Reviewer's report

Title: Socio-demographic and behavioural correlates of physical activity perception in individuals with recently diagnosed diabetes: results from a cross-sectional study

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Reviewer: Lilian Lechner

Reviewer's report:

The paper presents an interesting study on a relevant subject. The study has several merits, as rightfully descried in the discussion. There are however also some concerns that need to be addressed.

Major points

1) Data were used from an existing intervention project, the ADDITION-Plus cohort. For the current paper data were used from the one year follow-up. Respondent in this ADDITION-Plus project either received an 'intensive treatment' or they received this treatment combined with an extra individual behavior change intervention. I do not find any information on how these interventions might have influenced the current results, nor can I find any remarks on this issue in the discussion of the results. I can well imagine that if people received such intensive interventions, this would influence their PA behavior or their awareness of this PA behavior. In other words; how did the interventions undergone influence the results of the current study? Could it be that awareness of PA has increased due to the interventions, and could this mean that data are not valid for the general population of recently diagnosed T2DM patients. What is in that case the value of these data? Would it not have been better to use the baseline data of the project, without any influence of the interventions?

2) A major concern is that two measures of PA were used that concern a very different time frame. One measure assesses PA in the last 6 months, while the objective measure assesses PA the last 4 days, which is very incomparable (also because there was an intensive intervention in the past 6 months due to the ADDITION-Plus project - see previous point). It is impossible to know whether differences that were found between the two measures were really caused by people not being aware of their PA, or simply by the fact that PA from very different time periods was compared. Although authors mention this weakness shortly in the discussion, they do not discuss the possible impact and consequences of this issue. Simply mentioning the issue as a weakness is unsatisfactory.

3) Can the authors explain the enormous percentages of underestimators, it seems that in this population underestimation of PA is a much bigger issue than
overestimation. I have not seen these numbers in other studies, but the measurement methods might be related to these results. Could it also be a result from the interventions undergone? Although underestimation of PA might be less of a problem for health interventions, there still might be practical consequences for health promotion. Could authors address this issue?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests