

## **Reviewer's report**

**Title:** Variability in childhood allergy and asthma across ethnicity, language, and residency duration in El Paso, Texas

**Version:** 1 **Date:** 21 July 2009

**Reviewer:** Jouni Jaakkola

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This cross-sectional study of 9,797 school children in 54 schools in El Paso, Texas, used the variation in ethnic background and duration on residency to assess the effects of urban living in El Paso on the risk of asthma and allergy.

The results suggest that living in El Paso increases the risk of asthma and allergy and is related to reduced levels of FEV1/FVC and FEF25-75 indicating a small-airways effect both in Hispanic and non-Hispanic children.

This is a carefully conducted study applying a novel approach of using ethnicity, immigration and duration of residency as indicators of non-specific social and environmental exposures. In general the data analysis and presentation of results are thorough with illustrative figures. The empirical findings are thus well established, but the interpretation of the results is challenging and needs further investigations.

- No Major Compulsory Revisions

- Minor Essential Revisions

1. The authors have assessed effect modification/interaction in the logistic regression applying multiplicative interaction only. Exploring potential modification on additive scale could give further insight. For example, Figure 2 seems to show a stronger effect of El Paso residency among non-Hispanic compared with Hispanics (if we look at percentage increase rather than relative risk).

- Discretionary Revisions

2. The effect of living in El Paso is striking and it would be interesting to understand better the specific causes. Besides urban air pollution and specific pollens, indoor environmental, (HVAC, ETS, pet-keeping etc) infectious and dietary factors could be responsible for increased risk of asthma and allergies related to living in El Paso. Is there any information on levels of these factors during residency in El Paso compared with previous residencies? Assessment of the effects of these factors on the risk of asthma and allergies within El Paso

children (immigrants and life-time residents) could give some insight of their role in the increased level of asthma and allergies.

3. Access to health care system may influence the diagnosis of asthma and allergies. In this case people might have a better access to health care in El Paso than in the areas where they come from. Did you have any measures of the use of health care or other information on the variation in health care use by ethnicity and immigration status? You might like to discuss about this possibility even without any data.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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.