Reviewer's report

Title: Changes in the incidence of occupational disability as a result of back pain in the Netherlands.

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Reviewer: Charlotte Leboeuf-Yde

Reviewer's report:

General

This is an important article in the field well written and easy to read. The method appears correct but there are some points that need to be better explained to make it, also, fully comprehensible.

I do not have full insight in the literature, and I have only considered the references that I know of. In other words, I have not checked for correct use of referencing. There might be a need for caution here, as I caught them with two statements with careless use of references.

Also, I do not have an experience in this type of studies, so I would not know if the method that they use is up-to-date, correct etc. However, to an ordinary back epidemiologist it does look OK.

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

Abstract; Results: Please check your confidence intervals. Some of them are weird and they do not all go in the same "direction".
Your conclusion should, I think, not only mention that the heterogeneity related to age, when this was true also for other subcategories.

Abstract, conclusion: Your first sentence needs to spell out what the overall decrease was all about. I was not able to understand your second sentence, when I first read the abstract. After having read the article, though, it made sense. However, you need to re-write this sentence to make it understandable also for the uninformed reader.

Background: Your reference 3 does not support your statement that "there is no single clinical intervention, other than advice to stay active, that has effect on back pain in the acute stage (3)" You need to rewrite this statement or make a proper search and look for other methods of treatment too. Spinal manipulation, for example, has an instantaneous effect on some people with acute low back pain. Are there any studies on this? Well, it certainly was not covered in ref. 3.

Methods: 1st para. When you state in your last sentence, that the diagnosis of the disease..... "can be consdiered as having a high validity", which made me smile. You will have problems finding a reference to back this statement up. There might be a high concensus on diagnosis but this agreement would be culture- and time-related and the validity is unknown...

2nd para: "These diagnoses were coded according to the ..." who did the coding, you or somebody else, e.g. the examining medical practitioner? I have the same question for the last sentence in that paragraph.

3rd para, last sentence: "We aggregated diagnostic categories at the lowest level that made
comparison possible." What you mean by this is not clear to me, perhaps because I do not work with these codes. Perhaps others find it unclear as well.

Statistical analysis: Unless my brain has somehow got itself dislodged, I think there is an error in your explanation of the IRRs (Incidentally one "IRR" several "IRRs" not "IRR's", which denotes the genetiv form). How can an IRR that is "greater than one indicate a rise" and vice versa? Not if you divide the incidence rate in year one by the rate in year two, it isn't.

page 7, 3rd line. I would prefer it, if you stated that this incidence is about the years of 1999-2000.

I had some difficulties understanding your text, but that was because you do not use a consistent vocabulary in the text and tables. "all back disorders" is what you should call it and systematically so, also in both tables. The "all diagnoses" in the table, you need to tell us that this is about any disorder not just all diagnoses in relation to backs. This is true for your figures as well. Not even the text in the figures and the legends use identical terminology.

References: You forgot to close the parenthesis in ref. 18.
Ref. 7, in my printed version comes out mostly with Greek letters.

I also found out after having studied your tables that you compared the all diseases figures with the back disease figures. This, however, should be described in the methods section, so that it is immediately apparent.

When you write, on page 7, three lines from the bottom, "For men the decrease in overall incidence was largest..." do you then mean of "all back diagnoses" or "all diagnoses"?

Discussion: You seem to not consider the shift in diagnoses which has occurred, from the specific towards the non-specific. You need to discuss this phenomenon, i.e. that clinicians do not so much anymore claim to "know" what the cause of the pain is but they acknowledge this non-specific disorder as being uncertain in origin.

You also need to discuss the postlaminectomy syndrome, and the possible reason for its increase (increased - perhaps- unnecessary surgery).

the claim that the diagnostic assessment of the insurance physician that made the diagnosis was similar between the two time periods, is more based on opinion than fact. If it was the same person and he was unaffected by recent trends, yes perhaps, but otherwise, how do you know?

On p.10, last 5-6 lines,, I wonder if you are talking about "all diagnoses"? Good idea, to spell it out, consequently throughout the text, whether you are talking about back/neck diagnoses or "any disease" diagnosis.

On p.11, there is also a reference that you overinterpret. Ref.33 (Buchbinder et al) is not abut "some countries" but about one country=Australia.

Conclusion: I was somewhat befuddled about your seconnd last sentence, the statement about back pain being shunted to "upper limb" and neck disorder. I do not think that your study in anyway, or your discussion for that matter, support this statement. You do not seem to acknowledge the interesting fact that "dorsopathies", which I interpret as a non-specific dustbin, and the post laminectomy syndrome are on the increase. This is essential.

Also, when I look at your table 3, I decude that the adjusted IRR in relation to various back/neck diagnoses for men and women alike show an increase of values in three cases and a decrease in
five. In other words, about fifty-fifty. I was left with a feeling of you not really having acknowledged this in the text.

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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)

The title of the manuscript, I think, could include the words "and neck" to be completely descriptive. The fact that the neck is studied should also be mentioned in the abstract (background).

Please check the spelling of the word "homogeneous" throughout the text. I think you are missing an "e" at times.

In Table 3, adj IRR for M54 dorsalgia, please check if 0.79 is also mentioned in the text in a correct way.

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Discretionary Revisions (which the author can choose to ignore)

I think that there is an error on p.7, 5th line from the bottom, where you provide three percentages (48%, 39% and 28%). Should the last figure not be 21%?

On p. 10 (midpage) in your Discussion, you should perhaps also acknowledge that during periods of high employment also the "frail" get to work, which results in more sickdays.

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests