Reviewer’s report

Title: Fatty fish and fish omega-3 fatty acid intakes decrease the breast cancer risk: a case-control study

Version: 1 Date: 13 February 2009

Reviewer: Dagrun Engeset

Reviewer’s report:

In general, I found the language a bit difficult. Having English as a second language myself, I know how difficult it is to write good and proper English. My advice to the authors is to have someone with good English skills (preferably a native English spoken person) to check the language.

Otherwise, it was an interesting paper. There are few articles that distinguish between lean and fatty fish and very few articles from Asia, and from South Korea in particular. This paper is a nice contribution to the field.

(Minor Essential Revisions)

Background:

In the first paragraph, line 7, you write “…, and fish old or a diet containing…” What do you mean by “fish old”?

(Discretionary Revisions)

Further, you mention a Swedish study and a Danish study have examined the association between lean and fatty fish consumption and breast cancer risk. This is correct, but it is also worth mentioning that the large multi-centre EPIC study examined this association as well. In this study they saw a positive association with high consumption of fatty fish and risk of breast cancer.

(Minor Essential Revisions)

Methods:

Subjects:

I am a bit uncertain about the control group. Could you explain what kind of patients they are? The “Centre for Early Detection and Prevention” sound like a place where people go for screening, mammography etc, am I right? Then this will be healthy women who as been checked and found nothing wrong with, as I understand it. Please clarify.

Data collection:

You state that a trained dietician collected information on different lifestyle factors, and diet using a structured questionnaire. Later, you write that a FFQ was developed to determine regular dietary intake. What kind of dietary data did you use in this study: data collected of the dietician by a structured questionnaire...
or data from the FFQ? Or did the dietician use the FFQ when he/she collected the data; hence the structured questionnaire and the FFQ is the same thing? Please clarify.

Type of menopause – is this the menopausal status (pre-menopausal/post-menopausal)?

Clarify.

(Discretionary Revisions)
Why do you look at ##linolenic acid? As far as I know, this do not belong to the fish omega-3 fatty acids, but is a omega-3 fatty acid found in plants. Thus, it should not be a part of this study.

Statistical analysis:
The categorizing of alcohol consumption into never/ever is a bit vague. Alcohol is an important risk factor for breast cancer, and you can not really adjust for it by using the never/ever category.

Use “occupation” instead of “job”.

(Minor Essential Revisions)

Discussion:
First paragraph, line 11: “…. was detected in Norway [10, 20]…”. Reference 10 is for the EPIC study (not a Norwegian study), (Discretionary Revisions) which I think is worth mentioning in the discussion since it is one of the largest cohort studies that have investigated the relationship between fish and breast cancer.

(Minor Essential Revisions)

Fourth paragraph: “In comparison with the consistent protective effect of long-chain ##3 fatty acids in some of the studies populations was too low to produce a protective effect.”

I do not understand this sentence. Please re-write it for clarification.

Last paragraph:

(Discretionary Revisions)

You state that your hospital-based control group may over-represent those with healthier habits. According to table 1, the control group has higher education and more persons working in profession/office, and less unemployed etc than the cases. These are factors that seem to be determinants for healthier lifestyle and could be used to support your statement.

More labourer/unemployed and ex-smokers among cases, higher age at menarche (a bit strange; thought low age at menarche was considered a risk factor), and fewer users of hormones, HRT (use of HRT are also considered a risk factor for breast cancer).

(Minor Essential Revisions)
“Notably, the specifics regarding the fish and preparation were not included in this study, such the type of fish (fatty or lean), species …”

You did categorize fish into fatty and lean in your study, so this statement is wrong.

Tables:
Table 1:
BMI – there are very few persons in the first category (<18.5), consider joining categories.
Why did you not use the commonly used categories (underweight <18.5, normal weight 18.5 – 25, overweight >25)?

Table 2:
Is it g/day?

Table 3:
Is it g/day?

At all the different fish levels, there are exactly 90 controls – is this correct?
Please check.
Please check for table 4 as well.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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