Author's response to reviews

Title: Quality of physical therapy from a patient's perspective; factor analysis on web-based survey data revealed three dimensions in patient experiences with physical therapy

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Version: 4 Date: 25 March 2014

Author's response to reviews: see over
Dear members of the editorial board, dear reviewers,

Thank you for the opportunity to revise our manuscript. We thank the reviewers for their useful comments and suggestions and feel they have contributed to a higher quality of the paper. Please find below the reviewers remarks in red and my answers.

Best wishes,

Marijn Scholte, MSc.

Reviewer's report
Title: Quality of physical therapy from a patient's perspective; factor analysis on web-based survey data revealed three dimensions in patient experiences with physical therapy
Version:2 Date:6 February 2014
Reviewer: Veronika Schoeb

Reviewer's report:
The submitted article is a very useful study and a promising approach to evaluate quality of physical therapy services. The study emphasizes the importance of striking a balance between continued assessment of health services quality and acceptable investment of time and resources. While this work is certainly very useful to both researchers as well as practitioners, I would like to suggest a few amendments to improve the clarity of the article and make it accessible to a wider audience (essential revisions).

1. Abstract: I would like to see the abstract more concise and more informative. The first sentence is not clear enough to state the problem (“due to the high scores of satisfaction measures”).
Authors’ response: We have changed this sentence into: ‘Assessing quality of care from the patient’s perspective has changed from patient satisfaction to the more general patient experience, as satisfaction measures were less discriminative due to high scores.’ See Abstract, Background, p.1

The second sentence should also be reformulated to clarify what dimensions are meant. Authors’ response: We have changed this into: ‘four to ten dimensions of patient experience’. See Abstract, Background, p.1.

The fourth sentence talks about the “consensus by patients, physical therapists, health insurers, and policy makers” but this is confusing.
Authors’ response: We have changed this into: ‘Ten dimensions of patient experiences with physical therapy (PT) in the Netherlands were proposed in a consensus-based process with patients, physical therapists, health insurers, and policy makers.’ See Abstract, Background, p.1

The aim of the study should be stated more clearly.
Authors’ response: We have stated the aim of the study more clearly: The aim of this paper is to detect the number of dimensions from data of a field study using factor analysis at item level. See Abstract, Background, p.1

It would also be useful to know at this point the number of items included in the survey (Methods section of the abstract).
Authors’ response: We have added this information to the Method section of the Abstract, p.1.

The conclusion should summarise the study and respond to the research question.
Authors’ response: We have summarized the study more clearly to match the research question into: ‘Factor analysis revealed three dimensions and achieved an item reduction of more than a third. It is a relevant step in the development process of a quality measurement tool to reduce respondent burden, increase clarity, and promote feasibility.’ See Abstract, Conclusion, p.2

2. Background: As the authors mentioned, different concepts are using a different terminology: patient satisfaction, patient-centredness, patient expectations, patient experiences, etc. I would like to see one paragraph clarifying those concepts. The authors talk about those different concepts in the discussion, but I would like to see them earlier in the background section. It would also help to clarify some of the dimensions which seem very similar (physical therapist’s approach / patient-centredness).
Authors’ response: We agree with the reviewer that a bit more explanation would clarify the introduction. We have added the following paragraph: ‘Patient scores of satisfaction with certain aspects of healthcare proofed hard to interpret, as the term satisfaction was not well defined and the simplicity does not recognize the multidimensional nature of satisfaction\(^4\). A shift was made from measuring the opinion of the patient to measuring facts to assess the quality of care. With that came a tendency to see the patient as a whole, autonomous person (patient centeredness) who had to be empowered to be a full partner in the treatment process (patient empowerment)\(^5\). The more general term ‘patient experience’ arose around the same time and incorporated the former two terms. In this study, the latter is used, as it does most justice to the multidimensionality and complexity of quality of care from a patient’s perspective.’ See Background, p.3

The dimensions of patients’ experiences (main topic of the study) are only listed in the text and presented in Table 1, but it would be useful to get clarification about the way questions are posed.
Authors’ response: We agree with the reviewer and have added an additional file to the paper with all questions used and their answer categories. See additional file 1.

3. Discussion: Some limitations are stated. Yet, I could not easily follow the “third way” of collecting patient data. It is unclear to me how the quality of the reasoning process can be measured. Together with other measures, the authors suggest to move towards an assessment without providing evidence how this could be (or has been) done or whether it is effective. As this suggestion is taken up at the end of the article, I would like to see a more solid argument here (incl.
Authors’ response: Measuring the quality of care from a patient’s perspective was part of an initiative to measure the quality of physical therapy in three domains. Patient experiences was one of them, the other were ‘physical therapy care process’ and ‘practice organization’. The dimensions within ‘physical therapy care process’ were based on existing guidelines concerning the steps in the clinical reasoning process and the survey was completed by the physical therapists. Dimensions were for example; ‘the degree in which patients received a methodically performed screening and diagnostics process’, and ‘the degree in which intervention goals were determined systematically’. The reviewer is right that we should be careful to claim the approach we suggest is better. To our knowledge, such an approach has not been described in literature, so more research is needed to establish the added value of such an approach.

We have added explanation on the way the quality of the reasoning process was measured and added a sentence to the paragraph stating that more research is needed. See Discussion, p.11.

Another suggestion made by the authors is related to the “mandatory open-access complaint registration”. While I understand the argument that if such a registration exists, patients might report any dissatisfaction, however, I would not jump to the conclusion that “if there are no complaints, one can assume high quality was provided”. Could you give me some evidence that this is the case in similar circumstances?

Authors’ response: We agree with the reviewer. A study of complaint registration in hospitalized setting showed that patients (and health professionals) do not report every complaint or adverse event and supplementary systems are needed to monitor the quality of care (Christiaans-Dingelhof et al. 2011). We have changed the wording and added explanation and reference to this section. See Discussion, p. 12/13.

4. Conclusion: This paragraph should be reformulated in order to match the aim of the study. The first sentence is not clear enough.

Authors’ response: We have adapted the first sentence to match the research question more clearly: ‘Three dimensions of patient experiences with physical therapy in the Netherlands were extracted from the data of the field study, i.e. ‘personal interaction’, ‘practice organization’ and ‘outcome’, reducing the number of proposed dimensions from ten to three and the number of items needed by more than a third.’ See Conclusion, p. 13.

5. Table 3: If I understand this table correctly, there were only around 50 people in the sample (out of 2’213). If this is the case, this should be mentioned clearly in the text as the validity of the results is quite compromised.

Authors’ response: These are the dimension scores at practice level as stated in the title of Table 3 and in the paper, p. 7.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:
I declare that I have no competing interests
Reviewer's report
Title: Quality of physical therapy from a patient's perspective; factor analysis on web-based survey data revealed three dimensions in patient experiences with physical therapy
Version: 2 Date: 10 February 2014
Reviewer: Eduardo Cruz

Reviewer's report:
This is a consistent article about a very important patient-focused indicator relevant for patients, physical therapists, insurance companies and society in general. My suggestions are aiming to further improve a very interesting paper.

Background
The relevance and the reasons why the study was developed were clearly explained. However the contribution of this study could be limited to the quality of the physical therapy care in the Netherlands health care context.
Authors’ response: Although we agree with the reviewer that healthcare systems differ from country to country, the issue we address here, that is measuring quality of healthcare from a patient’s perspective, transcends country boundaries. Worldwide, healthcare professionals and healthcare policymakers seek ways to measure quality from a patient’s perspective and improve healthcare, while keeping the strain on their patients to a minimum. The quest for the best definition of quality from a patient’s perspective in terms of dimensions is also not country specific nor is it specific for physical therapists or any other section of healthcare. This paper sheds light on patient experiences with healthcare and could be of use in all fields of healthcare. Of course every country has to take country specifics, as well as patient specifics into account when adopting quality measuring tools from other countries.

Methods
Relevant domains for measurement were the result of a previous study, resulting in ten dimensions. The authors use a factor analysis approach to clarify the number of dimensions relevant to assess the quality of the physical therapy care. This method is appropriate to the research objective and the study recruited an adequate sample size.

Major Compulsory Revisions:
The inclusion of more detailed information concerning the methods section could improve the clarity of the study. For example, how were the patients invited? Were there standardized instructions? Was the survey filled at home or in the clinic? Was the physical therapist present? Did all the invited patients agree to participate? Were there missing items? If yes, how were they handled? Although some of the above issues are addressed in the study limitations it would be important to provide a clear glance of the study design to the reader.
Authors’ response: We have clarified this in the paper (Method section, study population and data collection, page 5 and Method section, statistical analysis, p. 6). Patients were invited by standardized letter, with a unique log in code. Physical therapists also received information material, such as a poster for in the waiting room and folders that they could hand out to the patients. Dimension scores were only calculated for patient-cases that did not have any missing values on the items of that particular dimension. Further, there is no
data on whether the physical therapist was present, nor if the survey was filled at home or in the clinic. We also do not have data on the number of patients that refused to participate.

In the discussion section the authors need to rephrase the second paragraph where they stated “The reduction of dimensions creates clarity for health care professionals, who can now see at a glance in what areas they can improve their services...”. Without a further study, it is not possible to know if the reduced length of the questionnaire increases variance thus helping the health care professionals find better information to improve the quality of their care. The authors, in page 12, recognize this, where they stated, “Further study has to examine whether the reduced length of the questionnaire increases variance and thus increases the quality of the data.”

Authors’ response: The reviewer is right. Further research is needed to assess the quality of the shorter questionnaire. We have added the following sentence to the paragraph: ‘Further research is needed to assess the quality of the shorter version of the questionnaire.’ See Discussion, p. 9 first paragraph.

Minor corrections:
• I cannot find what the abbreviations ' EMRs' stand for.
Authors’ response: We apologize for the confusion. It stands for Electronic Medical Records. We have added this to the text. See Discussion, p. 11.

• In page 7, second paragraph “In the factor analysis of the rest of the unique items, 13 components were extracted (see Table 4).” I think the authors mean Table 5..
Authors’ response: Sorry, indeed it should be Table 5. We have changed it in the paper. See Results, p. 7.

Discretionary Revisions
Although the authors provide the information needed to understand the decision they made concerning the factors identified, more detailed information about the principal component analysis would be helpful. For example, were there other criteria used to decide on the number of factors to retain? No information is given on how the number of factors emerged (e.g. eigenvalues exceeding a predetermined value; decision based on eigenvalue screeplot as well as the total variance explained by the different components).

Authors’ response: We have added this information to the Method section, under the heading ‘statistical analysis’ (p. 6). We have used an Eigenvalue of > 1. The 13 components that were extracted explained a total variance of almost 60%, as we have stated now in the Result section, under the heading ‘dimensions’ (p. 7, third paragraph).

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:
I declare that I have no competing interests
Reviewer's report
Title: Quality of physical therapy from a patient's perspective; factor analysis on web-based survey data revealed three dimensions in patient experiences with physical therapy
Version:2Date:7 February 2014
Reviewer: Jo Geere
Reviewer's report:

Reviewer's report
- Minor Essential Revisions
In the Abstract
1. ‘A web-based survey yielded data of 2,221 patients’ replace full stop with comma.
Authors’ response: We have replaced full stop with comma. See Abstract, Methods, p. 1.

2. ‘the number of items by almost a quart.’ Quart should be ‘quarter’
Authors’ response: Another reviewer pointed out that the number of items decreased by more than a third. We have corrected this in the Abstract, Results, p.1.

In the Background
1. ‘Related to this is the lack of consent regarding the definition of separate dimensions’ ‘consent’ should be ‘consensus’
Authors’ response: We have changed consent in to consensus. See Background, p. 4, last paragraph.

In the Results section
1. ‘In the factor analysis of the rest of the unique items, 13 components were extracted (see Table 4).’ Should be Table 5
Authors’ response: Sorry, indeed it should be table 5. We have changed this in the text. See Results, Dimensions, p.7.

In the Methods section
1. Explain in much more detail how the patients scored each item and what instructions they were given for scoring items; 'average degree (in%)' as described in Table 1 is not sufficiently clear and therefore it is not clear how patients might interpret and respond to the questionnaire items
Authors’ response: We have added an additional file with all questions and answer categories. (See Additional file 1). Further, we have added some explanation to the Method section, under the subheading Study population and data collection p. 5 with respect to instructions on scoring items.

2. Explain how the sample of physiotherapy practices, and the patients within each practice were selected. This is addressed as a limitation in the discussion, but the actual method of practice selection and patient recruitment should be stated or explained here
Authors’ response: The physical therapy practices volunteered to participate. They were asked to invite the last 40 patients who had finished their treatment to complete the
questionnaire on their experiences. We have elaborated on this in the text: ‘Physical therapists (n=292) were asked to invite the last 40 patients that had finished their treatment by means of a standardized letter with a unique log in code for the web portal to complete the questionnaire on patient experience (n=2,221 patients). The physical therapists also received a poster and folder material for the patients.’ See Methods, Study population and data collection, p. 5.

In the Discussion
1. ‘and as a result the number of items can be reduced by 11, which is more than a quart.’ Please check the value 11 as it does not seem to tally with original number of items minus the remaining items according to Table 1; quart should be ‘quarter’
Authors’ response: We thank the reviewer for pointing this out. It should be 15, which is more than a third. There are 41 unique items in table 1 (a number of items were used in more than one of the ten proposed dimension). After factor analysis, 26 items remained. We have changed this throughout the text.

2. ‘May[4] was the only to distinguish a separate key area on ‘clinical outcome’.’
After only insert ‘study’ or similar
Authors’ response: We have added ‘study’ to the sentence. See Discussion, p. 10.

3. ‘A second option is to randomly select patients for invitations from the databases from health insurance companies or directly from the EMRs,’ write out EMRs in full before using the abbreviation for the first time
Authors’ response: We apologize for the confusion. EMRs stands for ‘Electronic Medical Records’. We have added this to the text. See Discussion, p.11.

- Discretionary Revisions
In the Abstract
1. ‘Factor analysis is a necessary step in the development process.’ Suggest expanding the sentence to state what is being developed (e.g. survey tool/questionnaire) and why (e.g. to improve quality of data collection and reduce respondent burden).
Authors’ response: We have elaborated on this statement in the abstract: ‘It is a relevant step in the development process of a quality measurement tool to reduce respondent burden, increase clarity, and promote feasibility.’ See Abstract, Conclusion, p. 2.

In the Background
1. After listing the ten quality indicators the authors state that ‘A patient questionnaire covering 40 items was developed to measure these dimensions.’ It would be helpful to clarify whether this refers to a questionnaire developed during the project by Neeleman-van der Steen et al (ref 8), or to a questionnaire developed or modified in any way by the authors.
Authors’ response: This refers to the original questionnaire developed during the project (ref 8). We have added the correct reference to avoid confusion. See Background, p.4.

2. In describing Neeleman-van der Steen et al’s consensus based process, the
authors state ‘Based on literature, an agreement was reached in three rounds on ten quality indicators from the patient’s perspective focusing on the following dimensions: …’, it would be useful to state what method was used, for example whether it was three rounds of a Delphi survey or another process?

Authors’ response: We have added the following to this paragraph: ‘A modified RAND appropriateness Delphi procedure was used, in which evidence for the dimensions from a literature review were not send to the experts, but rather the framework that was extracted from literature [8,9].’ See Background, p.4 first paragraph.

3. After stating ‘a factor analysis at item-level to clarify the number of dimensions is much less common.’ a brief sentence to explain the benefit or added value of performing a factor analysis over examination of internal consistency would strengthen the rationale for the study

Authors’ response: We have adopted the recommendation of the reviewer and elaborated further on this in the text. See Background, last paragraph.

4. ‘In these patient surveys, high rates combined with low variance[3]’; indicate which ‘rates’ are referred to; I suggest ‘satisfaction rates’ or ‘item scores’ adds clarity

Authors’ response: We have changed this into ‘high item scores’. See Background, p.4, second paragraph.

5. ‘should be part of the development process to ensure high quality data.’ Suggest adding ‘collection of’ prior to ‘high quality data.’

Authors’ response: We have added ‘collection of’ to this sentence. See Background, p. 5 first paragraph.

In the Statistical Analyses section

1. The authors state ‘The indicator scores were calculated as the ratio of the sum of the scores of the rated items to the total of possible items scores’ yet in Table 3 ‘Domain scores’ is used; It seems that the terms ‘indicators’, ‘indicator scores’, ‘domain scores’ and ‘dimension scores’ are used synonymously and I suggest that only using the term ‘Dimension scores’ is more consistent with the rest of the text and would aid clarity

Authors’ response: We have adapted this suggestion and changed indicators to dimensions where appropriate throughout the paper.

In the Methods section

1. Clarify what is meant by the sentence ‘The outcomes of the empirical test were analysed using descriptive statistical analysis’. Does this simply mean that a summary of descriptive statistics for the therapist and practice level item or dimension scores was generated (i.e. Table 3)?

Authors’ response: Yes, we have clarified this now in the text. See Methods, Statistical analysis, p. 6.

2. In the text it states that the item scores were transformed to therapist and practice level by determining the ‘median’ item score per therapist and practice; I
suggest that ‘mean’ therefore be replaced with ‘median’ in Table 3
Authors’ response: We agree with the reviewer and have changed this in the section Results, Dimensions scores, p. 7. as well as in the section Results, Dimensions, last paragraph, p. 9, and in Table 3, p. 20.

3. To explain the scores reported in the final paragraph of results section, a brief statement of how the practice level mean scores and standard deviations (should these actually be median scores and IQR?) were derived for each of the final three ‘distilled’ dimensions would be helpful as these final dimensions are different to the original 10
Authors’ response: The new dimensions were calculated in the same manner as the ten proposed dimensions. We have added an extra sentence to the text to clarify this: ‘The new dimensions were calculated in the same manner as the ten proposed dimensions as the ratio of the sum of the scores of the rated items to the total of possible items scores.’ See Results, Dimensions, last paragraph, p. 9. We also adopted the suggestion regarding median score and IQR. See earlier response.

In the Results section
1. In ‘The population of the field study was representative with respect to gender, direct access vs. referred patients, and acute vs. chronic patients (see Table 2).’
State which population the study was representative of; although stated in the table it would be useful information to include for the reader here
Authors’ response: We have changed the text into: ‘The population of the field study was representative for patients visiting a physical therapist...’. See Results, Study population, p. 7.

2. The sentence ‘The latent concept or dimension ‘practice organization’ can therefore be considered a causal indicator[13]’ In light of the point of view and approaches expressed in the reference cited, this interpretation needs more explanation and perhaps rewording; is it not the items 18-26 which could be considered ‘causal indicators' of the latent concept or dimension ‘practice organization?
Authors’ response: The reviewer is right. We have adapted the suggestion of the reviewer and added explanation to the text to clarify this issue. See Results, Dimensions, p. 8.

In the Discussion section
1. The author states ‘Besides patient experiences, the quality of the clinical reasoning process, with respect to the screening and diagnostics process, the intervention process, and the outcome, was also measured.’ It would be useful to clarify by whom this was done; whether in this study or in Neeleman-van der Steen et al’s (ref 8) study.
Authors’ response: We have added the reference to the text to clarify this and added some supplementary information. See Discussion, p.11.

2. ‘Secondly, most quality indicators are developed consensus-based.’ I suggest ‘are developed through a consensus-based process’ or ‘through consensus-based methods’ is more grammatically correct.
Authors’ response: We have changed the sentence using the first suggestion of the reviewer. See Discussion, p. 12, second paragraph.

3. ‘In trying to satisfy the patients and meet their needs, the consensus procedure has led to too much differentiation between dimensions.’
   Differentiation between dimensions is presumably a good thing as it clarifies distinctive concepts. Should this read that the consensus process creates too many items or too many dimensions?
   Authors’ response: The consensus process created too many dimensions. We have changed the text and clarified this: ‘...the consensus procedure has led to an overestimation of the number of dimensions patients distinguish, as the analysis showed...’. See Discussion, p. 12.

In the Tables
1. Table 3: I suggest
   a. Title should be ‘Dimension scores’
      Authors’ response: We have changed the title using the term ‘Dimension scores’. See Table 3.

   b. mean and SD should be median and IQR because calculation described in text as ‘The calculation was performed at the patient level and then transformed to the physical therapist level and the practice level by determining the patients’ median score per therapist and practice.’
      Authors’ response: We agree with the reviewer and have changed this in the section Results, Dimensions scores, p. 7. as well as in the section Results, Dimensions, last paragraph, p. 9, and in Table 3, p. 20.

   c. replacing ‘Domain’ with ‘Dimension’ as column heading for consistency
      Authors’ response: We have replaced ‘Domain’ with ‘Dimension’ as the reviewer suggested. See Table 3.

2. Table 5: suggest ‘component’ should be ‘factor’;
   Authors’ response: As we have performed Principal component analysis, we prefer to maintain the term ‘component’.

   item 2 was removed from PCA, therefore should not be in the table?;
   Authors’ response: Item 2 was actually not removed from the analysis. It loaded 0.48 on component 1 and not higher than 0.4 on the other components. Item 2 was therefore included in the dimension ‘personal interaction’. See Table 5.

   on page 19 ‘indicator has replaced ‘dimension’, retain the term ‘dimension’ for consistency.
   Authors’ response: We have changed this into ‘dimension’.

In the conclusions
1. I suggest that you incorporate some statement here about evaluating quality with different methods, as it is quite a substantial suggestion in the discussion.
Authors’ response: We have added the following to the conclusion: ‘Future research should focus on testing the shortened questionnaire and trying to triangulate quality data both from the health professional’s as the patient’s perspective.’. See Conclusion, p.11.

As supplementary material
1. I suggest that you provide the questionnaire or a section of the questionnaire as an additional file to illustrate how the questions were presented and asked (which can influence responses).
Authors’ response: We have adopted this suggestion and have added an additional file with all questions and answer categories.

Level of interest: An article whose findings are important to those with closely related research interests
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 that I have no competing interests

References
Christiaans-Dingelhoff I, Smits M, Zwaan L, Lubberding S, Wal G van der, Wagner C: To what extent are adverse events found in patient records reported by patients and healthcare professionals via complaints, claims and incident reports. BMC Health Serv Res 2011, 11:49