Reviewer's report

Title: Pain-related psychological cognitions and behaviours increase the likelihood of sick leave due to neck pain: findings from the Nurses and Midwives e-Cohort study

Version: 2 Date: 5 September 2013

Reviewer: Marc Du Bois

Reviewer's report:

1. Major compulsory revisions

The purpose of this study is to investigate the impact of psychological factors on sick leave due to neck pain in nurses and midwives. The investigation is a cross-sectional analysis of a cohort study and makes it difficult to infer causality between pain-related psychological factors and sick leave. Authors have to avoid testing a priori hypotheses that relate to causality as mistakenly mentioned in the discussion. However, a cross-sectional analysis that studies the role and (inter)relationships between sickness absence and psychosocial features can generate hypotheses about causality. Bearing that in mind, the methodology of this study is appropriate. The main conclusion should be that pain related psychological cognitions and behaviors are related to sick leave following neck pain. If causality is established in prospective research it opens windows for opportunities in sick-leave prevention. This is clearly summarized in the abstract. This is a well-written report that deserves publication provided the following comments are addressed

1.1. Abstract

In the abstract, the authors mention that the sample comprised of nurses and midwives with neck pain in the preceding year who supplied valid sick leave data. Please describe clearly in the manuscript what is meant by “valid” and give the proportion of nurses and midwives who did not supply sick leave data. Does that sample differ from the participants included in the analysis? Please compare baseline characteristics and discuss the possibility of selection bias.

1.2. Discussion

Sixth paragraph: A cross-sectional design does not allow to reject an a priori hypothesis of a protective effect of active coping on NP-Sl. It can only suggest associations or relationships. Prospective designs are instead appropriate for causal hypothesis testing. Please rephrase.

Ninth paragraph: Limitations: please consider that difficulty in recalling past events may also contribute bias and comment on limitations that accompany internet based survey such as sampling concerns and access issues

2. Minor compulsory revisions
2.1. Title
Please use “associated with” instead of “increase the likelihood”

2.2. Abstract
The fact that sick leave is costly and reduces work productivity does not follow from the main text and should be omitted from the conclusion.

2.3. Background
Information on the epidemiology of neck pain and subsequent sick leave in Australia and New Zealand would be preferential.
Please explain the system of sickness allowance in Australia and New Zealand.

2.4. Methods
First paragraph: Please describe briefly recruitment strategies, response rate and characteristics of the NMes sample.
No information is given about missing data and how this was solved. How many cases were excluded due to lack of information or missing data?

2.5. Results
Fourth paragraph: Multivariable analysis: Instead of formulating the logit in the text, please introduce variables in table format (replace table 3) including odds ratio instead of beta coefficient estimates and provide confidence interval.
Fifth paragraph: The text duplicates the information in table 3 and should be omitted.
Sixth paragraph: Post hoc analysis: The authors examined why pain catastrophizing was not retained in the final model by investigating correlations. Using logistic regression, multicollinearity refers to unacceptably high correlations between predictors. As multicollinearity increases, coefficients remain unbiased but standard errors increase. To detect multicollinearity amongst the predictors, a linear regression analysis should be performed with the predictors of interest for the sole purpose of examining the tolerance statistic. Please provide in brief the results of the tolerance statistic for pain catastrophizing and for the sequentially eliminated variables. No table required.
Sixth paragraph: Post hoc analysis: The authors suggest that pain catastrophizing on NP-SL is mediated by passive coping. Please provide in brief the results of the interaction of both variables which is represented by their product. Each variable can also be centered first at its sample mean. No table required.

2.6. Discussion
Third paragraph: The Hill’s criteria for causation are not limited to those
mentioned in the manuscript. To establish a causal relationship between two items more is needed. Please clarify

Fifth paragraph : What did the authors mean by program planning?
Sixth paragraph : Use “was associated” instead of “increase the likelihood”

2.7. Conclusion
Use “are associated with” instead of “increase the likelihood of”
Use “relate to” instead of “explain”

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests