Author’s response to reviews

Title: MEASURING PATIENT OUTCOMES IN CHRONIC HEART FAILURE: PSYCHOMETRIC PROPERTIES OF THE CARE-RELATED QUALITY OF LIFE SURVEY FOR CHRONIC HEART FAILURE (CaReQoL CHF)

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Author’s response to reviews:

Dear editor,

Please find enclosed our resubmission of the manuscript “Measuring Patient Outcomes in Chronic Heart Failure: Psychometric Properties of the Care-Related Quality of Life Survey for Chronic Heart Failure”, by Paul van Kessel, Dolf de Boer, Michelle Hendriks and Anne Marie Plass.

We would like to thank the reviewers for their useful comments. We were happy to follow their suggestions, due to which we believe our manuscript improved substantially. Please find below our response to the reviewers’ comments. Changes in the manuscript are printed in bold. We hope the manuscript is now suitable for publication.

Comment reviewer 1

This is a very important manuscript that is focused on chronic heart failure. I am pleased that you have created a new model. (In 2014 one of my approved manuscript focused on patients with depression and heart failure and coronary heart disease: K Ell, etc., Collaborative Health Literate
Depression Care among Predominantly Hispanic Patients with Coronary Heart Disease in Safety Net Care

Response: We thank the reviewer for the compliments and for notifying us about her manuscript on depression care for patients with coronary heart disease.

Comments reviewer 2

This paper appears to offer a useful addition to the field of assessing (and possibly caring for) patients with chronic heart failure. The Background set the study well; the research Method was sound; the sample size looked good; the Results were logically and clearly presented. However, there is no Discussion, before the Conclusions are presented.

Response: We thank the reviewer for the compliments. The reviewer points out that there is no Discussion. By mistake, we put the header Conclusion in the beginning of the Discussion. We changed this into a discussion header and moved the conclusion header to the end of the manuscript. We also changed the order in the Discussion section somewhat.

General comments

You have provided a very good example of how to present a report on development and evaluation of a new scale, in your reference 22. It would be good to emulate this.

Response: We agree that reference 22 provides a good example of determining the validity and responsiveness of a scale. We see these steps as the next steps in the development of the CaRe QoL for Chronic Heart Failure. We have added in the discussion that future research is needed to further develop our questionnaire. More specifically, we added the following sentence:

It would be valuable to perform confirmatory factor analysis and to assess the convergent validity of the CaReQoL CHF by comparing scores with those on questionnaires such as the MLHQ and KCCQ.

For convergent validity of a scale, direct comparison is needed with other valid instruments, which report the same areas you used, e.g., physical & emotional problems, not just a comment to say that this study was inspired by the MLHQ & KCCQ (line 44).
Response: We fully agree with this point. Unfortunately, the study was not designed in a way in which we were able to address this point at this time. As said, we now addressed these points in the discussion and conclusion section. Hopefully, confirmatory factor analysis as well as convergent validity can be examined in future research.

Your scale factor, 'Being in safe hands', comprising only three items, is rather weak, raising a further question about the validity of this instrument as an acceptable new scale.

Response: We suspect the reviewer may have overlooked that the item ‘…the hospital care made me feel safe’ also belongs to ‘Being in safe hands’. Accordingly, the scale consists of four items (see Table 2). Given our wish to develop a concise questionnaire, we feel that a scale of four items with Cronbach’s alpha of >0.70 is sufficient.

Specific comments

Abstract, Method, second line 'Exploratory' not 'Explanatory' factor… Abstract, Conclusions, second line, mentioned 'several new elements', but was there only one, namely, 'Being in safe hands'?

Response: Adjusted as suggested.

Line 40, 'key priority that was not captured in existing PROMs' is inconsistent with your conclusion on line 215 'but lacking in most existing PROMs'.

Response: We changed the text into: but lacking in existing PROMs

Line 73, 'focus on responses relevant for patients over the last four weeks', to clarify the focus.

Response: We changed the sentence into ‘The questions in this version focus on experiences of patients in the last four weeks.’

Line 76, 'In each of 31…' to clarify total invited cohort size.
Response: We changed the text into ‘We selected 31 hospitals with a large number of declarations for heart failure. In each of these hospitals, insurance companies randomly selected roughly one hundred patients’

Line 118, If I read this correctly, and only a residual sample of 249 patients of the 1018 completed the survey, this seriously questions the validity of this study as being representative of the population, because this equates to only 8.7% of invitees responding fully to the questionnaire.

Response: All 1018 completed the survey, but the factor analysis was performed using listwise deletion, meaning that only patients with no missing values were used in this analysis. A strength of this method is that it avoids imputation of missing values. We chose for this method since assumptions of the factor analysis were met (Bartlett’s test of sphericity and Kaiser-Meyer-Olkin value). We added the following text in the methods section to clarify this: We used listwise deletion for the factor analysis, meaning that only respondents with no missing values were taken in account. This avoids imputation of missing items.

It is true that only 8.7% of the sample answered all items of the CaReQoL CHF. This can mainly be attributed to two items that were answered with ‘not applicable’ by a large group (>60%). These questions were deleted from the final questionnaire (see Table 3, items with footnot b). The percentage of missing values on the other items was low (<5%).

Line 119, only 19, not 20, items are listed in Table 2. Was one omitted by mistake, or is the count incorrect?

Response: There are 20 items listed in the table. We suspect the reviewer may have overlooked one item as it appeared on the next page. We adjusted the lay-out so that now all items are on one and the same page.

Line 158, second sentence - do not start a sentence with a numeral, please write it in words.

Response: Adjusted as suggested.

Line 168, 'outcomes of healthcare in this sample'.

Response: We changed the text into ‘outcomes of healthcare in this patient group’
Lines 175-181 belong in a Discussion, as this material is not a Conclusion of this study.

Response: We added a discussion header and moved the conclusion header to the end of the manuscript. These lines are now part of the Discussion section.

Line 206, 'same patients will/would provide insight'

Response: Adjusted as suggested.

Table 2 where are the summary alpha values for each factor?

Response: We adjusted the header of the table in which we present the summary alpha values.

Recommendation

Apart from the corrections and additions mentioned above, I recommend that a more comprehensive sample be tested and re-tested to confirm the validity and reliability of this scale before it is offered for use by others, via publication.

Response: As mentioned above, we acknowledge that future research is needed and have added some suggestions in the Discussion.