Reviewer's report

Title: Depressive mood mediates the influence of social support on health-related quality of life in elderly, multimorbid patients

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Reviewer: Marjan M van den Akker

Reviewer's report:

Report on ‘Depressive mood mediates the influence of social support on health-related quality of life in elderly, multimorbid patients’

Thank you for giving me the opportunity to review this manuscript. It describes an interesting study, contributing to the understanding of multimorbidity. I have some questions and remarks that may be helpful to further improve this manuscript.

Introduction:
1. Authors describe that diseases tend to co-occur if they share common risk factors or pathophysiological pathways. There is also a more statistical approach: two diseases with a high prevalence have a fairly reasonable chance to co-occur, based on chance alone.
2. The authors state that identifying disease patterns can help identifying patient groups with shared characteristics. This might be true. However, maybe there is more general relevant distinction between patient groups, based on general disease susceptibility and disease-related susceptibility (Van den Akker M, Vos R, Knottnerus JA. In an exploratory prospective study on multimorbidity general and disease related susceptibility could be distinguished. JCE, 2006;59(9):934-9). I think the authors should pay some attention to this as well (see also discussion).

Methods:
3. At the end of the methods section authors give the number of patients in the stratified analysis, before describing the total population in the result. Furthermore, I would like to have some additional (basic) information about the patient characteristics per stratum (e.g. in additional columns in table 1).

Results:
4. In the results authors should make a new subheading or at least a blank line before the description of the stratified results.
5. The final paragraph of the results should be moved up a bit, because these results concern the entire study population. As the results are organized now, the reader might think those results concern the stratified analysis.

Discussion:
6. The authors have used a unique multimorbidity score. I agree that in this study
the use of a score has additional value over the use of a simple disease count. The disadvantage – as correctly mentioned – is the difficulty to compare the results with other studies. Why did the authors not use an existing (and validated) multimorbidity score, such as CIRS?

7. The fact that only marginal differences were found between the disease patterns might be a support of the distinction between general and disease-related susceptibility (see comments on discussion).

**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