Author's response to reviews

Title: A systematic review of the psychometric properties of the Boston Carpal Tunnel Questionnaire

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Author's response to reviews:

We thank the reviewers for their helpful comments. We have considered these and amended the manuscript accordingly as outlined below:

Isam Atroshi

1. We agree that the naming of the BCTQ is problematic and it has been referred to by different terms. This is not easy to resolve, Boston Carpal Tunnel Questionnaire seemed the most commonly used but we have also added in the introduction the other names referred to with references
2. we have re-read all the studies and none state how missing responses should be dealt with. We have added a sentence to this effect under the 'interpretability' section.
3. We have tried to separate these out completely, however several studies have used the total BCTQ score rather than the subscales (e.g Bessette). Where data is available for the subscales this has been separated out.
4. The tables and text have been changed and the data for each subscale has been presented separately where this data is available. Table 2 retains a column for the total BCTQ score as several studies only reported correlations of other measures with the total score, however Tabel 3 has data presented by subscales only
5. a) responsiveness was indeed assessed by Atroshi and this has now been amended in Table 1
b) ENC has been replaced with nerve conduction studies (NCS)
c) thank you for querying this - yes it was 312 questionnaires rather than patients and is potentially misleading. The number of patients is only 88 - this has been amended in table 1 and the respectively in the text.
6. the studies by Katz et al (1996) and Bessette et al (1998) drew patients from a large observational community based study in Maine and therefore there may be some overlap between these studies - we have added a comment to this effect. The other 2 studies recruited patients from different hospitals in Massachusetts and elsewhere and therefore data is likely to be independent of each other.
7. we have added a sentence in the discussion that responsiveness is likely to have been overestimated in these subgroups
8. We have amended this section and acknowledge that ES and SRM do not yield similar values due to the difference in the nominator used (Baseline SD or change SD), thank you also for pointing out the discrepancy in reporting SRM and ES- in fact on checking the original papers we had not noticed before that one author (Levine) reported using ES when in fact the calculation given was that of an SRM - this has been noted in Table 3. We have also added footnotes where ES was not reported but where this has been calculated from the data provided in the paper. ES and SRM did yield different values and we have amended the sentence on page 7, line 3 (original version)
9. a) as in response to point 4 - the table has been changed accordingly and only subscale score are given
b) the asterisk was erroneous so has been removed, hence footnote not missing
c) assessment was always before and after surgery - table 3 has been amended to clarify this
d) we have discarded the retrospective data and removed any reference to it in the text and table 3
10. we agree that this is of limited value and have excluded it. This has been noted in the text.
11. we have checked again the original paper - patients were given the Q at the time of being placed on the waiting list for surgery and again 2 weeks later - surgery had not taken place - we have amended this in the text so it is clear that no intervention had taken place between the two assessments
12. The MCID refers to the BCTQ total score and is not given for the subscales - added under' interpretability' - this raises the question over the value of using a total score and we have provided further
information regarding the subscales based on data from Atroshi et al study.

13. It is true that internal consistency is often reported as part of the reliability of the measure, however the homogeneity of items does also reflect that the items are all measuring aspects of a single attribute or construct and thus it is argued that a high Cronbach alpha value also supports the construct validity of the measure (Fitzpatrick et al 1998, Streiner and Norman 1995). We have added a reference in support of this.

14. None of the papers used a scale of 0 to 100 and it seems that the scaling of 1 to 5 is widely accepted. It is true that other measures such as the DASH use a 0 to 100 scale however it does not seem appropriate to do this with the BCTQ. We have considered adding something to the text, however feel that this is more likely to mislead readers to thinking that converting the 1 to 5 scale into a 0 to 100 scale may be desirable.

15. Rosales et al’s paper has now been added to the review and is included in the text and relevant tables - we missed it in our original search however when we ran the same search strategy as described in the paper it did appear.

Joy Macdermid

Major compulsory revisions
1. More details on inclusion and exclusion criteria of papers searched have been added under the methods section
2. the process for locating and refining the number of article is described in greater detail in methods section and results
3. further information has been added as requested and also data abstraction form is available as appendix as suggested under discretionary revisions

discretionary revisions:
1. SF-36 has been referred to as a general health status measure as suggested
2. appendix I gives data extraction form
3. we have added a paragraph which summarises the clinical practical applicability of this review.

Other: in order to comply with the BMC document format table 1 has been reformatted to portrait (the column with comparative measures has been removed as this was repeated in table 2)
We have also slightly expanded the results section of the abstract as this seemed rather brief and hope this meets the reviewers’ approval