Reviewer's report

Title: Does traffic exhaust contribute to the development of asthma and allergic sensitization in children? Findings from recent cohort studies

Version: 1 Date: 17 December 2008

Reviewer: Hanns Moshammer

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Review of
Does traffic exhaust contribute to the development of asthma and allergic sensitization in children? Findings from recent cohort studies
manuscript ID: 1307700559241224
by Brabäck and Forsberg

this is an interesting and well written literature review on chronic respiratory effects of (traffic related) air pollution in children.
I agree that this paper be published and I have only few mostly minor comments:

1.) in the introduction (last but one paragraph on 2nd page) the authors talk about pollutants as indicators of traffic. They write about NO2: “where NO2 is more dependent on the ozone availability, and less representative for fresh exhaust”.
This is no longer completely true: with newer diesel engines with oxidative catalyst a high percentage of NOX is primarily emitted as NO2. This is why near busy roads NO2 concentrations again increase in spite of overall reduction in NOX emissions. This indeed leads to local problems with limit values. But maybe this discussion is leading to far and the half sentence could just be deleted?

2.) In the discussion I find the sentence: “Nevertheless, the consistency of the results indicates that traffic exhaust could play a role…” Is this not too weak a statement? Only “indicates”, “could” and “play a role” (maybe a minor role?) I prefer the wording in the conclusion: “The findings … indicate that traffic exhaust contributes to…”
Also in the abstract the very timid wording is chosen. I am confident that the authors could make a stronger statement there!

3.) Regarding the effect on sensitisation the authors explain that findings are inconsistent. They only analysed 4 studies 3 of which gave significant results although of different magnitude while the 4th only gave insignificant results (or more exactly the results were only significant in the unadjusted models). Is this really inconsistent? Either the authors do a formal meta-analysis with check of heterogeneity or they explain why such a check is not possible (too few studies, so not enough power – or too inconsistent regarding methods, outcomes etc…).
I am not convinced that genetics could explain the differences between the studies. Not that I disagree with the importance of genetics, but I do not expect any such great systematic differences between Sweden and Norway! Differences between studies would rather be by chance – for genetics as well as for health outcomes.

That’s all from my side!

Hanns Moshammer

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