Reviewer's report

Title: Antioxidants and breast cancer risk - a population-based case-control study in Canada

Version: 3 Date: 10 June 2011

Reviewer: Mary Platek

Reviewer's report:

Reviewer’s Report

The manuscript is improved but there are still areas that need to be addressed before this paper can be considered for publication. One major issue concerns something that was overlooked on the first review and that relates to supplement use over time. Respondents were not only asked for how long they took supplements but also how often (never, not regularly, fairly and regularly). There is no reporting of this variable. Specific comments are as follows:

Major Compulsory Revisions

1. What happened to “consistency” of supplemental intake? Who are you reporting on? Just regular users? How many were “not regular” or “fair” users? Are responders all lumped together? This is a very important point and needs to be included. Should the real classification of participants be according to consistency of intake per category of number of years of intake? The answers to these questions might change how the rest of the paper is reviewed.

Note: The following comments may need to be revised depending on the answers to concern number one above.

2. Since dose was not available, please clarify on pages 6, 7 and 8 that you are referring to length of use of supplements.

3. You now include information regarding antioxidant intake in the Canadian population, but how do your findings relate? What are the median or average dietary intakes of your population by case/control status? A comparison of these dietary intakes and length of use of supplements for each nutrient by case-control status should actually be table 2 (making table 2 and 3, tables 3 and 4).

4. In the statistical analysis section on page 8, you need to better explain your regression model. In fact you made categories of low and high and you compared high relative to low.....For Table 4, you should add the reference group for each category for each nutrient and the number of cases and controls.

5. On page 14, you state that it is difficult to sort out cause and effect. This is an observational study and so you are looking at associations only – never cause and effect – please revise accordingly.

6. Please add to your abstract, discussion and conclusions that you were unable to determine total dose or intake.
7. Your major result is for “long term” supplementation and you should refer to supplementation as “long term” or exactly what it is such as > 10 years….

Minor Essential Revisions
1. Tables: Report all p values with the same number of decimal places going out to the one-hundredth place (x.xx). Many of your trends will now be 0.05 and not considered statistically significant but essentially borderline and important and noteworthy – you will then need to change the corresponding text in all areas of the manuscript.

**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 have no competing interests