Reviewers report

Title: Weight before and after a diagnosis of breast cancer or ductal carcinoma in situ: A national Australian survey

Version: 0 Date: 14 Aug 2019

Reviewer: Efrat Dagan

Reviewers report:

Re: BCAN-D-19-00389: Weight before and after a diagnosis of breast cancer or ductal carcinoma in situ: A national Australian survey

Carolyn Ee, Adele Cave, B. Dhevaksha Naidoo, John Boyages

This MS is very important for patients and health care providers, in terms of managing the disease and its consequences in the acute phase and then in the survivorship period. Weight management following breast cancer diagnosis is also a significant issue for health outcome and quality of life. Generally, the authors made the required revisions. However, I would have preferred a more cautious wording regarding the low response rate and the sample representation of the breast cancer patients in Australia. Accordingly, the authors should go through the MS and rephrasing where needed. Furthermore, although the data description is interesting and important, it is important to understand factors that associated and affecting weight gain in breast cancer patients for future programs interventions.

Please see below several additional comment (#1-#4) relating the authors' revisions and responses.

Sincerely,

Efrat Dagan (Reviewer 2):

2.4.2019 - previous review and recommendations after the revisions made by the authors:

Dear Editor,

Re: Review of the manuscript entitled: Weight before and after a diagnosis of breast cancer or ductal carcinoma in situ: A national Australian survey (BCAN-D-19-00389)

The MS is well written and addresses a very important issue.
The study aimed at evaluating weight gain in population-based datasets of breast cancer patients in Australia. Given the knowing adverse effects of weight on health-related outcomes and quality of life, this research aim is of utmost importance. The authors conducted a cross-sectional design using a self-report questionnaire via the web. This methodology has its strength in terms of distributing the research questionnaire and of accepting a large survey sample, yet has several important concerns as detailed below.

Please consider the following specific comments:

Abstract

Methods: "A 60-item cross-sectional…” It is better to write which items (sociodemographic, clinical etc.).

Thank you, we have changed this to read "We collected sociodemographic, medical, weight and lifestyle data using an anonymous, self-administered online cross-sectional survey between November 2017 and January 2018” in the Abstract, page 2 lines 29-30.

Comment #1: Conclusion (abstract):

1.a. Considering the low response rate, I would have preferred a more cautious sentence than: "Women in Australia gain a considerable amount of weight after a diagnosis of breast cancer/DCIS and report high levels of concern about their weight."

1.b. The main limitation in this study is the low response rate, it is better to add it to the self-report method limitation.

Introduction

Please consider rearranging the first paragraph. For example, consider switching the first and the second sentence. As the aim of the study is to explore weight gain following breast cancer diagnosis, omitting or replacing the two sentences in lines 57-60, "Obesity is a known risk factor for breast cancer..." might be considered. In the second paragraph (line 62), the sentence may start with "obesity at diagnosis....."

Thank you, we have made the suggested change in the second paragraph lines 62-74.

OK

Furthermore, consider expanding the background regarding factors associated with weight gain following breast cancer diagnosis (lines 65-66).
We have expanded this line slightly in the Background: "Weight gain after breast cancer diagnosis is thought to be multifactorial and may be related to the use of systemic treatment, younger age at diagnosis, as well as changes in lifestyle [1, 6]." (lines 64-6). However the main aim of this paper is to describe the weight gain trajectory and not the factors associated with weight gain.

OK

Methods

Survey instrument: please add the word 'sociodemographic' before 'characteristic' (line 95). Please move the ethics approval to the study design section (line 96).

These have been amended.

What is meant by the sentence in lines 95-101?

We have rewritten this section to be a bit clearer: "The 60-item survey included questions on the sociodemographic characteristics, medical details such as diagnosis and treatment, lifestyle habits, and weight and weight management of women. Details of the survey questions are outlined in Appendix 1." (lines 101-4).

Comment #2: Maybe a mistake was made and the lifestyle habits, weight and weight management questionnaire was not uploaded.

Regarding the 11 Likert scale questionnaire which involves "concern about weight", please provide 2-3 examples. I presume that the authors developed the questionnaire, so how did you develop and validate this specific instrument?

We have rewritten that section to read "We devised an 11-point Likert scale to evaluate concern about weight ranging from 0 (not at all concerned) to 10 (very concerned) (not validated). " (page 5, pages 111-4).

Comment #3: Please provide, sample questions for the weight concern questionnaire and the alpha Cronbach for the current sample.

The statistical analysis should be described in more detail; what exactly was done and how was the data managed? Please see comments for more analyses in the results, and add here accordingly.

Thank you, we have added more description of the statistical analyses as well as more analyses of the results as indicated previously in this response.
"We described the diagnoses, treatments received, and health provider visits of respondents in percentages. Women who did not self-report their weight were excluded from analyses relating to weight. Body Mass Index was calculated from weight and height as weight/height^2. A Pearson's correlation was performed to test the relationship between weight gain and time since diagnosis. We calculated the percentage of women who were currently overweight (BMI 25-30) or obese (BMI > 30) and compared this to the proportion were overweight/obese at time of diagnosis. Current and pre-cancer weight and BMI were reported as a mean and standard deviation. We calculated the number and percentage of women whose BMI changed from healthy (< 25) to unhealthy (BMI > 25) from diagnosis to time of survey, as well as women who reported an increase of BMI of greater than 1 kg/m^2. We described the self-reported weight gain pattern in percentages, and the proportion of women who gained > 5kg of weight, 5-10% of body weight, and >10% of body weight."

Results

Considering the low response rates, I wonder if you have any data (especially, sociodemographic data, age at diagnosis and IDC vs. DCIS), that could be presented for those who did not respond and were therefore not included in the analysis.

Unfortunately these data are not available. We have mentioned this as a limitation of the study in our Discussion.

Please omit the note: "Error! Reference source not found". in line 122 and enter table 1.

This has been rectified.

Descriptive of the clinical data should be provided in a table.

Thank you for this suggestion; We have now added a table outlining the treatments received. (Table 2).
Please correct lines 133 and 134: "The large majority of women (95%, 134 n=291) had either been diagnosed with DCIS or non-metastatic breast cancer", however, most of the study participants were diagnosed with non-metastatic breast cancer.

We have replaced this with "The majority of women (82%, n=252) had been diagnosed with non-metastatic breast cancer," lines 162-3.

OK

How did data on health care visits contribute to the study aim? (lines 146-151).

We collected these data to describe women's interactions with health care providers. In this context it is relevant because it highlights a possible avenue for improving management of weight after breast cancer, with women seeing an average of 3 health care providers in the past 12 months and opportunities to screen and assist with weight management at these touch points.

Please clarify the association between weight gain and concern about weight.

We have now run a Fisher's exact test on BMI classification and concern about weight and describe the results in lines 203-5.

Weight gain: I think that this informative data should be also presented in a table (lines 155-161).

Thank you for this suggestion, we have now included this in a table (Table 3).

OK

The authors should present the associations analysis described in lines 167-177 also in tables. Additionally, the authors should consider providing data regarding the associations between sociodemographic and clinical variables, and weight gain.

There will be an additional manuscript that explores these associations as potential predictors of weight gain. We have now presented some of this data in Table 3 as requested.

Comment #4: Although the simple description of the data is interesting and important. In my opinion, the authors have to try to explain the results. In other words, what are the factors that associate with weight gain following the diagnosis of breast cancer?

Would the authors be able to construct a regression model to explain weight gain after breast cancer diagnosis?

Yes - this will be explored in a subsequent manuscript.

Comment #4: Please see above comment.
Discussion

Throughout the discussion, a cautious wording regarding the population representations is preferred.

To avoid repetition of the findings, the data described in lines 184-190 may be discussed with regards to the relevant literature.

Thank you - we have removed some of the repetitive phrases and combined with the discussion of relevant literature. In lines 214-219 the paragraph now reads

OK

"We found that two-thirds of our respondents were currently overweight or obese, with the majority of women reporting they had gained weight after diagnosis, mostly within the first 12 months and at a substantial self-reported average of 9.07 kg. Of note, the proportion of women who were overweight or obese rose sharply from 48% at time of diagnosis to 67% at the time of the survey, with the proportion of women who were obese almost doubling from 17% to 32%."

Later in the manuscript we have stated

"Our findings are of concern because weight gain pre- and post- BC diagnosis have both been associated with increased morbidity and mortality. Whilst those at heaviest weight appear to carry the greatest risk, even those within the healthy weight range have increased risk following weight gain [15]." (lines 231-233).

OK

Do the authors have any data on breast cancer and figures of weight among divers in Australia? If so, it may add to the discussion (and replace line 249 and further).

Unfortunately we do not have any data about breast cancer in diverse populations in Australia. However, we have made reference to the need to explore the association between diverse populations and breast cancer incidence, with the sentence"Understanding this in the Australian context will be an important component of future research[26]" lines 299-300.

OK

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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