Reviewer’s report

Title: Environmental and socio-economic determinants of infant mortality in Poland: an ecological study

Version: 2
Date: 26 March 2015

Reviewer: Ann Aschengrau

Reviewer’s report:

General Comments:
This is an interesting paper but it would benefit from editing, further description of the study population, the analytic methods, and the limitations of the study.

Major Compulsory Revisions:
1. Some of the language is awkward and the manuscript needs to be edited.
2. It would be helpful to give more background information about the Polish population, including characteristics of women of childbearing age and the health care system.
3. The description of the data analysis is not adequate for readers who are unfamiliar with factor analysis. For example, what is an “equamax rotation on factor loadings?” And why was a loading factor of 0.6 used as the cut off for including cluster variables?
4. The methods that were used in the multivariate analysis “taking longitudinal aspect of data into account” were also unclear. Were all four factors included in this analysis?
5. The results are difficult to interpret because it’s hard to know what a one-unit increase in, say “poor working environment” means. Some context about how to interpret unit changes in these variables would be useful.
6. The word “statistically” should precede the word “significant” when referring to statistical significance.
7. There should be more discussion of the strengths and limitations of ecological studies. There should also be more discussion of limitations arising from factors that were not included in the analysis like access to health care.
8. As the authors describe, there are many causes of infant mortality and these causes differ for deaths during neonatal and post-neonatal period. The authors should consider conducting stratified analyses according to the timing of the infant death.
9. Please provide any relevant on the geographic patterns of cigarette smoking and alcoholic beverage consumption among women in Poland. These data would be useful in understanding the impact of confounding.
10. A title is needed for Figure 1. Its legend is also unclear.
11. There are several typographical errors throughout the manuscript. For
example, only one figure was included in the materials yet “Figure 2” is mentioned on page 7 of the text. Confidence intervals also have division signs instead of dashes.

Minor Essential Revisions

1. Introduction: Give the names of the EU-15 countries that are being compared to Poland. Spell out the words for the abbreviation “OECD.”

2. Explain what is meant by the “employment structure” on page 10 of the discussion.

3. Explain what is meant by the “flat part of the Preston curve” on page 10 of the discussion.

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

Declaration of competing interests:

I declare that I have no competing interests.