Reviewer's report

Title: A cohort study on the evolution of psychosocial problems in older cancer patients: comparison with younger cancer patients and older primary care patients without cancer

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Reviewer: Sandipan Bhattacharjee

Reviewer's report:

The manuscript titled “A cohort study on the evolution of psychosocial problems in older cancer patients: comparison with younger cancer patients and older primary care patients without cancer” is well-written and interesting. This manuscript has the potential to add new information to the existing literature. The overall writing quality of this manuscript is good. However, the following points need to be addressed before this manuscript can be accepted for publication in BMC Geriatrics.

TITLE:
1. Please see my comment on inclusion of only the breast cancer and colorectal cancer patients in the Introduction section. It is fine to include only these two forms of cancer patients but the title should reflect that (rather than sending out the feeling that all types of cancers were considered in this study). [Major Compulsory Revisions]

ABSTRACT:
1. The abstract of this manuscript is well-written, but should be changed when re-submitting after revising the study as per reviewer comments. [Major Compulsory Revisions]

INTRODUCTION:
1. The cancer patients included in this study were those with incident breast or colorectal cancer (stage I-III). Why were only these two types of cancer patients selected for this study? This rationale is missing in the manuscript. The authors need to provide strong rationale as to why only breast or colorectal cancer were included (e.g. greater survival of these form of cancer patients etc.). The Introduction section needs to be revamped making it more in-sync with the selection of these two forms of cancer. [Major Compulsory Revisions]

METHODS:
1. While reading the Methods section, I wondered on what basis the classification of age was made, because in general we term individuals aged # 50 years as Older Adults, while those aged # 65 years as Elderly. However, when I read the Discussion section, the authors mentioned a reference the International Society of Geriatric Oncology using the definition used in this study. So I would recommend that the authors mention this reference as their justification of age
classification in the Methods section (mainly as the age classification seems to differ across studies). [Major Compulsory Revisions]

2. One other important question is that, breast cancer patients should be compared to only female non-cancer patients rather than comparing them to both sexes. It is recommended that the authors do separate analyses for this cohort of patients. [Major Compulsory Revisions]

3. It is recommended that in the Methods section, line 140-141 (page 7), the authors replace the “a new and first diagnosis” by “incident diagnosis”, which sounds more scientific. [Discretionary Revision]

4. Cronbach’s alpha values for the EORTC-QLQ-C30 scale used for measuring subjective cognitive functioning in this study was very low, particularly for the ONC group. According to existing literature, if the value of Cronbach’s alpha is < 0.5, then its reliability is unacceptable (http://pioneer.netserv.chula.ac.th/~ppongsa/2013605/Cronbach.pdf). I would like to hear some comment from the authors regarding the reliability of use of this subscale among non-cancer patients (as I believe this instrument is specifically designed to be used among cancer patients). [Major Compulsory Revisions]

5. In terms of measuring Fatigue using Visual Analogue Scale (VAS), fatigue was measured just over the past 24 hours’ time rather over a one-week period. The authors need to comment the possible drawbacks of this method, particularly the bias arising if the cancer patients had chemotherapy in the past 24 hours or some other difficult procedures they may report worse than usual Fatigue level. [Major Compulsory Revisions]

RESULTS and TABLES

1. In Table 1, the superscript text for both p-values is ‘a’. One of them should be changed to ‘b’ (differences between older cancer patients and older persons without cancer) as per the footnotes. [Minor Essential Revision]

2. Some of the 95% Confidence Intervals (95% CIs) are extremely wide (for e.g.: for baseline depression value OR 10.39 [4.65-23.22]). These type of lack of precision in 95% CI usually signifies issues with sample size problem. The author should acknowledge this drawback in the limitations section. [Major Compulsory Revisions]

DISCUSSION, LIMITATIONS, CONCLUSION:

1. Overall the Discussion section is well-written, but I would like to see some discussion about the findings from multivariate logistic regressions that living alone and surgery & CT with or without any combination RT, HT, IT significantly associated with Depression at T1. For example, one of the implications from the finding that living alone leads to depression can be that various social support groups are essential to provide support to these individuals, particularly in this study population where approximately one-third of older cancer patients are living alone. [Major Compulsory Revisions]

2. The authors should acknowledge a few more limitations of this study as mentioned above in this review. [Discretionary Revisions]
3. The Conclusion by the authors sounds good.

**Level of interest:** An article of importance in its field

**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.