Reviewer's report

Title: Consequences of spinal pain: Do age and gender matter? A Danish cross-sectional population-based study of 34,902 individuals 20-71 years of age.

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Reviewer: Annette Leclerc

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This population-based study based on a large sample gives mainly descriptive information on consequences of spinal pain; It focus on comparisons between three spinal regions, and also comparisons between male and females, and between age groups. A previous paper based on the same data (ref 7 in this manuscript) gave a description of the frequency of pain at various sites.

Since populations, study design, and questionnaire are not exactly comparable between studies, comparisons, especially between sites, are generally difficult. This is the main positive aspect in this study, in addition to rather precise estimates, due to the large size of the sample

The paper could be improved, first by adding some discussion about the levels found in this study, compared to those found in other population-based studies (or large population of active workers). It is plausible that the frequencies are different between countries. However, this might be discussed, rather than just saying that “studies in other countries may end up with different results”.

It would be informative to know whether some frequencies seems to be especially high or low in this sample, compared to frequencies found elsewhere, and why: reasons specific to the situation in Denmark (for example, more possibilities to change work or duties at work), reasons due to the definitions used (which is the exact content of "seeking care"? does it include all types of health care?), reasons due to the sample itself. Whereas comparisons (with other studies) can be difficult for the frequency of pain if the wording of questions is not exactly the same, comparisons for seeking care or for sick leave are probably easier.

“The majority of individuals with spinal pain did not report any consequence”. For the dimensions considered here, this is not really new, it is in accordance with other published studies, especially for low back pain. Among the reasons, at least for seeking care, is the fact that seeking care or not does not make much difference; maybe those who suffer from the neck or the back do not expect much from medical doctors or physiotherapists, especially for chronic pain.

“Most people reporting spinal pain manage without any serious consequences” An important point here is that the population of those who suffer from spinal pain is not homogeneous. Since the prevalence of self-reported pain in the past year is as high as 55%, fortunately the frequency of severe consequences is not so high. The consequences are probably concentrated in some subgroups of those
who suffer, possibly those with an acute episode and those which chronic pain and a high level of disability.

Differences between age groups: since the prevalence is high also among older people, it is plausible that a large part of spinal pains at these ages are minor problem (as in the younger age groups), even if the severity increases globally with age.

Among those who take action when they have spinal pain one should include those who use self-medication, without visiting a medical doctor. This type of consequence has not been considered here, whereas it is probably rather frequent (and can be considered as a strategy under control of the person).

“Change of work” is expected to increase with age, just because the question deals with the whole past active life. With the method used in the analysis, it is probably not possible to see whether change of work occur mainly in older people (cf discussion bottom of page 11). In fact, the increase with age for “changed work” is small in figure 10, which suggest recall bias. Some of the changes in work or tasks at work might be omitted if the event happened many years ago. For disability pension, the situation is probably different (very low frequency in the youngest age groups, and recall bias much less plausible).

The topic of strategies used for coping with pain raises other questions. In the population, which are the strategies and the beliefs about what works for coping with pain? Is fatalism a reason for doing nothing? Do the evidence-based knowledge for management of pain is widely used by the medical doctors, and does it modify the beliefs in the community? After all, do not reduce one’s activity can be a reasonable strategy in order to cope with pain. Here a reference to population-based interventions would be relevant: Gross (Spine 2010) or Buchbinder.

And finally, one suggestion for future analyses based on these data: who are those who suffer from more than one spinal region?

**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