Reviewer’s report

Title: Diet, Weight Management, Physical Activity and Ovarian & Breast Cancer Risk in Women with BRCA1/2 Pathogenic Germline Gene Variants: Systematic Review

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Reviewer: Florentia Fostira

Reviewer's report:

This article is an interesting review where available data on diet, weight and physical activity on and breast and ovarian cancer risks among women carrying BRCA1 & BRCA2 pathogenic variants are gathered.

The strategy described by the authors on the article selection is detailed and thorough. But the manuscript needs some improvement in phrasing and accuracy in scientific information provided. The authors use short, plain sentences, which are not comprehensible. It is quite hard to review the whole manuscript and propose corrections for every sentence, but some suggestions follows and please amend accordingly the rest of the manuscripts:

- The authors use the terms: for BRCA1, women with BRCA1, regarding BRCA1, etc, throughout the manuscript. Obviously they are referring to pathogenic variants in these genes, as the genes themselves do not confer any risk. All these sentences should be corrected, eg, women carrying BRCA1 pathogenic variants, etc.

- It is not clear what the phrase on pg 5, line 130 means.

- BMI - provide full wording first.

- Lines 134, 135, pg 5 - again phrasing. Maybe diagnosis of ovarian….?

- What do you mean by BRCA variant? VUS? Pathogenic? Likely pathogenic?

- Page 6, line 144, associated with risk - define.

- Amend your phrasing referring to BRCA2 pathogenic variants - lines 156-163 and BRCA1, line 166. Please apply this to the rest of the manuscript.

- Discussion, page 11, line 291, ovarian cancer risk.

- Discussion, page 11, line 297, these variants were pathogenic?

- Discussion, page 11, line 298, explain what do you mean by variant.
Major points

The introduction is weak and leaky on scientific information. More specifically:

- The first paragraph of the introduction lacks current scientific data on lifetime risks associated to BRCA1/2 PVs, while it is written vice versa for breast and ovarian cancer. Please refer to the most recent paper on JAMA 2017 (Kuchenbaecker KB et al) for more accurate risks.

- Introduction, page 3, lines 70-71, what do you mean by pharmacological approaches? Also, contraceptives and chemoprevention? Please check current recommendations.

- Introduction, page 3, line 73, not a population, probably a group.

- The second paragraph is vague and needs to be more concise.

Although the authors summarize the data on a table, which is convenient, I think they should also include the number of patients in the text when referring to a specific study. This will help the reader to understand the value of its study.

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An article whose findings are important to those with closely related research interests

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