Reviewer's report

Title: Short-term Sick Leave and Future Risk of Sickness Absence and Unemployment - the Impact of Health Status

Version: 2 Date: 22 April 2012

Reviewer: Justin Scanlan

Reviewer's report:

Overall recommendation:
Major Compulsory Revisions

Summary:
The authors present results from a prospective cohort study based on a robust data set (the Stockholm Public Health Cohort) exploring the impact of exposure to short-term sick leave on longer term labour market participation (long-term sick leave, short-term unemployment, long-term unemployment and disability pension). Overall, the research methodology appears sound, but there are multiple aspects of the manuscript that require further refinement to develop a report that will be of publishable quality.

Most concerning is the way that results are interpreted in the “results” section. The authors should ensure that they only speak of differences when these are statistically significant. Otherwise, they are misleading their readers, who may assume that where the authors report differences, that these are meaningful differences.

This manuscript would also benefit from input from a copy-editor who can enhance the overall quality of written expression, as there are various short-comings that detract from the manuscript.

Specific recommendations:
The specific recommended changes are outlined below, set out according to each section of the manuscript. All recommendations are Compulsory Revisions unless noted as discretionary.

Abstract
The abstract is generally appropriate and consistent with the information presented in the manuscript.

Introduction
1. First sentence – “...sick leave is often used as an indicator of health” – this is referenced by only one study, so it is probably inappropriate to say “often” – perhaps better to replace “often” with “can be”.


2. Final sentence, first para – this lists a range of factors associated with disability pension that are not explored in this study (e.g., smoking, adverse working conditions) – the fact that these factors are not considered in this study needs to be addressed somewhere in the manuscript – probably in the methods section (Discretionary revision, although highly recommended to support the cohesiveness of the paper)

3. Second para, final sentence – this is poorly worded. Do the authors mean methodically rather than methodologically? Even with this change, the sentence remains awkward and should be re-written.

4. The research questions should be more explicitly stated. In particular the second sentence “Furthermore, we aim to explore the impact of different measures of health status on the associations” should be re-written to more explicitly highlight that the research design attempts to control for the potentially confounding effects of health status.

Methods

5. In the manuscript I reviewed, the methods section was included following the conclusion. This section must be moved to be between the introduction and the results sections.

6. First para – refers to the SPHC studies being conducted in 2002 and 2007. From my reading of the manuscript, no information has been used from the 2007 wave of this survey. If this is the case, then the reference to the 2007 wave should be deleted. If there is data that is used from the 2007 survey, then the reader has to know what the retention rate for the sample used in this study is.

7. “Study sample” – more than 20,000 people were excluded from this study. It would be interesting for the reader to know which groups made up the majority of those excluded. For example, an additional sentence could be included that says “Of the 20,026 individuals excluded from this study, X were excluded due to not meeting the age requirements, X due to … etc” Such information could also be incorporated in the original paragraph (which at the moment is a single sentence).

8. Short-term sick leave has already been abbreviated to STSL in the introduction, so the abbreviation should be used consistently thereafter. This would avoid the clumsiness of the statement “This combination we call “high short-term sick leave” with the acronym STSL.” This could be simplified to These combinations we classified as high STSL.

9. When defining high STSL, it is curious that the combination of “Yes, 2-4 times” and “8-30 days” in total was not included. Why was this the case, as it would seem logical to include this group as part of high STSL.

10. Outcomes – second para – the word “longitudinal” should not be capitalised. The Swedish Acronym for the database is not required.

11. Confounders – this section has lots of paragraphs with only one sentence. This should be avoided.
12. Confounders – The phrase “Six measures of health status were utilised:” suggests that a bulleted list follows, which is not generally consistent with style for a scholarly research report.

13. Confounders – When discussing the confounders, the authors need to explicitly state that all of these confounders were based on 2002 data.

14. Confounders – in the paragraph about the GHQ-12, we need some background about what a summary score of “three and above” means. It would also be good to provide a reference that supports the use of summary score of 3 and above as a useful cutoff for “adverse mental wellbeing”.

15. Confounders – In the sentence beginning “Somatic disease was a combine measure…”, “by a physician” should be followed by a colon, not a semi-colon.

16. Statistical analyses – there should be some rationale provided as to why each of the models used to control for the confounding effects of health status included the socio-demographic factor.

Results

17. First para – This paragraph reports on the results from chi-square tests of independence of groups, but then makes pairwise comparisons without – it would appear – completing any form of post-hoc pairwise tests. For example, the last sentence reports “Those with less than good self-rated health or adverse mental wellbeing had a higher prevalence of both high and low STSL than the others.” This statement is not true. On looking at the data presented in table 1, it would appear that there is a significant difference in high short-term sick leave between the groups on these two measures, but low for STSL the percentages are almost equal – and for Self Rated Health, the actual raw percentage for low STSL is actually lower for the “poor self rated health” group (although this is a very small difference and would clearly not reach statistical significance in a pairwise test).

18. The paragraph stating with “In table 2…” – the authors do not provide any results from tests of significance, but make statements such as “were more common” and “had a lower prevalence” – unless statistical significance is demonstrated, such interpretations should be avoided.

19. The paragraph starting with “Table 3 shows…” – what do the authors mean by “short-term sick leave appeared to have a gradient effect on the risk of long-term sick leave”? Are they simply restating the fact that there was a significantly increased odds ratio for long term sick leave in the high STSL group, or are they trying to make the point that those individuals with exposure to low STSL also had an increased risk of long term sick leave, but not to the same degree as people with exposure to high STSL? This needs to be clarified in the manuscript.

20. The paragraph starting with “Table 3 shows…” – The sentence “The estimated effect of high STSL on short-term unemployment decreased after adjustment for mental wellbeing and socio-demographic factors ( OR 1.25 95% CI 0.93-1.67).” should be reworded to highlight that after controlling for potential confounders, this association was no longer significant.
21. The paragraph starting with “Table 3 shows…” – The sentence “After adjustments for confounding a decreased odds ratio, however not statistically significant, was found for both long-term unemployment (OR 0.56 (95% 0.26-1.18) and disability pension (OR 0.74 95% 0.42-1.33).” is probably unnecessary, or at least needs to be re-worded. In its current form, it seems quite confusing.

22. Overall, given the number of analyses performed on the same data set, this study is at substantially increased risk of Type II errors associated with multiple comparisons and this should be at least mentioned. (Discretionary recommendation)

Discussion

23. First para – The sentence “An increased risk of short-term unemployment, however not statistically significant after adjustment for confounders, was found.” seems awkward and may be better reworded as “The significant association between exposure to high STSL and short-term unemployment was no longer present when adjustments for potential confounders were made”.

Strengths and Limitations

24. Last para – the sentence “This interpretation is indicated by the results where the OR of long-term sick leave was not affected by specified diseases included in the measure somatic illness or by in-patient care during the year of exposure, but more by SRH and LLSI.” draws in new interpretations of the data not mentioned elsewhere. This generally should not be the case in such a section. Additionally, I cannot understand how these conclusions were drawn. This should be deleted or substantially re-worked.

Conclusion

25. This section seems a little sparse. The authors should provide more detailed interpretation of the overall findings of the study. What should the reader make of the results of this study?

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

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

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