Reviewer's report

Title: Factors influencing the surgery intentions and choices of women with early breast cancer: the predictive utility of an extended Theory of Planned Behaviour

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Reviewer: Sarah T Hawley

Reviewer's report:

This is a very well written paper by a team with considerable experience in the evaluation of decision making. The objective of the study was to evaluate the extended version of the Theory of Planned Behavior (TPB) on intentions and choice of surgery for women with early breast cancer. The authors correctly contend that there do not exist established theoretical applications to the breast cancer decision making process. Thus the focus on the TPB is innovative and also provides a framework for future research in this area. Through this small study (N=46) of newly diagnosed patients with breast cancer in the UK, the authors provide evidence that the TPB may be a solid framework for better understanding the factors contributing to surgical treatment decisions for these patients. The inclusion of some key variables, such as anticipated regret and the influence of others, adds to the literature in the breast cancer decision making field. Some questions/issues exist that if addressed could strengthen the manuscript.

Major Compulsory Revisions (clarifications)

1. The paper states that 48 women completed online questionnaires before their surgery and after completion of an online decision support tool (BresDex). Not mentioned in the manuscript is the timing of participation relative to the surgical consult. Did all participants complete the study prior to seeing their surgeon for the first time, or did some complete the study after seeing their surgeon? The timing of study completion has implications for responses to several of the questions, including the primary outcome of intention. Clarification of the timing and its potential impact on responses is needed.

2. More detail regarding the clinical characteristics of patients enrolled in the study would be helpful. It sounds from the abstract background that the study is limited to those with stages I and II only, but the manuscript should clarify whether any other stages were included. Were those with a family history of breast cancer or a genetic mutation excluded, to ensure all women would be eligible for the surgical options under study? Were the authors able to measure any other factors that could serve as a clinical contraindication to either of the options (for instance large tumor to small breast size ratio can lead to a recommendation for mastectomy because of the difficulty in doing a lumpectomy in this type of patient). Such contraindications could explain differences between intention and choice (when found).

3. The authors do a very good job of describing all the measures used in this
study except surgery choice which is one of the outcomes of the study. When and how was the actual choice of surgery measured—self report, medical chart/how much further after completion of the initial questionnaire was this collected, etc? So when one looks at Table 1 which shows the correlation between intentions and choice, it is not clear what exactly “choice” is referring to—are positive intentions correlated with choice for BCS (since the intention (since increasing positive intention scores were reflective of intention to opt for BCS). The choice variable measurement and coding needs clarification.

Minor compulsory revisions

4. Could the authors add clarification to the tables so the reader knows what the Extended TPB multiple regression is of (e.g., of breast cancer treatment intentions)

Discretionary Revisions

5. One factor that research has suggested contributes to choices for more aggressive surgery in breast cancer (i.e., mastectomy over BCS in a case where a woman could choose either) is a lack of understanding that the mastectomy does not, in fact, improve survival relative to BCS. Did the authors consider or at all evaluate the knowledge level of participants regarding the likelihood of survival and recurrence between the 2 options under study?

6. The manuscript may be part of a larger study evaluating the impact of the decision tool on patient choices, since the role of the tool (BresDex) in this manuscript is not clear. Was there a specific reason that patients in this study were asked to view BresDEX? The decision tool does not come into the discussion at all, so one wonders whether this study was nested within a larger one evaluating this tool, and a comment to this effect would be helpful.

7. There are many measures and scales being used in this study. Many of these contribute to the field (i.e., the anticipated regret scale). It would be very useful to be able to see an Appendix that includes these items, or make available online as these measures may be used in future work by other researchers.

Level of interest: An article of outstanding merit and interest 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