Reviewer’s report

Title: Trends of Preterm birth and Low Birth Weight in Japan: Hospital-Based Study

Version: 1 Date: 24 September 2012

Reviewer: Nicholas Lack

Reviewer’s report:

1. The research question is worthwhile.

2. The statistical approach could be reduced to a simple logistic regression with a concise report of relevant odds ratios in one small table.

3. The abundance of odds ratios and beta coefficients is confusing and dilutes the core message of the paper.

4. Presentation of statistical method is not transparent.

Title:

5. The title suggests a multi-hospital based study. Only later is it revealed that only one single hospital provided the data. This might be made more clear.

Method:

6. The authors embrace all caesarean sections irrespective of spontaneous onset of labour under "medically indicated". This dilutes the effect of medical intervention (in terms of c-section) on PTB rates. The analysis may gain in quality if caesareans were accordingly subdivided.

7. It is not clear whether the odds ratios in table 2 are jointly (would be more informative) or separately (less informative) adjusted. It might be worth while entering year of birth as a linear (quadratic) variate and inspecting the coefficient(s) for its gradient. This might lead to more compact presentation of results.

Results:

8. Footnotes to tables may need improvement.

9. The authors conclude an increases in PTB and LBW suggestive of temporal trends, however they present an abundance (!) of odds ratios referring to three time intervals (not all of equal length). Inspection of the time series shows rather a definite increase in the interval 2001-2003 followed by a plateau. This general finding may be summarised in fewer words and figures.

10. The function of the expansive presentation of beta coefficients (Table 4) is not clear. Perhaps the main finding (if at all required) could be reported in the
results section obviating the need for an expansive table.

11. A final summary table of odds ratios for proportion of pH value below 7.00 jointly adjusted for by patient covariates, mode of delivery, presence of labour and year of delivery is considered sufficient to support the author's conclusions.

Conclusion:

12. The authors address an important question, namely whether morbiditay measures rather than PTB ought to be the relevant end point in assessing quality of perinatal care.

**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