Reviewer's report

Title: Prevalence of asthma, rhinitis and eczema symptoms in rural and urban school-aged children from Oropeza Province - Bolivia: a cross-sectional study

Version: 1 Date: 22 April 2013

Reviewer: Donna Rennie

Reviewer's report:

This paper is well written, easy to read and follows the format of a typical scholarly article. There are a few points that need to be addressed.

Major Compulsory Revisions

This is actually a study of asthma and allergic symptoms not diagnosis and the paper slips into the genre of diagnosis particularly in the discussion. This is misleading. Asthma symptoms and asthma diagnosis are not interchangeable particularly if based only on symptoms of wheeze as noted in this study. Please correct this throughout the paper including the discussion when referencing study findings.

It is stated that the video questionnaire is much more indicative of asthma than report of symptoms. The validation of video responses has only been confirmed in 13 to 14 year olds and not with the age group identified in this study which is much more variable as far as age is concerned (9-15 years, mean age 11). This is potential misclassification bias and needs to be interpreted in reporting video and questionnaire results. I am not sure that these findings should be considered valid with the age range in this study. It may be just as likely that there is an under reporting of wheeze by video questionnaire.

Why are wheezing symptoms by questionnaire lower in urban than in rural (contrary to the hygiene hypothesis) populations? This is not discussed while the similarity between some of the findings and those from other studies are accepted as proof of the hygiene hypothesis working in this population. Is it possible this difference that the higher prevalence of wheezing in the rural children could due to differences in cooking and heating activities (biomass use) between rural and urban homes? What is the distribution of cough in the two populations?

There may be another factor that should be mentioned as a potential reason for difference in geographical findings related to allergic symptoms. Given the extent of poverty noted in the study region (70%), which may also be considered a surrogate for living conditions, the presence of Helminths in the population may be an important contributor to the lower allergic symptoms seen in the rural children.

Minor Essential Revisions
Editorial:
Page 7 Severe eczema symptoms or severe eczema – rewrite to reflect a symptom if the eczema referred to is not from the ISAAC question about diagnosis.

Complete the sentence on Chi Sq test which is used to test proportions or differences in prevalence of symptoms. The dependent variables should be referred to in that paragraph.

Tables need to be formatted appropriately

Discretionary revisions
The prevalence of symptoms from other Latin American ISAAC study groups deserves recognition in the introduction. This would add to the strength of the introduction.

**Level of interest:** An article whose findings are important to those with closely related research interests

**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 I have no competing interests.