Reviewer's report

Title: Exposure of bakers and pastry apprentices to airborne flour dust

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Reviewer: Dick Heederik

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General
This is an interesting study that covers a little white spot in the literature. It is unfortunate that only dust levels were measured and allergen levels were not assessed. This should certainly be done in the future, especially since enzyme levels for enzymes added as dough improver, can not be estimated by dust sampling because the levels are too low. Dust levels give a proxy of flour allergen levels and this should be mentioned.

The sampling equipment is somewhat unconventional because it is not in direct agreement of inhalable dust sampling as done in all earlier large scale published surveys from the UK, Belgium and the Netherlands. This should be discussed explicitly in the discussion section. Table 1 and 2 are not really necessary and the information from these tables can be included in the text. Because the number of measurements varies between Summer and Winter, artefacts migh occur. One way is to limit the table only to truly parallel samples, the other way is to do a mixed analysis of variance (see for instance the recent paper by Meijster et al in the annals of occupational hygiene with job title in the model.
It would also be relevant to include more descriptive information about tasks and time spent on tasks. It seems that the levels these young people are exposed to do not differ strongly from bakers. The only difference might be the time they work or are exposed.

The statements about exposure levels in relation to TLVs might be misinterpreted by some readers. A TLV should never be exceeded, so that fact that the average exposure is close to the TLV point to a serious situation. The authors should stress this more carefully. I would shorten the section on health effects. But when these are introduced I would refer to some of the exposure response studies mainly from Scandinavia (Brisman), the UK (Cullinan) and the Netherlands (Houba or Heederik). I also advise to refer especially to more recent and larger scale measurement series in bakeries from the UK and the Netherlands. For some of the smaller studies the sample of bakeries is not so well described and it is doubtful if the sample is representative (Vanhanen et al study) or the study consists of a mixture of short term and full shift measurements (Burdorf). I also suggest that only peer review papers should be cited or reports from government bodies, but no thesis (Jeffrey). The number of citations in the introduction, especially to olde references, can be limited by referring to review papers.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of limited interest
Quality of written English: Needs some language corrections before being published

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