Reviewer's report

Title: Hard physical work combined with heavy smoking or overweight may result in painful vertebral bodies

Version: 1 Date: 27 June 2007

Reviewer: Elizabeth Dean

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General
Review of Ms. titled ‘Hard Physical Work Combined with Heavy Smoking or Overweight May Result in Painful Vertebral Bodies’

GENERAL ASSESSMENT
Adequacy of the question
This study outlines an interesting and important question particularly in light of the prevalence of lifestyle conditions and their enormous social and economic burdens. There are questions I have however, related to the Methods including the analyses, that need to be addressed before I can complete a thorough review of the Results and validity of the Conclusions. Overall, the work may have merit but ascertain this, the Ms. needs to be tightened.

Adequacy of the Methods
Some elaboration of the description of these is needed as outlined in specific comments below.

Soundness of the Data
Adequate description of the primary data set which is shown as Table 1 which is helpful.

Adequacy of standards of the Ms.
Adequate.

Adequacy of the Discussion and Conclusion
Adequate.

Adequacy of the Title and Abstract
The following title may be more explanatory: ‘Associations among Physical Work, Smoking and Being Overweight in Relation to Painful Vertebral Bodies in a Cohort of 40 Year Old Danes’

However, do we know for sure that the pain experienced is from the vertebral bodies or from secondarily affected soft tissue (e.g., well innervated structures such as the periosteum and muscle). I am a bit fuzzy on my anatomy of the
innervation of bone. This needs to be clear to ensure that the term ‘painful vertebral bodies’ is defensible.

The Abstract may need editing to correspond with suggested edits.

Acceptability of the writing
I suggest that the investigators use the words ‘it’, ‘this’, and ‘there’ more sparingly, by rewriting sentences with these constructions to minimize ambiguity and improve clarity.

SPECIFIC COMMENTS

Introduction
Re ‘What is the cause of...lower social class?’
Is a discussion of ‘social class’ really relevant? Rather than engage in discussion about ‘class’, which some might consider a dubious distinction these days, would it not suffice to discuss the relationship of hard physical work to low back pain irrespective of ‘class’. I am not necessarily suggesting ruling this out, but for me, more justification is needed to make this a ‘class’ issue. If the investigators choose to retain ‘class’ as a factor, then a definition of ‘class’ and in particular ‘low social class’ is needed. Further, if ‘class’ is deemed to be central to this work, given it is highlighted at the beginning of the Introduction, why does this not appear in the title?

Re Hard physical work?
What is meant by this exactly? The point arises in the Ms. that the perception/experience of work as ‘hard’ for example, can reflect the conditioning level of the person responding. Do the investigators have any knowledge of the physical conditioning levels of the respondents?

Re Smoking or overweight?
I am aware of literature that supports people of low income, low education, and engaged in unskilled employment, tend to have poorer health habits than others, e.g., they smoke more, exercise less, and tend to weigh more (generally poorer health outcomes). A grammatical point in this paper given that ‘smoking and overweight’ are frequently paired, is that these words are not parallel. An appropriate alternative would be ‘Being a smoker and being overweight’. This needs to be checked throughout the Ms.

Page 6. Data analysis
More detail is needed regarding the calculation of the Odds Ratio and the association statistics, and these points need to be clearer in the tables.

Page 6. The section on Validity is important and well written as it addresses many key questions that come to mind in relation to this study based on secondary data analysis.

In the tables, I would suggest describing what the bold face means in the legends
below the tables, and specify again that p<0.05.

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

Address points above.

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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)

English grammar points mentioned above.

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Discretionary Revisions (which the author can choose to ignore)

I would like the investigators to respond to two points in this category, however, if addressed satisfactorily, may not need to change the content.

The issues related to the use of the term ‘social class’ and the issue of whether painful vertebral bodies is valid (bone pain vs. secondary soft tissue pain).

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 outstanding merit and interest in its field

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interest.

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