Reviewer's report

Title: Work-related psychosocial events as triggers of sick leave - results from a Swedish case-crossover study.

Version: 1 Date: 2 September 2010

Reviewer: Petra Koopmans

Reviewer's report:

Work-related psychosocial events as triggers of sick leave – results from a Swedish case-crossover study

This paper describes a relevant question: whether work-related psychosocial events are triggers of sick leave. The use of a case-crossover design in sickness absence research is new, and interesting. However, I wonder whether the assumptions of a case-crossover design in this case are met. Moreover, a causal interpretation is not justified in this study.

Major Compulsory Revisions

General and methodological remarks

1. A case-crossover design is used for transient or intermittent exposures. Important assumptions in a case crossover design include that the exposure should be brief, the time between exposure and event onset should be short and there is little carry-over effect on the exposure. Therefore, this study design can’t be used, for example, to evaluate an intervention which is anticipated to cause cumulative changes in the participants, or to study on the progression of a chronic disease. I wonder whether psychosocial factors can be considered as brief and transient exposures. I do expect cumulative and carry-over effects in for example the relationship with superiors and colleagues, bullying and tasks for which you are not skilled enough or unpleasant work tasks.

2. In a case-crossover design what a case was doing at the time of an acute event is compared with what the case would have been doing usually. In practice, case-crossover designs are limited by the information available on each case’s ‘usual’ behaviour. Extracting such information requires in-depth questioning. The telephone interview on the first day of sick leave may bias the results through recall bias (maybe those who report ill are more aware of psychosocial events just before the sick-leave and less of events more distant in time) or response bias (respondents answering questions in the way they think the interviewer wants them to answer). In this context, I would also be interested whether the interviewers were aware of the hypotheses of the study, and if yes, how this could this have influenced the results?

3. The length of the hazard period is very important. If the duration is overestimated, many "false exposures" will become "exposures". If the duration is underestimated, some of the "true exposures" will be excluded. When either of
these occur, the association between the event and exposure can't be evaluated correctly. Why did the authors choose for a hazard period of one and two days respectively?

4. It is possible that the psychosocial pressure increases when an employee is bound to report sick. Thus the (actual or perceived) psychosocial problems increase when an employee is preparing to report sick and tries to oversee the consequences. In that case the decision to report sick causes or plays a role in the work-related psychosocial events in stead of the other way around.

5. In the document the authors speak of ‘reporting sick when ill’. I would prefer to use the term ‘reporting sick’ instead. Because the authors did not investigate whether the employees actually were ill or whether the sick leave was due to this illness, except for a self-report interview at the first day of sick-leave.

Minor Essential Revisions

Background

1. The authors state in the background that “Several of the non-medical factors may operate in a short period before the decision making. The induction period before the effect comes manifest is short and such factors may, therefore, be viewed as triggers”. Is there a proof or reference for this statement?

Methods

Data sources

2. How did the interviewers introduce themselves and what said was about confidentiality? Or, in other words, could the employees have had the idea that their answers would be communicated to their employer?

Exposures

3. How were the questions combined into one measure called ‘problems in the relationship with superior’ and ‘problems in the relationship with colleagues’? When one questions was coded as yes, then the combined score was coded as yes?

Statistical analyses

4. “The odds ratios can be considered as estimates of the relative risk”. This holds only for uncommon events (< 5%).

5. Were the uncertain exposures coded as exposed or as non-exposed?

6. An estimated sick leave incidence rate was calculated. Over which period this rate was calculated?

Results:

7. “The median self-reported work ability did not differ between exposed and unexposed cases”.

Which kind of exposure is meant here, and over which period?

8. Figure 1 Usual frequency A) Add ‘excluding the case period’ (as in C)

9. Page 10 last sentence: “We performed separate analyses for these exposures,
only including cases that did not report illness symptoms before the first sick leave day, which also resulted in increased OR’s. This speaks against exposure being a consequence of illness”.

Were the OR’s significant? The conclusion is more appropriate in the discussion.

10. Table 3. I suppose the numbers of exposed/unexposed shown in table 3 are the numbers in the case periods. Can the authors add the numbers of exposed/unexposed in the control periods?

Discussion
11. “Confounding from selecting control periods without illness is not a problem, since there is no strong reason to believe that exposure is associated with illness”.

I do not understand this sentence.

12. “We expect the triggers studied here to mainly have an effect in the continuum slightly above no work ability and slightly below full work ability”.

Please explain this, because it is not clear.

13. “Nevertheless, our results suggest that the work ability of the included cases at least to some part was situated in the continuum were the trigger factors could have an effect”.

I do not understand this sentence and I do not see how this can be concluded from the results.

Conclusions
14. ‘when experiencing ill health’. By formulating it this way it seems that all sickness absence is due to ill health. But this needs not to be the case.

15. “However, the results imply that psychosocial work-environmental factors appear not only to affect sick leave through health, but also through sick-leave behavior”.

I am not sure how this conclusion can be drawn from this study. The methods applied do not allow conclusions about causal mechanisms or mediator variables.

Discretionary Revisions

Abstract
Background
Different work-related psychosocial events. I do not understand the word ‘different’ in this context. The word ‘different’ can be removed.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests.