Reviewer's report

Title: Course and prognosis of non-traumatic arm, neck and shoulder complaints: design of a prognostic cohort study

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Reviewer: Harald S Miedema

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General remark:
The authors have made considerable efforts to revise the manuscript and clarify many of the points that were addressed in the first round of reviews. This results in a manuscript that is much improved. However, still there are some points of discussion. I commented on these points in the following text.
I will refer to the numbering of the previous review and the responses of the authors to them.

I:
Is addressed under III.

II.
(Framework for) diagnoses: The authors underline their choice for a heterogeneous population with a focus on pain patterns and not on local, specific often single-sided diagnoses. To their opinion a traditional description and assessment in different diagnostic groups fail to reflect the diversity and complexity of pain manifestations. I agree with the authors on this point with regard to the group of non-specific disorders. But also there are many complaints in this area that have a (more) clear and characteristic pattern, are indeed most often single-sided and result in a specific diagnosis. In the study of Feleus et al in primary care (Eur Spine J 2008 17:1218–1229) the estimate of the proportion of patients having a specific diagnosis was 59%. In this study in 58% the pain was restricted to one region (single-sided), in 42% more than one region was involved. Feleus et al showed significant differences between the management of CANS when patients were diagnosed with a specific diagnosis compared to non-specific. Given these facts it is a pity that in the proposed study no information about underlying diagnoses will be generated.

CANS Knowledge and treatment centre: information about this centre was indeed confusing, I thought this was a second setting of the study. In the present manuscript this is clarified. However, in their comment the authors still mention that “the CANS centre is easy accessible for employees and students with CANS. Employees and students with CANS who visit this center are asked to participate in the study.” How do the authors relate this to their statement that the cohort reflects a population with CANS that reflect “usual care”? Who asks these employees and students to participate in the study? Are these participants
referred to the participating primary care professionals? It seems to me that these participants do not reflect usual care, because they are identified within the special setting of the CANS Knowledge and treatment centre and are (supposedly) referred to the participating primary health care professionals thereafter. This is underlined in a later comment of the authors under III: “since the majority of patients that are recruited in the CANS centre are not treated in primary care for their complaints, we are able to explore the natural course of CANS.” So I think in the analysis attention must be given for the different way in which these participants were included in the study. This point should be added to the “statistical analysis” section. In the present section only a separate analysis is indicated for working and non-working populations, but also in the subpopulation that originates from the consecutive inclusion of patients in the primary health care centers a substantial part will be working.

Power analysis: the authors refer to the employees and students of the various institutions as their base population. Because in the inclusion section two subpopulations are indicated, the question is why only the base population of one of the subpopulations is mentioned.

III:
The design of the study is clarified to some extent. For remarks about the population I refer to the comments under II.

It still is not clear to me whether or not the participants that originate from the CANS Knowledge and treatment centre are referred to the participating primary care therapists or other therapists, or that they are not referred at all so that the “natural course” can be studied.

Furthermore it is stated under “Participating health care professionals” that “the primary health care professionals will treat according to usual care” but I am confused what the authors mean by that. These professionals received a two day training course in which they were given “instructions on the management of CANS according to the recommendations of the current practice guidelines”. To me this seems like a health care intervention, by which the normal variance of interventions that are delivered will be reduced (in the direction of the contents of the guideline). In a later comment the authors state: “the content of these instructions for management were totally based on the recommendations of the current clinical guidelines for CANS. Assuming that most therapists work already according to these guidelines, this will not influence the care they would have provided otherwise (because they receive no new information that is not available for not-participating health care professionals in the field.” If this is true, than it is irrelevant to mention the two days training course, especially since no information about the content is given. However, to my opinion, the introduction of the CANS guideline for physiotherapists in 2010 will not already have led to the situation that most therapists already work according to this guideline, and that the two days course will have changed the behaviour of the participating professionals in the direction of the guideline. Furthermore, since no information about the course is given, I don’t know if maybe specific instructions have been...
provided in the course that are not conflicting with the guideline, but are more a sort of extension (e.g. a treatment protocol).

Computer based recording system: In re-reading the manuscript I wonder how data about treatment and referrals from other primary care professionals than the participating professionals (mainly physiotherapists and a few Mensendieck-Cesar therapists and occupational physicians), especially general practitioners, are gathered in this study. Do they all register their data in Fastguide? If not, how is this information collected?

IV:
Definition of a new episode: on page 6 last paragraph it is now stated that “an episode is considered ‘new’ if patients have not visited their health care professional for the same complaint during the preceding 3 months. What is ment by “their”? Does this refer only to the (participating) primary care professional or to any health care professional? I still think the authors should use a better definition of new episode. To what literature they are referring as they mention that “this seems to be an appropriate ‘cut-off point’ according to the literature about CANS”?

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