organised to promote social support networks …. How exactly is this done – just by targeting Pakistani women….. or were more active components also included (e.g. were they encouraged to meet up to exercise together outside any organised sessions perhaps this should be made specific elsewhere). Facebook is mentioned – not in terms of social support – is there any evidence how this was used, if at all, by participants?

REVIEWER	Dr Neesha Patel University of Manchester, UK
REVIEW RETURNED	17-May-2014

GENERAL COMMENTS	This is an interesting which provides important data on the Pakistani womens' perspective on their behaviour change. However, I have the following comments to improve the quality and clarity of the paper.

	Abstract - Background and methods Why did the authors decide to focus specifically on Pakistani women? Please provide a detailed rationale for this. Line 12 - Remove the extra bracket (LOSA) Line 46 - Please define South Asian population and include some information on the heterogeneity between the sub-ethnic groups. As above, it is not clear why this study focuses on Pakistani women only. Are they at a higher risk of diabetes compared to the other sub-ethnic groups e.g. Indian and Bangladeshi and/or do they have poorer access to care? What is the significance of this sample? Methods Line 49 - Were participants offered an incentive to participate? Line 49 - What language was the booklet published in? Line 55 - Who was the 'provider'? Line 12 - How was the literacy levels of the sample assessed? E.g. were the participants competent with using Facebook and other sources of social media? Design Line - 19 - Please provide a reference number for ethical approval. Line 36, 52 - Check spacing Line 45 - Were participants offered any language support e.g. interpreter? If not, why not? Is because they were second generation South Asians and literate/fluent with speaking English? Line 58 - Who transcribed the audio-recordings? Strengths and weaknesses Line 38-40 - Why were the authors not able to call on experienced staff team to ensure the transcriptions were accurate?

VERSION 1 – AUTHOR RESPONSE

Response to Cindy Gray (highlighted in yellow)

There are not many references from last year, apart from to the authors own papers.

We have improved the referencing by the addition of Papers by Pollard TM et al (2011), Babakus W et al (2012), as well as the special edition of the American Journal of Preventive Medicine edited by Jain SH et al 2012

Background: Provides a clear summary of the context of intervention delivery. However, I am less clear about the intervention – initially I got the impression this was a physical activity intervention and then in the penultimate paragraph nutritional aspects are mentioned. I wonder if it would better to describe the original intervention with more clarity in the introduction and the cultural adaptations in the Methods?

We have clarified the description of the original intervention in the introduction and moved the description of the adaptation to the Methods section as suggested. The changes are highlighted on the revised version. Thank you I think this is clearer for the reader.

Also what training did the CIC founder who delivered the programme have – were they trained in the intervention by the research team?

We have added a sentence to clarify the intervention specific training given by the researcher and project manager. Specific NLNY training is an area we plan to develop further in the future.

Methods: Can the authors provide some indication of what the 'population' was – i.e. how many women were taking part in the intervention, how many were invited to take part in the qualitative interviews and how many responded, and well as the numbers interviewed.

We have clarified that this interview study took place early in the feasibility study when there were 78

women (all Pakistani) who had completed the eight week programme. The research team had no access to participant contact details. We recruited from different areas of the town by attending the NLNY sessions taking place. The BME adapted programme has now been running for two years and we plan to evaluate the recruitment and outcomes data.
The analysis is process is clearly described and appears robust.
Thank you
Page 6, para 5 – is co-incident the right term?
The interviews happened at the same time as the activity sessions, in an adjacent room. I have reworded to clarify this.
Results: p7 para 1 – it would be helpful to spell out acronyms in full first time they are used. Some context and interpretation should be provided for the IMD scores (which is an index specific to England and not a UK-wide index) as I am not clear what and IMD of 43 means. Also could the authors make clear which area of town (i.e. 1, 2 or 3) the participants were from?
We have explained IMD and clarified that the mean IMD score of 43 sets this within the most deprived English quintile. The areas of the town were places where the interviews were conducted and we were aware that most of the interview participants lived locally. However the mean IMD scores of each group relate to the participants' postcodes.
The description of the cross cutting themes is not clear – however, reading closely I think they are psychological health, family role and inclusion – could this be made clearer (i.e. disentangled from their content)? Also why is there no direct mapping between these cross cutting themes and headings in the results?
We have clarified the cross cutting themes and clearly mapped these to the results.
I find the remainder of the results section rather difficult to follow in terms of how it addresses the research aim (to inform optimisation of the intervention).
We intended this interview study to be about investigating the women's perspectives of their behaviour change more generally, while participating in this programme, and to draw out some of the underlying issues.
We have clarified the research aim for this interview study as "to investigate Pakistani women's perspectives of their behaviour change and salient features of the culturally adapted NLNY programme." We have clarified that: "We planned this investigation, along with other outcomes of the feasibility study, to subsequently inform the optimisation of the intervention via discussion with the commissioners. This feasibility assessment will also inform future options for a definitive evaluation of the adapted NLNY programme."
It is a bit too descriptive to be useful in terms of intervention optimisation. Could it be restructured look at issues around recruitment, ongoing engagement, delivery (by women the participants trusted and could identify with), facilities, acceptability and views and experiences of components, etc in a way that maps onto specific aspects of the intervention that need to be considered during the optimisation process?
We agree that the analysis is not focussed on intervention optimisation. This interview study was conducted early in the programme delivery. We now have additional data, both qualitative and quantitative from the ongoing programme, all of which will provide information for the further development of the intervention adaptations.
Page 8 quote 3 – is this really action planning?
Thank you, this was not clear. We have clarified this procedure by adding to the text (highlighted).
P 9. Quote 1 – likewise, is this really goal setting?
As the classes involved doing physical activity (not just counselling) we used the Goal setting (behaviour) definition – e.g. " Take more exercise next week" . As the classes were scheduled this is time constrained, but as the nature of the physical activity was undecided we do not think this is action planning.
Page 11 para 3 – why are health concerns coded in two places (emotion and intentions)? The distinction between the two is not clear.
An emotional response was not always associated with intention. We have added a sentence in each

section to clarify where health concerns were expressed as regret for the misfortune of others and where they resulted in an intention to change behaviour. Thank you for highlighting this lack of clarity.
P 14 quote 1 –is one group of women refusing to exercise to music really tolerance – or did they sometimes agree to do so? Perhaps the heading is not quite right?
We have changed this heading, thank you.
Discussion: The discussion does not make it clear how the research presented here adds to existing evidence or informs intervention optimisation.
P16, para 1 the results presented do not support the assertion that the intervention had "a potential positive impact on the women's own psychological health including reduction in feelings of isolation and depression".
This was a strong theme and should have come across from the results presented. I have clarified the context for the relevant quote (copied below) which is given in the results.
'i) If you stay home all day obviously it's different isn't it? I was very, very lazy. I didn't used to go out. I just used to stay at home all the time.
ii) Watch TV.
i) Watch TV and just do the housework and just eat. Sit down in one place. So now I am very active. This year we got the choice to get depressed or to go out and get fresh'. (Group A).
P17, para 1 why is the "process" of the cultural adaptations being discussed when this is not the subject of this paper?
This refers to previous work that we drew on to develop this interview study. I have removed the word 'process'.
P17, para 3 – the women seemed satisfied with the facilities (at least there is no evidence from the results that they did not) – where does the assertion that they were not ideal come from?
The provision of sessions in leisure centres was not ideal because the women could not be sure that these would remain female only (uninterrupted) and they would have to go through common areas to the toilets.. This is explained in the section on environment
P18, para 1 – this is the first mention that the group was specifically organised to promote social support networks …. How exactly is this done – just by targeting Pakistani women….. or were more active components also included (e.g. were they encouraged to meet up to exercise together outside any organised sessions perhaps this should be made specific elsewhere). Facebook is mentioned – not in terms of social support – is there any evidence how this was used, if at all, by participants?
The social support is promoted by targeting women from specific areas of the town with local screening events and local intervention provision. The arrangement of small groups for the initial 8 weeks programme was also a deliberate design feature, which meant that the women got to know each other. Not all the women used Facebook, but those who were able to access information in this way sometimes communicated information about sessions to others.
We wish to thank Cindy Grey for this considered and thorough review.

Responses to Neesha Patel (highlighted in turquoise)
Please define the South Asian population and explain why this study focusses on Pakistani Women
This interview study was conducted early in the delivery of the intervention programme. The early women recruits were all Pakistani, although there was no restriction of other ethnic minorities and other groups were engaged later on in the programme. I have included some extra details about the other ethnic communities in the town and we anticipate future better evaluation of the engagement and appropriateness of the intervention for different populations. We now have two years of recruitment data and one year of outcome data at 12 months as well as some limited further qualitative data.
Were participants offered an incentive to participate?
The incentive offered was (only) the free classes during the 8 week programme and weekly during the follow-up to 6 months.
What language was the booklet published in?
The booklet was published in English and this appeared to be acceptable to participants. The

intervention delivery staff sometimes spoke with the participants in their first language.
Some of the participants were confident in the use of Facebook. Others did not plan to engage with social media, but they were willing to receive text messages. I have clarified this.
I have provided an ethical number and checked spacing (thank you).
Were the participant offered language support?
There were no resources for an interpreter. However we organised for participants to discuss their views in small groups (mostly groups of two). They arranged these groups so that at least one of the women was sufficiently fluent in English to communicate effectively.
Who transcribed the audio recordings?
Within the institute we have experienced transcription staff. The issues around accuracy relate to the occasional discussions the women had between themselves to clarify their use of English in explaining their views. These were very small sections of the recordings.

VERSION 2 – REVIEW

REVIEWER	Cindy Gray Institute of Health and Wellbeing, University of Glasgow
REVIEW RETURNED	09-Jun-2014

GENERAL COMMENTS	Page 4 • Is it correct to describe ages 25-39 as younger adults? • I find "defined as lower super output areas (LSOA)" confusing – is it essential? • Reference needed to Nice Guidance here? "The NLNY intervention promoted increased physical activity, healthy eating and weight loss, in line with the UK National Institute for Health and Care Excellence (NICE) guidance". Also it is not clear to me why reference 16 is included here – there is no reference to experiential learning in the short description of the programme. Page 5 • To develop the adapted intervention and its evaluation[,] the NHS commissioners –add comma? • I find it difficult to work out from the methods what the adaptations were that were made for this community – perhaps these could be described in the first paragraph? Page 7 • For this group of interview participants, their baseline risk of future T2D based on FINDRISC score ranged from 11 to 22 with a mean score of 15. – it would be good to have some context in which to interpret this – it is low/high? Page 8 • At the Lower Super Output Area (LSOA): a – is 'at' correct – it seems strange here, and should the colon be an open bracket? • anticipated theme[s?] relating to Page 10 • Social role and identity, and S[s]ocial influences Page 13 • Reference to Islamic culture used in engagement strategies was influential, as described by one participant, - should this be recruitment strategies? • The purposeful social grouping appeared to promote greater confidence within participants' perceived role: as described by one

	woman when talking about cooking for the family, 'if you are the main cook then it's part of your role, if you got the knowledge [re: healthy food choices] (Group G) Another woman talked about cooking for her husband, 'When I go home I say, 'I'm going to cook and you are going to eat, this is how I am going to cook.' Husband was a bit like, you know, like it is -isn't it? 'Ah, you are not going to cook like that?' 'Oh yes I am, but it will taste nice.' (Group F). The way this is written to me doesn't fit in this theme – is it about freedom of choice? Perhaps that could be made clearer? But it also echoes what is in the family theme about empowerment so I wonder if it belongs better there? Page 14 • There were also explicit references to depression such as, 'She [relative] spent time at home a lot and I think a lot of depression got to her' (Group E) . I am not convinced that this relates to women's experience of the intervention • Also the positive affect sub-theme is not really brought out apart from depression – should it be re-titled? Page 16 • including reduction in feelings of isolation and depression; - I am still not convinced that this comes out strongly in the results presented – psychological benefits now do. Page 17 • The group of women who took part in the interview study were aged from 27 years to 45 years and most were under 40 years of age. This is the younger age range of the typical target population for T2D prevention. We do not know how effective the intervention will be in attracting older women. This contradicts to some extent the introduction where you imply that your target group is 25-39 in accordance with NICE recommendations • Our plans for the adaptation of the NLNY intervention [12 27] to engage [through engaging?] people from the local ethnic minority communities were therefore appropriate. Page 18 • In the interview study reported here we sought to explore Pakistani female participants' views and we were able to draw on information from our qualitative evaluation within the original NLNY intervention.[11] As we experienced with the original NLNY intervention, community based recruitment was successful. The benefit of community based recruitment procedures was also experienced in the PODOSA trial. The fact that you drew on a previous qualitative evaluation does not come out strongly in this paper, and you don't present any figures on recruitment here so I am not sure that it is appropriate to comment on it. • Whereas other interventions may be counselling based, NLNY incorporates group delivered PA in a central role. What other interventions — is this true – lots of dietary and PA interventions are group based. • Could you give more detail specifically relating to how the group is organised to promote social support networks – the use of the term network to my mind suggests that social support outside the group is encouraged and whilst the elements that might do this are scattered throughout the paper, this claim would be strengthened if a paragraph were included to detail specifically how this was done in this intervention. • we plan to analyse the recruitment, retention and outcomes at 12

	months follow-up by sex and ethnic group – it seems a bit strange to mention sex here when the whole paper has been about women – need to specify before here that some of the other programmes involved men – were these men only? Mixed? You have done a great job in the revision of this manuscript - it is much more coherent now. I really enjoyed re-reading it. I have just raised a few points that you might like to consider.

VERSION 2 – AUTHOR RESPONSE

Dear Cindy Gray
Thank you for your careful and helpful second review of our paper. I have addressed your comments and tracked these on the revised manuscript. I outline my responses below.
Page 4
I have clarified that 'younger adults' in this context refers to the younger extension in the age range beyond the age range specified for the NHS health checks
I have removed the definition of LSOA at this point.
I have referenced NICE guidance as requested and introduced experiential learning in the programme description to make the reference relevant. Thank you for pointing out these omissions

Page 5
I have added more detail regarding the cultural adaptations. "It was also evident that assessment events would need to be restricted to women only and would need to be conducted in community venues that were convenient and where possible familiar to the women. In addition the commissioners anticipated that the women might be more likely to respond to trainers who had an appreciation of their Islamic cultural heritage and were able to commission a suitable provider and provide some funding for intervention specific provider training."
Page 7 -8
I have explained the FINDRISC scores in terms of prospective 10 year risk.
I have reworded the explanation of LSOA to clarify.
"FINDRISC score of 11 to 14 represents moderate risk, with one in six likely to develop T2D within ten years and a FINDRISC score of 15 to 20 represents high risk with two in six likely to develop T2D within 10 years. The participants' English Index of Multiple Deprivation (IMD) scores, based on their postcodes of residence, ranged from 11 to 78 with a mean IMD score of 43 (which ranks among the most deprived English quintile). IMD scores are an ecological, composite measure based on routinely available data in seven categories of deprivation assessed at the Lower Super Output Area (LSOA): a small administrative area with a population of about 1500."
Page 13
I have clarified that the reference to Islamic culture were important both during recruitment and engagement.
The purposeful social grouping… I have added extra text to clarify the benefit provided by this opportunity for the women to meet and talk together. I think this was an important aspect,, which is about the mechanism related to empowerment.
"The purposeful social grouping, and the opportunity this presented for women to talk together and support each other appeared to promote greater confidence within participants' perceived role: as described by one woman when talking about cooking for the family"
Page 14
I have added extra text about the contrast between the participants' perception of previous opportunities and their perception of the benefits of having an appropriate social meeting. I have also described one woman's experience of isolation in a new environment.

Page 17
I have clarified the broad age rang for inclusion in the adapted NLNY. Thank you for pointing out that this was unclear.
Page 18
I have explained that our previous experience informed the topic guide for this study and provided context for the reference to the original NLNY recruitment
“In the interview study reported here we sought to explore Pakistani female participants’ views and, particularly in preparing the topic guide, we were able to draw on information from our qualitative evaluation within the original NLNY intervention.[9] In the original NLNY intervention, community based recruitment was successful, with 218 participants recruited to the programme from 367 registers of interest in under two years. The benefit of community based recruitment procedures was also experienced in the PODOSA trial.[27] Early indications from this interview study suggest the potential of community based recruitment strategies for Pakistani Women.”
I have sought to clarify the novelty of NLNY as an experiential learning model.
“Whereas other interventions may be counselling based, whether this is individually or group delivered, NLNY centres on group delivered PA, which is provided as a fundamental pre-requisite of experiential learning.”
I have clarified in the introduction that the cultural adaptation of NLNY was provided for both men and women.
Thank you for your commenting on your enjoyment of reading our paper.