Reviewer's report

Title: Perinatal complications and socio-economic differences in cerebral palsy in Sweden - a national cohort study

Version: 1 Date: 25 January 2008

Reviewer: Susan Michelsen

Reviewer's report:

The paper analyses socio-economic inequality in having a child with CP and the extent to which this is mediated by specific perinatal risk factors. This is an interesting and useful paper. It is clear and well written.

One suggestion that requires "major compulsory revision" is made regarding the validity of identifying children with CP in a hospital discharge register. In addition a few suggestions for "minor essential revisions" and "discretionary revisions" are made.

Major compulsory revision

1. This study identified children with CP in the Swedish Hospital Discharge Register. The authors discuss the validity of this source (first section page 12) and estimate that about 75-85% of children with CP in Sweden is captured. This is based on a calculation of the prevalence of CP in the study group and recent prevalences of CP from Western and Southern Sweden. The authors mention a relevant potential selection bias in that children of low socio-economic background are more often hospitalised. But a discussion of the validity of the diagnoses in the Swedish Hospital Discharge Register is lacking. Children being discharged from hospital with CP do not necessarily have cerebral palsy as defined by a neuropediatrician. Unpublished experience from the Danish National Patient Register suggests that if evaluated by a neuropediatrician many children do not have cerebral palsy. If similar validity does apply to the Swedish Hospital Discharge Register, the population of children with CP in this paper includes a considerable number of children who do not have CP. We do not know the distribution of their socio-economic background and, hence, not how it affects the results. The authors could do a literature search on false positive cases of CP and refer to this in the discussion.

Minor essential revision

2. Page 7, line 8-11
This sentence does not make sense, it has three parentheses and maybe some words are missing.

Reference number 6 is not correct. Reference 6 is referred to as Changing panorama of cerebral palsy in Sweden VIII (describing CP Prevalence from

4. Table 4. Model 6 is not marked with an * to include demographic confounders, but in the text is described so.

Discretionary revision

5. Page 2, line 9
Census of 1985 needs to be explained in the abstract (is already done page 5) or it could be replaced by a more general term like *Swedish national registers*.

6. Page 5, line 11
A more precise definition of geographic location of home (as used in table 1) would be informative here.

7. Page 5, line 11-20
It is unclear why it is reported that perinatal variables were *added to the dataset*. The dataset seem to be in fact the SMBR (birthyear 1987-1993), which was then linked to the Swedish Population and Housing Census in November 1985, The Total Enumeration Income Survey for 1990 and to the Swedish Register of Education of 1990. Maybe this could be rephrased.

8. Page 6, line 4-6
A more precise definition of the five groups of SES (as used in table 1) would be informative here.

9. Page 6, line 12-14
A description of what discharge from hospital includes would be informative. For example whether outpatient clinics are included.

In conclusion:
1. The question posed is well defined and relevant
2. The method is well described and appropriate
3. Data are sound and well controlled, but validity of Swedish Hospital Discharge Register needs to be discussed further
4. Discussion and conclusion are relevant and supported by the data
5. Title and abstract reflects the findings
6. The paper is well written

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

**Level of interest:** An article of importance in its field
**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**
I declare that I have no competing interests