

Reviewer's report

Title: Road traffic noise and hypertension: results from a cross-sectional public health survey in southern Sweden

Version: 1 **Date:** 11 June 2009

Reviewer: Irene van Kamp

Reviewer's report:

General

This research paper regarding the relation between road traffic noise and hypertension addresses an actual noise problem in a large sample.

The paper is well written, provides sufficient information re. previous reviews, state of art, method etc. The response rate of 59% is quite high for this type of research, but in the end another loss of 3700 due to incomplete data....

Not clear why (see page 7, last paragraph) annoyance was not measured with the standard ISO question, but since this is not the focus of the paper not a major problem.

Exposure estimates and controls in this are well documented.

Discretionary Revisions

The major weaknesses of the study are well documented, but in my taste the discussion should be more compact and focused/sharp, what are the major issues? Here we do get easily lost in detail at the risk of not conveying the major messages of this paper.

1. Some loose end remarks in the discussion should either be removed or described in more detailed/rewritten

e.g: page 13 line 16-20: The possible explanation by noise sensitivity

is a weak one esp. since the authors do not refer to NS findings re. age groups etc but refer to annoyance issues..... Annoyance and NS were not included in the survey/analysis so these remarks do not add much unless there are some referrals to relevant papers showing some evidence in this direction. Idem for Earlier onset of disease: either add info or drop....

2. Same page above: relation between PM10 and Hypertension Arguments are not strong!!!

There is def. more evidence than stated that fine particles are associated with CVD and resp disease . Indeed the combined effect of Noise and Airpollution has to be studied in more detail but ref. to Hyena study (Jarup) Davies, Hoek et al etc

might be appropriate.

Recent papers also indicate increased mortality among the elderly due to # Fine particles. < There is growing evidence that even small increases in fine particle air pollution (traffic and power plant related) increases the risk of cardiovascular and respiratory disease among people > 65 years of age (Dominici et al., 2006).

3. I am not clear why the last two paragraphs were included since the role of noise annoyance was not included in the regression models..... also different aspects are discussed and it is not clear what the message is: the paragraph starts with annoyance measures (previous analysis) and then moves via sleep disturbance back to the direct association between noise and Hypertension:

4. Next: again annoyance as introducing sentence, while in rest of text annoyance only used as a control var rather than outcome or mediating factor..... In these two paragraphs there indeed seems to be a misbalance /mismatch with rest of paper and focus and outcomes.

5. In contrast: The last two sentences re: age specific analysis and the need for "objective" and historical data seem much more relevant and should be argued based on findings more strongly.

In summary, good well written well documented paper, but the discussion should be rewritten: more refs to relevant papers, drop unfocussed parts esp re. role of annoyance etc, expand the future direction part re measurement of hypertension, the need for historical exposure data and age specific analysis.

Level of interest: An article of importance in its field

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 that I have no competing interests.