Reviewer's report

Title: Urban air pollution and emergency room admissions for respiratory symptoms: a case-crossover study in Palermo, Italy.

Version: 1 Date: 9 December 2010

Reviewer: Mieczyslaw Szyszkowicz

Reviewer's report:

Dear authors, as a reviewer I have the following comments. (I will use an abbreviation: you = authors).

Minor:
1. You didn’t report results/conclusions from distributed lag models (you just mentioned it on Page 9).
2. In my opinion p-values in Table 3 are not necessary.
3. Page 15. You wrote that the results are not generalizable to the whole population because the absence of data from children (<15 age of years) – in my opinion case-crossover calculates OR as an average for an individual visiting ED, to get results for population you should use Poisson type model.
4. Please use the same term sex in tables and figures. Probably in the text as well – as gender and sex are now considered as different terms.

Major:
5. You declared that you study urban air pollution (AP), and later you said that traffic-related AP. As Palermo is port it will be useful to perform a correlation analysis among monitors and provide the corresponding table. Among sources of AP, as you mentioned, can be port. Your claim that you studied traffic-related AP is a thesis, in my opinion if you provide a correlation matrix with an interpretation – your statement will be more justified.
6. You don’t have ICD codes – I recognized that they were not available. Please clearly state that you considered the diagnosed visits (no complaints). Your health endpoints are in different categories (for example pneumonia, asthma). It will be good to perform an analysis for subgroup (say just for one which has predominate number of cases), and verify your results for example for PM10.
7. Page 8 (bottom). You described temperature and how it is used in the constructed models. What about other confounders? Recently temperature is very privileged. Did you use the same lags for AP and confounders in the constructed models?
9. Please check two-pollutant models, at least for the results mentioned in your abstract. Provide conclusions.

Thank you
Mieczysław Szyszkoowicz

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

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