Reviewer's report

Title: Cancer incidence in registered nurses potentially exposed to antineoplastic drugs and adverse pregnancy outcome incidence in their offspring

Version: 1 Date: 2 October 2009

Reviewer: Wouter Fransman

Reviewer's report:

This is a well written and clearly understandable manuscript which describes the results of a survey to study the cancer incidence and adverse pregnancy outcomes of registered nurses potentially exposure to antineoplastic drugs. I do, however, think that there are major flaws in the exposure assessment procedures. This makes the exposure assessment very imprecise, which together with the lack of adjustment for potential confounding factors makes your results very hard to believe.

Major compulsory revisions:

1. Methods, page 4: It was assumed that antineoplastic drugs are mainly used in oncology departments. It is well known that antineoplastic drugs are used in many other departments outside the oncology department. Were these other departments excluded from the reference group of RNs?

2. Methods, page 5: I really doubt the level of accuracy of the classification of exposure in unlikely, possible or probable. Who performed this classification? Was this the interviewed senior departmental representative or the investigator? How can one accurately retrospectively estimate the average number of patients per week, the type of ppe used and the use of any special handling procedures upto 30 years back in time? I think this exposure classification is very arbitrary and will distort the results of your research.

3. Methods, page 6: How were the exponential weightings derived (0, 0.04, 0.16, and 0.64)? Were they based on exposure measurement results?

4. The results were not adjusted for possible confounding factors (not for cancers and not for adverse pregnancy outcomes), which probably would have great impact on the results. The reported elevated risks of breast and rectal cancer could well have been caused by many other risk factors or exposures which occur in or outside a hospital.

Minor essential revisions:

5. Introduction, Page 3: The authors state that little research has been conducted on exposure to antineoplastic drugs of nurses. I disagree with this. There have been numerous papers published in the peer reviewed literature that have clearly studied occupational exposure to antineoplastic drugs.
6. Methods, page 5: What were these special handling procedures, which are mentioned in the exposure assessment classification?

Discretionary comments

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.