Reviewer's report

Title: A 10-year time-series analysis of respiratory and cardiovascular morbidity in Nicosia, Cyprus: The effect of short-term changes in air pollution and dust storms.

Version: 1 Date: 23 February 2008

Reviewer: Antonio P Ponce de Leon

Reviewer's report:

In this paper the authors present a sound time series analysis of hospital admissions in Nicosia, Cyprus and show significant effects of PM10 and O3, the former occurring on the same day as for admissions and the latter two days prior to admissions. Most results are in accordance to those found in other European cities. Beyond estimating the associations between air pollution (PM10 and O3) and hospital admissions for all causes, cardiovascular, and respiratory diseases, the authors also intended to answer the question on whether or not counts of daily hospital admissions would show an excess associated with the natural phenomena of duststorms, not uncommon in this part of Europe.

The statistical methods applied to estimate the associations of interest are sound and state of the art in the field, and so are all the sensitivity analysis designed to answer the main question of the paper, namely whether duststorms are associated with increasing hospital admissions in Cyprus. In my opinion the questions have been answered satisfactorily and thus the paper should be accepted for publication.

However, there is one result that should not be overlooked, even though it is not uncommon to be found in similar studies. This is inconsistent with the other results of the paper and has not been discussed, namely the negative effects of same day ozone on all-cause admissions displayed in Figure 1. This odd result definitely requires some sort of treatment in the discussion of the main findings. Also, in Figure 1 there is no indication as to which points and IC whiskers represent the effects of ozone before and after adjustment for PM10.

What next?: Accept after minor essential revisions

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.