Reviewer's report

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

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Reviewer: Lin Fritschi

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This paper describes a retrospective cohort study of nurses examining the question of whether exposure to anti-neoplastic drugs is associated with cancer or birth defects. One reviewer felt that the exposure assessment methods were so poor that the paper was fundamentally flawed.

The authors undertook two exposure methods.

Firstly they just used whether the nurse was employed at an oncology hospital. This method did not include all relevant oncology hospitals for the whole time period so was probably an underestimate.

The second method involved interviewing relevant staff from all the hospitals where oncology drugs could potentially have been used. Some of the nurses who worked in these hospitals would never have used oncology drugs so this is probably an overestimate (less sensitive measure).

Given the difficulties in measuring exposures in the past, I think the authors have done a reasonable job. The paper would be strengthened if they were more clear in the discussion about the strengths and weaknesses of each method, and compared the results from the two methods. For example, one would expect findings to be in the same direction with the two methods, but to be stronger with method 1 than with method 2.

In my opinion, the paper is certainly publishable and is a contribution to the literature on this topic.