Reviewer's report

Title: Is undergraduate physiotherapy study a risk factor for low back pain? A prevalence study of LBP in physiotherapy students

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Reviewer: Lise Hestbaek

Level of interest: A paper of limited interest

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Overall comments to the study:

1. The objective of the study is to investigate whether physical therapy students experience low back pain (LBP) during training, and if so, what factors are associated with it. This is due to an acclaimed high prevalence of LBP in young physiotherapists. However, for this question to be relevant, the authors need to document, that physiotherapists under age 30 in fact have a higher prevalence of LBP than the general population. Considering the age of onset in the general population (up to 50% lifetime prevalence at age 18, and only minor increases after age 22 (Hestbaek L, Ph.D.thesis, university of Southern Denmark, 2003), it is not surprising, that most incidence cases of work-related LBP in physiotherapists occur before the age of 30. This might not differ from other professions. Comparisons to similar age- and educational groups are warranted. Since the only "exposure specific to physiotherapy students" that turns out to be associated with LBP is "sitting looking down", it might be possible to expand the objective to other types of students as well, increasing the area of interest. Furthermore, the authors note in the discussion that most LBP in the sample was reported as commencing in mid-teens and thus unrelated to the physiotherapy training.

More specific comments:
2. It would be more reader-friendly if the tables were reformatted: lines between rows, columns wide enough to avoid splitting words, consequence in the order of male/female/overall (table 3).

3. Psycho-social confounding could be discussed (who do not attend lectures, who spend most time being bend over books etc.).

b) Compulsory revisions

1. There need to be an analysis of non-responders. Especially considering the high prevalence-estimates reported, one could suspect some bias in the cohort.

2. The decisions underlying Table 1 seem rather arbitrary, i.e. how is it established that 'length of study' does not influence lifetime prevalence of LBP?

3. Page 9: The occupational index implies that variation in tasks is a risk factor. Can this be
supported?

4. The prevalence estimates in Table 3 should include confidence intervals (it is also stated in the method-section, that prevalence estimates will be presented with CI). Also n should be shown in the table if they are not based on the numbers presented in figure 2. If the calculations are based on the figures in Table 2, they are very inprecise, i.e. there are 100 first year students reporting a lifetime prevalence of 57.5% - did one of them only have half LBP?

5. The univariate analyses include a multitude of testing, that might warrant a Bonferoni adjustment. Alternatively, all the results from the univariate analyses could be presented in a table, rather than only presenting a few results, selected by the authors. This way, the reader could get an overview and judge the significance individually.

6. Throughout the report the authors confuse significant with statistically significant, e.g. page 10, last paragraph: "..... incurred a significantly elevated risk of all four measures of LBP" This refers to, among others, a risk ratio of 1.3 (1.0-1.6). The clinical significance of this finding can be discussed, but it is statistically significant.

7. The abstract states that LBP prevalence "significance increases in each LBP measure between first and fourth year students" However, this is only true for females. Likewise, older age and 'sitting whilst looking down' is stated to be significantly associated with LBP, when the actual results only show a statistically significant association for females. The abstract should convey results more accurately.

In the conclusion it is stated that an increasing number of physiotherapy students experience LBP. There is no mention in the rest of the manuscript about such an increase.

**Competing interests:**

None declared.