Reviewer's report

Title: Participants' perspective on maintaining behaviour change: a qualitative study within the European Diabetes Prevention Study

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Reviewer: Elizabeth Peel

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This paper about people diagnosed with impaired glucose tolerance and their views about maintaining changes in diet and physical activity could potentially be an interesting and useful contribution to the literature if it is substantively revised. As it stands the paper is rather 'light' in terms of grounding in appropriate literature, conceptual issues and the analysis. Although I have some serious reservations with the paper as it stands if the authors could engage with the points below it could shape up into a good contribution to the literature.

Background: this section needs development - the authors should contextualise their study by reference to the qualitative literature on type 2 diabetes and dealing with diet(e.g., Peel et al 2005 J of Health Psychol)and exercise (e.g., Lawton et al 2006 Health Educ Res). This section doesn't adequately contextualise the project within the RCT - the RCT ran over 5 years, when? What 'lifestyle intervention' did the Finnish study that the Newcastle RCT was base don use? The background needs more depth as well as breadth - 'many studues have explored failure to achieve intended behaviour change goals’ which ones? Be more specific.

Methods: This section needs some work - it's unclear to me whether participants were purposefully sampled on the basis of their diaries or whether additional objective measures were used - if it was just subjective measures there needs to be more justification/explanation around this. Why was 2 years + of behaviour change maintanence chosen? And in box 1, 1 year is mentioned, this is contradictory. Why were 25 people selected? Were these the only ones who met the criteria? Table 1 needs revising - means and ranges for some demographic characteristics would be a better way of giving the reader an overall sense of the data set and also what about the ethnicity of the sample? And how long had they had the IGT diagnosis? And did some now have 'normal' blood glucose levels given their lifestyle changes? Had any subsequently been diagnosed with T2DM? What questions did the topic guide contain - egs at least would be helpful for the reader.

As is stands the analysis sub-section doesn't provide a compelling case that the authors have sufficient expertise in qualitative methods. The refs used are, by and large, undergraduate texts, in places it's repetitive and there's some issues re: epistemology. Implicitly the authors suggest they're taking a realist positive to these data, however, in quoting Aspers they allude to a social constructionist
position - this tension needs resolving. And how does a phenomenological position fit in with this? At the moment this is muddled and the 3 aren't compatible.

Results: The results aren't terribly compelling as they stand and, in my view, are somewhat commonsensical. I'm not convinced my the props and burdens "concept", positive and negatives, facilitators and barriers, pros and cons would have worked equally well. And because of the thematic approach to analysis we get no sense of issues over time and the longitudinal aspect of the data is lost (NB: although this would have been captured between with repeat rather than one off interviews). A gym closing, for instance, isn't an ongoing burden as the authors seem to claim but a barrier at a particular point in time. Reference to prior knowledge of trial participants comes out of the blue and should be discussed in the methods section.

I'm not convinced by the labelling of the themes in places. Surely the quotes re: the attitude of the GP are 'views about HCPs' not 'social' and I wouldn't call prohibitive costs an 'environmental' factor but an economic one. The main issue with the results are that they are very broad brush, lack subtlety and depth and don't really tackle partipants perceptions of how they've maintained their lifestyle changes phenomenologically - as the extracts are short and sparse we don't get a very developed sense of their lived experience. A small point - it isn't appropriate to refer to one of the female participants as a 'lady' (unless she specifically requested that she be referred to in this way).

Discussion: The authors claim that the results demonstrate 'the way they alter over time' in my view there was no sense of this in the analysis and the longitudinal aspect was a missed opportunity (see Peel et al 2007 BMJ for a longitudinal qualitative study of changing perceptions of blood glucose monitoring). Again the claim that 'most successful participants....' isn't substantiated by the present analysis. Para 4 is jargonistic and unclear. I think the authors need to think through the very individualistic approach to public health they proffer in the discussion and throughout - IGT and subsequent T2D *is* a progressive condition in many cases *despite* peoples lifestyle modifications - Debra Lupton's work might be helpful in this respect. The participants' perspective's* are very much homogenised in this article and it would be good if this were acknowledged/explained.

Overall, I think this article *does* have potential if the above points are engaged with. I hope the authors take these comments in the constructive spirit they're offered.

**Level of interest:** An article of limited interest

**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 no competing interests.