Reviewer’s report

Title: Differences in the symptom experience of older versus younger oncology outpatients: a cross-sectional study

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Reviewer: Lucia Gagliese

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This manuscript addresses the important, understudied issue of age-related variation in cancer symptoms. It is well written and easy to follow. However, there are some methodological issues which make it difficult to interpret the results or draw firm conclusions.

Major Compulsory Revisions

1. The analyses presented in this manuscript are based on the pooling of samples from three independent studies. The descriptions of the studies suggest that they may be quite different in terms of patient characteristics. Therefore, prior to pooling the data, the authors should determine whether there are any significant differences between the three samples on demographic and biomedical factors and MSAS scores. They should also consider looking at sample by age group interactions.

2. More information should be provided on the age-distribution of the participants. Given the fairly young mean age (61.3 ± 12.1 years), the range and distribution by decade would be informative.

3. The authors state that “because the initial goal of this analysis is to report the complete data on unadjusted age-related differences in all four symptom dimensions for all 32 MSAS symptoms, covariates were not included in these analyses” (paragraph 2, page 13) and that these will be reported in subsequent publications. The rationale for this decision is not clear. It would be better to report the unadjusted and covariate analyses in one manuscript. This would give a richer understanding of age-related variation, including potential interactions and would make a more significant contribution to the literature. As it stands, it is very difficult to interpret the findings because they may simply reflect age-related differences on any of the covariates. For instance, the finding that older people are more likely than younger people to report difficulties with urination (page 11), may reflect the age group differences in cancer diagnosis (older participants are more likely have prostate cancer, Table 1) than an effect of age per se. To aid in interpretation, the authors also should report age differences in comorbidities, length of illness, and any symptom management strategies used at time of assessment and examine each as covariates when appropriate.

4. In assessing age differences on a standardized measure, it is important that the measure’s psychometric properties have been established across age
groups. Is there evidence that the MSAS’s validity and reliability are invariant across age groups? If not, the authors could perform some psychometric analyses by age group to determine if it is valid to proceed with assessing age differences on scale scores.

5. Related to the issue of psychometrics and cross-sample differences, I note that the mode of administration of the MSAS differed across studies (Australia: face-to-face interview, FPS: pen and paper, self completion at study site (not entirely clear), Symptom Prevalence: completed at home and mailed back). Has the MSAS been validated for each of these modes of administration? Has equivalence of outcomes across administration mode been demonstrated? What response biases might be important to consider in each one?

6. The authors also should consider the clinical relevance of the differences because many seem quite small.

7. It is difficult to comment on the Discussion until the data are reanalyzed to account for potential subsample differences and covariates.

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