Reviewer's report

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

Version: 3 Date: 3 November 2007

Reviewer: Henrica C de Vet

Reviewer's report:

General
Most of remarks are dealt with adequately, but not all.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The authors keep mixing up minimally important change and minimally detectable change. It is wrong to propose to use the same term to indicate both. It is well possible that the MCIC value is smaller than the value that can be detected statistically. Although in De Vet et al. 2007 we propose the 95% limit method as a way to assess MCIC, in the paper De Vet et al, Health Qual Life Outcomes 2006, which was written at a later stage we admit that MDC (95% limit) reflects minimal detectable change rather than minimal important change!

De Vet HC, Terwee CB, Ostelo RW, Beckerman H, Knol DL, Bouter LM
Minimal changes in health status questionnaires: distinction between minimally detectable change and minimally important change. Health Qual Life Outcomes 2006; 4: 54-59

In the definition of MCIC minimal variation should be minimal change. Moreover, the term MCIC and minimal detectable change are different concepts. Please revise the definitions in the abstract and the introduction.

My suspicion with respect to the number remains;
In the total population in the lowest tertile of baseline, the specificity is 93%. In that case the value 2.9 should be very close to 1.5. In the subgroup of referred pain (Table 4), the spec is 1.00 for the subgroup of sub-acute patients. In that case the MDC should be smaller than the ROC cut off point. However, this is not the case (3.1 is much larger than 0.5 points!!)

An explanation may be that there are small numbers. If that is the case, one should not present all these subanalyses. Eg how many persons with referred pain (Table 4) fell in the subgroup of sub acute patients and had reported 'no change' on the GPE?
Please, add the number of patients in the various subgroups presented in Tables 3 and 4.
I keep having difficulties with chi square distribution. I can image that the text book has a sentence that says that “ …X2 is based on a variance” ….. . However, all statistical tests are based on variation and variance. X2 is meant to describe and test the distribution of nominal or ordinal variables. Here we are dealing with continuous variables. Therefore X2 distribution is not adequate here.

At the end of the introduction
Please mention all aims, also examination of dependency of baseline values and differences between chronicity and sub-acute patients.

Page 5,
Please delete the sentence: Those methods were planned for estimating MCIC for improvement and worsening. All definitions above were given for improvement. Later on you already state that numbers were too small to assess MCIC for worsening.

Page 6,
The last paragraph of the results and the first of the discussion. If MCIC values range from 0.5 to 6.2 it is not very informative to say that they are consistent with other publications. If the range is large they will easily overlap with values found in other publications. This consistency is also mentioned on page 7 at the end of the first paragraph.

It is more important to discuss how these values (with this large range) will help us in power calculations and for the use by clinicians as you mention in the introduction.

The interpretation of the different MCIC values as explained on page 7 at the end of the second paragraph is wrong. A patient does not feel whether a difference is statistically detectable!

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

--In abstract:
Change 12 weeks in 3 months

In Introduction:
1st paragraph: a) and b) represent the same argument. The sample size calculation uses the minimal relevant change. Argument c) is still not clearly formulated. MIC is not necessary the select the best treatment, as the treatment with the largest effect should be selected, unless the differences for all treatments are very small, that they all does not exceed the MCIC. This is not clear from the description under c).

Ref 14: please refer to the original paper, which I think is a publication by Stratford.
Methods
Page 4, line 2, add ‘about’ to 916,500 inhabitants
Page 4, par 4, line 2: ‘referred’ instead of ‘derived’
Page 4, par 5, line 3, ‘referred pain’ instead of ‘AP’, also on page 6. Please check the whole manuscript.
Page 5, line 1: ‘3 months’ instead of ‘12 weeks’

Page 6, highest value 6.2 holds only for the total group. This is not stated here.

Page 7
Line 5: ‘less’ instead of ‘inferior’

Page 7, line 5 from below:
I still don’t understand why MCIC would not be important for acute patients. Moreover this sentence is poorly formulated.

Page 8, line 8: No data suggest…. Note that no studies were done, so there is no evidence pro and con. Here it is suggested that intervention does not influence MCIC.

Discretionary Revisions (which the author can choose to ignore)

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

Level of interest: An article of importance in its field

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