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

Version: 0 Date: 22 Dec 2019

Reviewer: Karin Kast

Reviewer's report:

This manuscript is a very detailed and interesting overview on the current data on the association of the lifestyle factors weight, diet and physical activity on ovarian and breast cancer risk in carriers of mutations in BRCA1 or BRCA2. What is missing is the discussion of what can be expected given the heterogeneity of trials, the retrospective design and the low numbers, that e.g. do not allow separate analyses of BRCA1 and BRCA2.

Minor revision:

1. References No 1-3 are no longer up to date since the publication of cancer risks of the large prospective cohort of carriers of BRCA1 and BRCA2, Kuchenbaecker, JAMA, in 2017.

2. The shortcomings of the available literature to evaluate the evidence on lifestyle and cancer risk in BRCA1/2-carriers should be elaborated. Apart from retrospective design and recruiting bias the low numbers compared to the huge epidemiologic studies that established associations of lifestyle factors and mainly hormone-receptor positive postmenopausal breast cancer risk could be mentioned.

3. The conclusion on literature on weight and ovarian cancer risk (line 293) is that findings are not supported by literature on the general population. But the only finding "higher BMI and higher risk for premenopausal ovarian cancer” seems to be comparable to the conclusion of the CUP report 2018. Isn’t it actually supported by evidence of the general population?

4. To sum up the findings on physical activity in the conclusion section (line 335) it seems to be more appropriate to state that there is no evidence that risk association differed to the general population.
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