Author’s response to reviews

Title: The SAKK Cancer-Specific Geriatric Assessment (C-SGA): A pilot study of a brief tool for clinical decision-making in older cancer patients

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Author’s response to reviews: see over
Dear Dr. Pura,

Please find our resubmitted article manuscript number 1614309460964540 entitled "The SAKK Cancer-Specific Geriatric Assessment (C-SGA): A pilot study of a brief tool for clinical decision-making in older cancer patients" that we would like you to reconsider for publication as an original article in *BMC Medical Informatics and Decision Making*.

We thank the reviewers for their time and thoughtful comments. Our point-by-point author responses are detailed below organized by individual reviewer. Each response is in blue text and bulleted directly underneath each reviewer comment. All corresponding text changes are noted by manuscript page number of the accompanying resubmitted manuscript file.

**Reviewer 1:**

**Abstract**
1) The conclusion should be moderate, the discriminative accuracy of the score remains to be demonstrated
   • Text was modified (see page 2).

**Introduction**
2) There is too many general review cited.
   • The citations include a mix of individual studies as well as reviews. We have included reviews because they set the context for the importance of C-SGA. Some are important because they emphasize where international organizations have identified gaps in C-SGA knowledge (e.g. validation of tools in clinical practice). To make the introduction more specific we have edited the text as suggested below in items 3 & 4.
3) The introduction should address the purpose of the SAKK C-SGA. The reason to develop a short geriatric assessment instead of CGA should be develop in the introduction rather in the discussion.
   • Additional text regarding the need for a brief C-SGA has been added (see pages 3&4).
4) Geriatric evaluation has recently been used in a prospective clinical trial in colorectal cancer (FFCD 2001-02, J Clin Oncol 2013)
   • Additional text and this reference have been added (see pages 3&4).

**Method**
5) How the cut-off of each domain have been obtain?
   • The cut-offs for each individual domain were based on the previously validated cut-offs for individual measures (see text page 6 and Table 1).
6) The SAKK C-SGA form could be presented as a table instead of supplementary material
   • As Reviewer 1 suggested we have added the previously submitted supplementary material as Table 2. However, we leave the final decision of where to include the information to the journal editors as we feel it might be better placed as online supplemental material.

**7) How the life-expectancy has been assessed?**
   • Life expectancy was based on physician judgment. Text has been added to clarify this point (see page 6).
8) How the dichotomization according to C-SGA has been validated?

- The dichotomization was based on our pilot test, previous research showing relations with cancer-related outcomes, and the principal that the cut-off must be set above a zero or one score otherwise it does not incorporate the essential geriatric assessment advantage of incorporating multiple domains of information (see page 6 and references 11 & 36).

Results

9) The comparison of the 2 sites give no additional neither for the article and neither for validation of the score in table 2 and table 4. More over the small number in each site could not allow to drawn valid conclusion.

- The analysis by study sites is important (although small numbers) for insight into differences in the patient populations that may or may not affect C-SGA and cancer outcomes. It allows the reader to see that the C-SGA is sensitive to differences in health status by geriatric domains (e.g. KSSG patients more ill than KSGR patients and this is correctly reflected in C-SGA scores). This can only be seen by comparison of study site populations.

10) If the treatment is decide according to result of C-SGA score it is obvious that a good score is correlated to a curative treatment.

- Yes, that is the principal of C-SGA. In this study treatment was not decided by C-SGA. However, in general one purposefully designs the C-SGA to be able to discriminate and objectively guide which persons should receive what treatment. Therefore, as the reviewer states one would expect those with high C-SGA scores (i.e. fit for treatment) to receive curative treatments. The same statement would not necessarily apply to age-based decision making.

11) To be provocative if the S-CGA is correlated to the good-general health according to the physician feeling and to WHO PS what is the added value of C-SGA?

- The important added value of any C-SGA is that it provides information about deficits in individual domains that can provide potential specific intervention points for improving cancer outcomes (see page 9). A physician’s assessment of general health and/or WHO PS does not provide the same opportunity to improve outcomes.

Discussion


- The evaluation of other brief C-SGA tools is discussed and some additional references mentioned by Reviewer 1 have been added (see page 9)

Conclusion

13) The demonstration of the clinical decision-making accuracy remains to be demonstrated

- Conclusion regarding clinical decision-making has been modified. Text has been added that additional investigations of discriminative ability for clinical decision-making are warranted (see page 11).

14) The comparison between the 2 sites add few additional value to the article

- The analysis by study sites is important (although small numbers) for insight into differences in the patient populations that may or may not affect C-SGA and cancer outcomes. It allows the reader to see that the C-SGA is sensitive to differences health status by geriatric domains (e.g. KSSG patients more ill than KSGR patients and this is correctly reflected in C-SGA scores). This can only be seen by comparison of study site populations.

Reviewer 2:

1) Major: The authors claim their score is discriminative. However, their statistical analysis shows correlation with other health parameters, not discrimination. In order to claim discriminative ability, they should demonstrate that their threshold
for treatment feasibility does indeed identify correctly patients who could or could not tolerate standard treatment. Please modify the discussion from discrimination to correlation or provide data supporting for the former

- We have modified the text to clarify what is meant by discriminative ability (see pages 2 & 11). In this study the SAKK C-SGA was sensitive to differences in health status by geriatric domains (e.g. KSSG patients more ill than KSGR patients and this is correctly reflected in C-SGA scores). These differences of course can impact treatment options. The tool discriminated between patients rated by other methods as likely to be less fit for treatment. However, as Reviewer 2 correctly points out we did not test discrimination for treatment tolerance. We plan to do a follow-up of patients for treatment tolerance and survival to address this important issue. We now mention in the conclusion that further studies of discriminative ability for clinical decision-making based on treatment outcomes are needed (see page 11).

None of the authors has a conflict of interest. All authors have contributed significantly and approved the manuscript for exclusive resubmission to BMC Medical Informatics and Decision Making. As previously declared, these findings were in part presented at the 10th annual SIOG meeting in October 2009. If there are any further questions please do not hesitate to contact me at the email address below. Thank you for your reconsideration of our work.

Best regards,

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