Reviewer’s report

**Title:** Factors associated with cancer-related fatigue among breast cancer during endocrine treatment in an urban area

**Version:** 3  **Date:** 10 March 2010

**Reviewer:** Kristine A Donovan

**Reviewer’s report:**

This manuscript reports the results of a cross-sectional study of fatigue in 315 women with a history of stage I – IIIA breast cancer currently receiving endocrine therapy. The purported aim of the study was to investigate the prevalence and severity of fatigue in these patients and to identify the demographic, clinical, and lifestyle (that is, exercise and diet) factors associated with fatigue. The study employed a relatively brief self-report questionnaire with one item assessing fatigue and other items assessing physical activity, diet, and demographic and clinical characteristics. It is not clear whether the demographic and clinical data were verified by medical chart review. There are no specific hypotheses identified for the study. Multiple logistic regression analyses were used to identify those factors associated with fatigue. Trend test method, a special form of the Chi square test was used to identify factors associated with the “mitigation” of fatigue, although precisely how this was defined is not at all clear. The statistical approach itself appears sound. Other specific comments are detailed below.

**Major Compulsory Revisions**

1. The authors draw very broad conclusions from the questions they apparently asked of the breast cancer patients. They need to acknowledge the retrospective nature of the self-report data and the fact that the likelihood of recall bias is very high.

2. Only one item is used to quantify fatigue and it is not clear how participants were asked to respond to the question. Is this question assessing fatigue at the moment that the participant is completing the questionnaire? This needs to be clarified.

3. Please provide the empirical basis for classifying the fatigue levels as mild, moderate, and fatigue. What data support how these categories are defined?

4. It appears that the researchers asked respondents to indicate whether their fatigue had changed since beginning endocrine therapy, though this is not particularly clear. For some women the start of endocrine therapy was five years previously. Thus, recall bias is very likely here. This should at least be acknowledged.

5. In the Abstract the authors state that little is known about cancer-related fatigue in women with breast cancer. This is not true; most of the research to
date has been done with breast cancer patients.

6. The Abstract is too long; too much detail is provided in the Methods section about how physical activity and diet were characterized. Not enough detail is provided about the participants’ demographic and clinical characteristics.

7. Background. Much of the information provided in this section is not cited; more references need to be provided. For example, the brief discussion regarding the idea that fatigue is mediated by the endocrine sequel (is this supposed to be sequelae?) of breast cancer treatment has no references associated with it, but certainly should.

8. Methods. Please provide data on how long ago these participants were diagnosed with breast cancer. How long ago had they completed treatment, on average? Was time since diagnosis or time since treatment completion associated with fatigue? This should be explored.

9. Questionnaires. The first sentence in this section states “Every patient was screened for fatigue at regular intervals.” What does this mean exactly? This was apparently a cross-sectional study so how does this sentence fit with the cross-sectional nature of the study? Did the participants fill out the questionnaire once and only once?

10. Questionnaires. The last sentence in this sentence states that “The improvement or aggravation was determined by the scales.” What does this mean? Does this mean that the participants indicated whether their fatigue had improved or gotten worse by responding to particular questions about this or was fatigue assessed at different timepoints and these data analyzed to indicate whether fatigue had improved or not?

11. Physical activity levels. The description of physical activity levels provided in the text is not consistent with the questionnaire. This needs to be clarified.

12. Dietary assessments. This section states that multiple dietary logs were completed. How is this the case if the study is cross-sectional. Also, are the dietary questions on the questionnaire supposed to represent a dietary log? If not, please provide the log so that the reviewers can assess its use.

13. Results. Much is made in the Discussion about premature menopause and its effects. However, no data are provided to indicate how many of the participants actually experienced premature menopause. These data should be provided as it is has direct bearing on how the results are interpreted and the conclusions drawn.

14. Results. Second paragraph. The authors state that 189 patients had improved fatigue or fatigue in “complete remission.” They also state that 16 patients had constant or worsened fatigue. How were these numbers derived? What questions from the questionnaire were used to assess this? See Comment 1 about how biased these results may be if the participant was simply asked to indicate whether their fatigue had improved or gotten worse; there are no
quantitative data available to support this it would seem.

15. Results. Last sentence. The authors state that “Healthy diet can alleviate the intensity of CRF.” Where is the evidence for this in this study? This is a cross-sectional study of associations, not a predictive study where one can more accurately assess cause and effect.

16. Discussion. This section is too long and can be shortened without detriment to the article.

17. Discussion. The discussion about physical activity provides data that is better suited to the Results section and should be included there, not in the Discussion.

18. In general, the authors overstate what they found in this cross-sectional, correlational study. The questions that ask participants about changes to fatigue levels are subject to considerable recall bias making the data derived from these of questionable validity. This at least needs to be addressed as a limitation of the study.

19. The manuscript would benefit from better organization and a reduction in the length of the Discussion section. There is a lack of clarity in the results and the interpretation of these results, and the writing and use of the English language is not good. An editor or colleague more familiar with written English should be recruited to improve the grammar and sentence structure of the manuscript.

Minor Essential Revisions
There are none.

Discretionary Revisions
There are none.

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

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.