Reviewer’s report

Title: Awareness and correlates of the role of physical activity in breast cancer prevention among Japanese women: a cross-sectional study

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Reviewer: Kei Hirai

Reviewer’s report:

The article seems to be very interesting and important using an unique concept, awareness of relationship between breast cancer and physical activities. However the main rationale of the article should be modified as indicating bellows:

1) The article concludes that prevalence (31%) of awareness of the relationship is low among middle aged women. However, as the authors indicated the limitation of this study, the representativeness of the sampling in this survey is limited because of limited sampling only in the Japanese women and using internet-based sampling. Thus, authors should modified the title and conclusion as clearly indicating the limitation of the sampling, by adding such as “among the Japanese sample through internet based study” Also, the confidence interval of the average proportion of prevalence, 31% should be indicated to compare the results with other studies.

2) The correlations between awareness of breast cancer prevention and physical activities and other demographic and knowledge of breast cancer were observed in this study. However the item about the awareness is in the part of knowledge of breast cancer and the intercorrelations seems to be higher among the items within them. Thus, the correlations that the article presented as between other variables and awareness seems not to be specific observation for awareness but more general trend in knowledge of breast cancer. The authors should present the specificity of the awareness from other knowledge items by additional analyses.

3) Awareness in this study seems to be one of hypothetical constructs. However awareness was only measured by a single item. Authors should present rationales for reliability and validity or limitations using single item measurement.

4) The article suggests that the development of specific communication strategies for subgroups with low awareness is needed in conclusions. However, it may be not enough for planning strategic communication only to enhance the awareness of relationship between breast cancer and physical activities in certain subgroups. If the article succeeded to identify the certain psychological and behavioral characteristics of the segment with low awareness, it will be helpful to plan the strategic communication such as mass media campaign. Present data does not cover this scope. Also, the authors’ argument seems that
the only enhancing awareness of relationship between breast cancer prevention and physical activity is necessary and sufficient for breast cancer prevention. If the people aware about the relationships, there would be several types of segments for the people who differently respond the information. I think there are a lot of people without the awareness but with daily exercise habits, or exercise habits are good not only for prevention of breast cancer but for prevention of other disease. If it is difficult to present the other compelling data conceded with awareness, the authors should write a more humble conclusion and implications consistent with the conclusion.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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 no competing interests.