Reviewer’s report

Title: Health, work and demographic factors associated with a lower risk of work disability and unemployment in employees with lower back, neck and shoulder pain

Version: 0 Date: 25 Jun 2019

Reviewer: Markus Ernst

Reviewer's report:

Dear authors

thanks for submitting to BMC MSD.

this is a well written study about a survey looking at risk factors for unemployment and sick leave and possible interactions with familial factors.

As I am not an expert on familial factors myself, I asked myself whether these factors are predominantly genetic factors or social ones (same or similar up-bringing, growing).

The methodological reasoning for using a twin study necessitates, from my point of view, some more elaboration in all parts of the manuscript. It seems to be the main point in your research and the focus should more on this.

In the intro there is some information (page 5) when you refer to the Danish study with quite a large variance of "separate pain sites" has been referred back to genetic factors. Further studies have been cited (references 18-20), to which you should come back in your discussion.

Little has been discussed about the familial factor, though some interactions or effect modifications have been found, especially the effect of LBP on unemployment (Table 3), with a very much larger effect of LBP on the outcome by taking the familial factor into account!!

I would recommend discussing the familial factor more in-depths.
Minor remarks:

Material and Methods

page 5, please add the year "2004" after "at baseline"

please write monozygotic and dizygotic instead of using abbrevations which are probably familiar to adepts in that field only.

statistical analysis: please state how you have checked interdependence of independent variables as this might be critical, especially familial factors and education might be related with each other!

Results:

Demographics: page 10, line 19-20ff: I would recommend changing the sentence about the effect of education on sick leave, as the effect in the twin-analysis is not significant, although it might be tempting to indicate some interaction education x familial factor

on the other hand I would recommend to put more emphasis on the possible effect modification of familial x LBP on unemployment, as stated above.

Best regards

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?  
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?  
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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