**Reviewer's report**

**Title:** Disentangling the effect of illness perceptions on health status in people with type 2 diabetes after an acute coronary event

**Version:** 0  **Date:** 04 May 2017

**Reviewer:** Mark Harris

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This is an interesting secondary analysis of data to explore the effect of the intervention of a home visiting intervention on patients' perceptions of their pre-existing type 2 diabetes and an acute coronary event. The focus was on whether a change in perceptions mediated a change in health status.

The model of perceptions is based on psychological theory described by Kaptein and Broadbent and others that describes how individuals' perception of illness impacts on coping, self efficacy and well being. This is well described in the background section.

Participant recruitment was conducted over 22 months from thirteen hospitals in three regions of the Netherlands. However only 264 individuals were invited to participate. Why was this so few? The sample is described as being comparable with other patients regarding treatment. However in relation to illness perception other factors such as age, gender, education, language/culture, health literacy, duration of diabetes are likely to be more important.

There needs to be more detail provided on the method of linear regression and the findings of this need to be presented in a table indicating which covariates were included.

The abstract states that diabetes coherence "mediated the intervention effect on health status". However the findings state that the "mediating effect was minimal" and again in the discussion "The mediating effect of coherence was limited,.."

The discussion of treatment control is a little hard to follow. Intervention patients maintained a perception of treatment control whereas control group patients did not. However perceived treatment control was not associated with health status. The pathway needs to be made clearer - possibly with a diagram.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
Yes

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