Reviewer's report

Title: Gaseous air pollution and emergency hospital visits for hypertension in Beijing, China: a time-stratified case-crossover study

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Reviewer: Haidong Kan

Reviewer's report:

This is a well-written paper examining the short association between gaseous pollutants and emergency-room visits for hypertension in Beijing. Few previous studies linked air pollution with hypertension, though the authors have published a similar paper on particle and hypertension using the same dataset (Guo et al, Sci Total Environ, 2010).

I have some specific suggestions:

1. Since the pollutants' concentrations were high correlated with each other (Table 2), the authors should be cautious in their conclusion that “Our results suggest that NO2 is more important for health than SO2. Also, PM10 can enhance the health impact of NO2, and share the effect of SO2”.

2. Since the emergency-room visits were obtained from only one hospital rather than from the whole city, the authors should discuss the limitation of this (e.g. the baseline population may change).

3. The authors adjusted for temperature as a linear variable which might not be correct. It is widely acknowledged that the relationship between temperature and adverse health outcomes are nonlinear and generally U-shaped. So I suggest the authors use nature spline to treat temperature and humidity in the regression model.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests.