Reviewer's report

Title: Birth outcomes among Native-born, China-born and Southeast Asia-born mothers in Taiwan: A population-based birth cohort study

Version: 1 Date: 12 July 2011

Reviewer: Nathalie Auger

Reviewer's report:

Dear Editor,

Thank you for asking me to review this manuscript that addressed nativity-based inequality in adverse birth outcomes in Taiwan. The authors found that immigrant mothers had lower odds of adverse birth outcomes relating to Taiwan-born mothers, which is consistent with a healthy immigrant effect. The following comments are provided to help improve the manuscript:

Abstract – Methods need to be more clearly described. At present the description of study outcomes is unclear, and the statistical analysis is not provided.

Background- My main comment is related to the study objective. The authors state that the aim was to “examine disparities in low birthweight and preterm birth across nativity groups, and how socioeconomic status mediates the disparities (page 6). Though the background was sufficient to support the objective of examining disparities, I did not feel the background was sufficient to explain why a mediation analysis was necessary.

Methods –
1) Specify that the units of education was years (page 9)
2) “All unknown answers were excluded from the regression model.(p. 9)” What unknown answers, and how frequently did this occur?
3) “I do not understand the statement that begins: “Parental education was categorized into five groups as maternal education.... (p. 9)”
4) This sentence does not make sense: “Logistic regression was used to examine dependent variables such as birth outcomes associated with family socioeconomic factors across three maternal nativities”. Exactly what was the analysis that was performed?
5) The study objective states that mediation by socioeconomic status was evaluated. Please describe how this was done. For examples, see: Gray R Bonellie SR, et al. Contribution of smoking during pregnancy to inequalities in stillbirth and infant death in Scotland 1994-2003. BMJ 2009;339:b3754 and Mortensen LH, Diderichsen F, et al. The social gradient in birthweight at term: quantification of the mediating role of maternal smoking and body index. Human reproduction 2009;24:2629-2635. If the intention was not to examine mediation (and only to adjust for socioeconomic status), then this aspect of the study
should not be a study objective.

6) How was gestational age collected?

Results

1) The term odds is more appropriate than risks, since odds ratios (and not relative risks were estimated). This issue applies to the entire manuscript.

2) Provide the results for the mediation objective (or drop this objective).

3) A table showing the proportions of preterm birth and low birth weight according to the study covariates is needed.

4) Why are table 1 and table 2 separated? They show the same type of data, and should preferably be combined.

5) Very low birth weight was an outcome – please provide the results.

Discussion:

1) Page 15 “Our findings lend support to the literature on “epidemiologic paradox”...”. The epidemiologic paradox is a term originally used to describe the unexpectedly favourable health status of Hispanic populations that are socioeconomically disadvantaged. To evaluate the epidemiologic paradox, one therefore has to at least assess effect modification, ie modifying effects of nativity status on the relation between socioeconomic status and the outcome (or vice versa). This can be done by testing a nativity-by-socioeconomic status interaction term, or by running separate models for each strata of socioeconomic status. By simply adjusting the association between nativity and birth outcome for socioeconomic status, the authors assess the overall influence of nativity on birth outcomes (or the healthy immigrant effect). It has been a while since I have looked at the literature on the epidemiologic paradox, however, I do not why the study performed here supports this paradox. Can the authors either revise this conclusion, or explain in greater detail why they believe their analysis supports this conclusion. This applies to the study conclusion as well. The results do, however, support the healthy immigrant effect.

2) Page 17. This sentence is unclear “The strength of this study lies in factors”.

3) Discuss the mediation objective.

4) Some researchers argue that low birth weight is merely a marker for preterm birth (and hence that analyzing both outcomes does not provide added information). This appears to be the case in Table 4, as the results for low birth weight and preterm birth were nearly identical. Please address.

5) Please address study limitations (not only study strengths).

Table 4. Provide the unadjusted model results.

Minor:

Use placental abruption instead of placenta abrupt.

What does NT$ correspond to in terms of US dollars?
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, the manuscript does not need to be seen by a statistician.

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