Author’s response to reviews

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

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

Amended an error in Table 3

We had noticed an error in frequencies in Table 3, on page 24. We have corrected this now.

Response to reviewers’ comments

Reviewer 1

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.

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."

Thank you for your kind re-review of this manuscript. We have changed the sentence now to read “Although the findings from this survey should be interpreted cautiously due to a limited response rate and self-report nature, they suggest that 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.” (First sentence in Conclusions section in Abstract, page 2, lines 44-45).

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.

Thank you, as per the response above, we have added this to the abstract.

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

We have now added information about Lifestyle Habits and weight management to Appendix 1.

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, lines 121-2).

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

We have now provided the sample question and the sentence now reads “We devised an unvalidated 11-point Likert scale to evaluate concern about weight (using the question “Please rate how concerned you have been over your weight in the last 12 months”) ranging from 0 (not at all concerned) to 10 (very concerned). “ (Page 5, lines 121-2).
Thank you for your suggestions for alpha Cronbach. As we only had one question in the scale, we are unable to calculate an alpha Cronbach.

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?

Previous response: Yes - this will be explored in a subsequent manuscript.

Comment #4: Please see above comment.

Thank you – we absolutely agree that the predictors of weight gain need to be explored in detail. We will do this in a subsequent manuscript as we believe this represents an important part of the study and warrants a manuscript in its own right. We have added the following statements to page 16, lines 344-7.

“There is an urgent need to further understand the predictors of weight gain in women with BC. Further planned analyses from our data will include analysis of the predictors of weight gain in our sample, including use of chemotherapy, hormonal therapy, and menopausal stage at diagnosis.”

Reviewer 2

1. Combining the 26 subject from outside the BCNA seems to complicate the study. I would be better to include only one group.

Thank you for your comment and we understand the reason for the suggestion. We have considered this and have decided to continue to include all women as it was not our intention to limit this survey to BCNA members only. Additionally it would not be ethical to remove data from women who had put the time into answering. Last, we had also examined demographics of BCNA and non BCNA respondents and they appear similar. (see page 8, lines 172-4). While the number of non BCNA respondents is small, they also allow us to generalise our data beyond BCNA members.

2. The statistical analyses are all parametric. No evidence of normality of the data are provided and it seems likely with this kind of data that a non-parametric analysis would be much preferred.
Thank you for this excellent suggestion. We have inserted the following line in page 7, lines 140-1 “Tests for skewness and kurtosis for weight, BMI at diagnosis, current weight and BMI, and weight gain, indicated that our data had a normal distribution.”

3. The time from diagnosis to surgery ranged very widely with a mean of 8.2 years and a range of 1 to 32 years. Some kind of metric is needed to standardize the data, otherwise the effect of duration is an unknown. It would be better to measure the weight gain for the first 5 years, e.g., from diagnosis or the 5 years prior to surgery.

Thank you for this excellent suggestion. We have further examined the relationship between time since diagnosis and weight gain, beyond the Pearson’s correlation that was already reported. We have inserted the following into our Methods section (Page 7, lines 148-153) “We also categorized time since diagnosis into 2.5 year blocks and ran a one-way analysis of variance (ANOVA) exploring the relationship between time since diagnosis and weight gain in the following groups of women: women who reported gaining weight overall, and who had self-reported weight gain > 5%.”

We reported the following in our Results section (Page 12, lines 233-9):

“There was no difference in the amount of weight gain by time since diagnosis when this was examined in blocks of 2.5 years, in women who had reported weight gain overall (n=175, p=0.26), and in women who self-reported weight gain of greater than 5% of diagnosis body weight (n=162, p=0.27). (See Table 3).

Table 3 Weight gain by time since diagnosis

<table>
<thead>
<tr>
<th>Time since diagnosis</th>
<th>Women who had gained &gt;5% weight (n=162)</th>
<th>Women who reported weight gain pattern overall (n=175)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean weight gain (kg)</td>
<td>SD</td>
</tr>
<tr>
<td>&lt;2.5 yrs</td>
<td>9.00</td>
<td>(6.51)</td>
</tr>
<tr>
<td>2.5-5 yrs</td>
<td>8.42</td>
<td>(4.57)</td>
</tr>
<tr>
<td>5-7.5yrs</td>
<td>9.27</td>
<td>(5.27)</td>
</tr>
<tr>
<td>7.5-10 yrs</td>
<td>9.15</td>
<td>(5.42)</td>
</tr>
<tr>
<td>&gt;10 yrs</td>
<td>11.21</td>
<td>(7.14)</td>
</tr>
</tbody>
</table>

SD=Standard Deviation; Freq=frequency”
4. Not much is made of the variables that were measured. What was the relation between the Likert scale data and weight gain? This seems to have been ignored in the analysis.

Thank you also for this excellent suggestion. We have inserted the following into our Methods section (Page 7, lines 151-3):

“We explored the relationship between amount of weight gain and weight gain concern using the Pearson’s chi-squared test”.

We inserted the following into our Results section (Page 13, lines 249-253):

“Women who had gained more weight were more likely to express high levels of concern about their weight. Of the women who gained 5-10% of weight and >10% of weight, 54.84% and 78.35% reported being very concerned about their weight respectively, compared with 22.45% of women who had gained less than 5% of their diagnosis weight (X2, (9, n=263) =67.6137, p=0.000). “

5. If the number of subjects is sufficient, it would be interesting to determine whether there was a difference between patients who received chemotherapy and those who did not. There seems to be an approximately even split there. Also, was weight gain different between those who were premenopausal or postmenopausal at the time of diagnosis? Again, the split is almost even.

Thank you – we absolutely agree that the predictors of weight gain need to be explored in detail. We will do this in a subsequent manuscript as we believe this represents an important part of the study and warrants a manuscript in its own right. We have added the following statements to Page 16, lines 345-8:

“There is an urgent need to further understand the predictors of weight gain in women with BC. Further planned analyses from our data will include analysis of the predictors of weight gain in our sample, including use of chemotherapy, hormonal therapy, and menopausal stage at diagnosis.”