Reviewer’s report

Title: Development and psychometric testing of a theory-based tool to measure self-care in diabetes patients: the Self-Care of Diabetes Inventory

Version: 0 Date: 27 Jul 2017

Reviewer: Edward Hak-Sing Ip

Reviewer's report:

Review

The article describes the development and psychometric validation of an inventory for measuring self-care in diabetes patients. It is a well written article and the authors did a good job of explaining the rationale for the need of an updated measurement of self-care in diabetic patients. The science is vigorous. I like the theoretical foundation as well as the careful validation procedure.

Some minor concerns do arise:

1. Are the self-care practices in the inventory based on published medical guidelines (e.g., from a professional medical association)? If so, then the guidelines should be cited.

2. Will some practice be more important than other. A sum score may not be catch deficits in critical self-care practice. This may be highlighted in Discussion.

3. The format of items in the inventory are somewhat mixed: e.g., Monitor your blood sugar regularly vs How quickly did you recognize that you were having symptoms. The latter is a question while the former is a statement. This is confusing. Additionally, a brief description of the response format should also be provided in the Scale Development section. I didn't know the response format until I got to Scoring.

4. Results

   a. Is education level available for Table 1? That is an important variable; it is well known that self-care is often related to education level.
b. Some categories in Table 1 could be collapsed to facilitate reading - e.g., number of medications (e.g., 0, 1-3, >=4)

c. Some interpretative statement about HbA1c would be helpful (e.g., controlled or not controlled)

d. The discussion about global reliability coefficient seems to belong to the Method/Data Analysis section. Results should be about results only.

5. Discussion and Conclusion

a. The 5-point scale has been treated as continuous and normally distributed. No evaluation of the approximation has been provided. This may be mentioned in the limitations.

b. A summary statement about the validity of the instrument should be included.

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

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

No competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal