Reviewer's report

Title: Minimum detectable and minimal clinically important changes for pain in patients with nonspecific neck pain

Version: 5 Date: 18 January 2008

Reviewer: Henrica C de Vet

Reviewer's report:

Major compulsory revisions

1.1 Definitions MDC and MCIC, and MCS and ROC.
In the abstract, the definitions of MCIC and MDC are well adapted now.
In the introduction, line 4 the term â##variationâ## is still used instead of â##changeâ## and â##that measure a symptomâ## can be deleted. So the definition becomes: â##MCIC is defined as the minimal change in score that is meaningful for patients.
Page 5, line 9: MDC and MCIC are different constructs and MCS and ROC are both methods to assess MCIC.

1.2 Numbers
The numbers appear to be very small. In my opinion it is not justified to calculate MDC values for samples < 20 persons. So I should not present these values for the subgroups.
You might present MCS and ROC values for the subgroups though.
You say in this response that you donâ##t have normal distributions. However the assumption to calculate 1.96 * V2 * SEM is that the distribution is normal. So MDC cannot be calculated in case of skewed distributions.
I wonder how you calculated the MDC for referred pain, where the improvement is 1.6 points and the SD = 2.7 (n=35). How do you arrive at a SEM value?
It is misleading to calculate a 95% CI around the MDC as the MDC is already the upper 95% limit of a distribution.

Discussion, par 2. No interpretation is give for the similarity between MCS and MDC. What does that mean. And the authors should comment on the dissimilarity between ROC and MCS, as it are both assessments of MCIC.
In this regard, the text in the fourth par of the discussion (MCS and ROC represents different constructsâ#;) is not convincing. The authors donâ##t explain why different values are found and which are more valid. The text in the paragraph comes down to saying you can use whatever value you want.

Problems with the numbers and data in the Table
The specificity = 1.00 (Table 4, subgroup sub acute): in that case the ROC should be larger than the MDC value. The finding that the MDC (=3.1) is larger than the ROC value (=0.5) may be due to small numbers (and should not be presented in that case), but the value of 1.5 for the ROC in the total group of neck pain with referred pain (Table 4, first column) cannot be right.

In this example, it is impossible that the ROC value is 1.5, when the mean value of the stable group is already larger (i.e. 1.6 see Table 2).

Please explain what is going on here. Drawing an anchor based MIC distribution1 is an adequate method to get more insight into the data and explain the differences between the ROC and MCS values.


1.3 Chi square distribution.

OK, it is possible that for small numbers the distribution is called X2 distribution.

1.4; 1.5; 1.6

OK

1.7 Interpretation of MCIC values.
The authors focus more on consistency with other studies than on consistency within their own study. As said under point 1.2 the content of the fourth par of the discussion is not convincing. Can a researcher choose to use either 1.5 or 4.0 for power calculations and for interpretation of trials?

2.1 â## 2.10 OK

2.11 Discussion on influence of intervention
Page 11, line 3 The reference of Farrar refers to different pain conditions and does not say so much about interventions.

Next paragraph: first line: â##On the contraryâ## can be deleted.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Acceptable

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