Reviewer's report

Title: Pattern and determinants of hospitalization during heat waves: an ecologic study

Version: 1 Date: 1 March 2007

Reviewer: Haidong Kan

Reviewer's report:

General
It appears that the content of the article fits within the scope of the journal content. The effects of heat-wave on morbidity are not enough studied. This paper presents an analysis of the heat-wave (duration and intensity) and daily hospitalization, using a GEE model. They found the duration, not the intensity, was associated with daily morbidity.

I recommend this paper be published, after satisfactory revisions have been made to address the following questions.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The authors collected a large variety of morbidity outcomes, including both cardiovascular and respiratory diseases. However, only heat diseases and respiratory diseases were presented in relation to heat wave. The readers may want to know the association of other outcomes, especially cardiovascular disease, with heat-wave.
2. The authors seemed to use the current-day humidex to assess its relation with hospitalization. How about the results using other lag structures (e.g. current-day humidex and next-day hospitalization, or multi-day average humidex)?
3. The discussion section could have more discussion on the limitation of this work and its implication.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
4. Humidex =40 degrees was set as the threshold and used to define the heatwave. Ideally, a sensitivity analysis based on other definition of threshold Humidex value might be usefully.
5. The authors do not describe the completeness of their data. For how many days were all data components (humidex, hospitalization, etc.) available? This is a major problem because the reader does not know how well the data set represents the entire time period.
6. Is the daily air pollution data available in the research area? If yes, air pollution can be included in the multivariate analysis as a confounder.
7. In the results section, it’s better to describe the outcome and heatwave characterics, e.g. the mean and its standard error.
8. In figure 1, I suggest adding the heat-wave intensity (daily humidex)

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

None