Reviewer’s report

Title: Birth characteristics and the risk of childhood leukaemias and lymphomas in New Zealand: a case-control study.

Version: 1 Date: 28 June 2006

Reviewer: Richard JQ McNally

Reviewer’s report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
(1)Abstract, Background, line 1. Suggest inserting the word "certain" before birth characteristics to make clearer.
(2)Abstract, Background, lines 5-7. The prior hypotheses should be made clear, i.e. whether parity, social class, marital status, parental ages and urban status are protective or not. Secondly it should be specified whether these apply to all leukaemias or lymphomas or specific subtypes.
(3)Abstract, Results. Should say that there were no statistically significant associations and no associations for specific sub-types. However, the results should also be related to more specific prior hypotheses (see point (2) above).
(4)Abstract, Conclusions, line 3. The authors should be more be specific with regard to the "elusive environmental factors". Some putative examples could be given.
(5)Background, page 3, para 2. Suggest re-wording to say that: "Infections in childhood may relate to demographic factors...". At present this reads as if it is a statement of fact!
(6)Background, page 3, para 2, lines 8-10. Need to make clear that higher risk of ALL was associated with unemployment, low income and unmarried status - at present this is unclear.
(7)Background, bottom of page 3, top of page 4. It is not at all clear how the present study can extensively answer the question relating to differences between countries - it simply concentrates on New Zealand and adds to the body of literature. Is this what was meant? Some clarification is required!
(8)Background, page 4, para 2, last sentence. How was "urban/non-urban" status defined?
(9)Methods, page 4, para 1, lines 7-9. The reasons for using a different age range for HD should be made very clear - otherwise it may appear to be somewhat arbitrary - refer to other literature here (e.g. on the descriptive epidemiology)!
(10)Methods, page 5, para 1, lines 3-4. What is the "Elley-Irving scale"? Some more explanation would be useful. Also definition of urban/non-urban status should be given (see (9) above).
(11)Methods, page 5, para 2, line 2. What were the "plausible confounders."? Much more detail should be given here.
(12)Results, page 6, para 2. For ALL the oldest parental age group showed a decreased risk. There was also a marginally significant trend for paternal age (p=0.10). This should also be mentioned. However, the effect for the second- youngest maternal age-group, in absence of a trend, is likely to be a chance finding.
(13)Discussion, page 6, para 1. With reference to the statement that "the findings for the two subcategories described above seem likely to be due to chance" some mention of the trend effect for fathers should be given (see (12) above). Of course both findings may be spurious, but some speculation would be interesting!
(14)Discussion, page 6, para 2. More detail on the "biases that were problematic in earlier studies" should be given.
(15)Conclusions, page 8, lines 5-6. What are the "unique limitations" of these types of study? More explanation required.
Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
(1)Abstract, Background, line 3 & elsewhere in the text. The use of the word "overseas" is confusing, this is with respect to New Zealand. Re-word to avoid any ambiguity.
(2)Abstract, Conclusions, lines 1-2. There is some repetition between the conclusions and the results, with respect to the sentence: "None of the factors assessed were shown to be related to risk of childhood leukaemias or lymphomas."
(3)Abstract, Conclusions, final sentence. This is written as a double-negative ("not give up"). Re-word to in a more positive manner.
(4)Background, paragraph 1, last sentence. Give reference for "feline leukaemia virus."
(5)Results, page 5, para 1, line 1. What is meant by "could" in this context. Suggest relacing by "were analysed."
(6)Conclusions, page 8, last sentence. Ambiguously phrased ("the best that they can be"). Re-word to improve clarity.

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

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

Statistical review: No

Declaration of competing interests:

I DECLARE THAT I HAVE NO COMPETING INTERESTS