Reviewer's report

Title: Development of burnout over time and the causal order of the three dimensions of burnout among male and female GPs. A three wave panel study.

Version: 1 Date: 13 January 2010

Reviewer: Olaf G Aasland

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Major compulsory revisions:
This is an interesting study, with particularly two assets: that it is longitudinal and that it is limited to General practitioners. However, I am unsure to what extent it brings new knowledge, or becomes merely one of "the enormous number of publications concerning the syndrome of burnout and the widely used MBI" (quoted from the first sentence of the manuscript).

I have several concerns that should be addressed:

1. The authors presuppose that the reader is very familiar with the Maslach Burnout Inventory (MBI), even to the extent that the cut-off value (burnout vs. not burnout) is universal and known. They present high numbers, e.g. that 20% of the GP's are "clinically burned out" (summary p. 2), but we are not told what the criteria are. On p. 14-15, where the psychometric properties of the MBI are explained, we are only given a few sample statements and a from all three datasets, the respondents are the same! We are not told what the cutoff values are, nor whether the MBI-dimensions have a normal distribution. The results are sometimes presented as mean values of the three dimensions, and some time as fractions (percentages).

2. The second research question is "What is the causal order of the three dimensions of the burnout syndrome among male and female GPs?". This is investigated on then bases of three different models from the literature, Golembiewski et al, Leiter & Maslach, and Lee & Ashforth. What I do not find is a discussion of why there should be a causal order at all. The only discussion is whether there might be a gender difference in sequence. It may well be that this is basic for the "burnout research community", but I would think it deserves some attention.

3. To my knowledge there is a growing body of literature where burnout is seen in a work-home balance perspective, see for instance: Innstrand, S. T., Langballe, E. M., Espnes, G. A., Falkum, E., & Aasland, O. G. (2008). Positive and negative work-family interaction and burnout: A longitudinal study of reciprocal relations. Work & Stress, 22, 1-15 (a study where doctors and other professions are analysed in gender and profession quota samples). This perspective is only briefly discussed on page 23-24, and deserves in my opinion more attention, particularly in a study with a distinct gender perspective like the
present.

4. On the other hand, there is an extensive discussion on page 20-22 on how work conditions, particularly for GPs in the Netherlands, may explain some of the temporal variations in MBI. Most people regard burnout as a phenomenon that develops over time, which may not be so sensitive to local variations in work conditions as for instance a measure of job satisfaction. I find it a bit difficult to accept that a reorganization of night- and weekend shifts may have an immediate bearing on the MBI-scores, but I am open for good arguments here!

Minor essential revisions:

5. Burnout is sometime called "an illness", "a gendered concept" (p.5), or a "syndrome" (p. 4). The reader deserves a good definition!

6. The statement that "GPs are particularly susceptible to the burnout syndrome" (p. 7) is not convincing to me.

7. On page 10 (bottom) you write that "women have a greater likelihood of using coping at all". Doesn't everybody always use coping (positive or negative)?

8. The first research question (p. 12) reads: How does the prevalence of burnout develop over time among female and male GPs? I find this question unclear. Is it about how the prevalence changes over time, or is it about how burnout develops (with relation to possible identifiable causes)? Also, the expression "causal development of burnout" (e.g. p. 15) needs some qualification.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests