Reviewer's report

Title: Randomized double-blind placebo-controlled trial of sublingual immunotherapy in children with house dust mite allergy in primary care: study design and recruitment

Version: 1 Date: 16 June 2008

Reviewer: John Hughes

Reviewer's report:

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

The sample size calculation and data analysis need to be clarified.

The analysis section gives the impression that the nasal score between groups at two years are being compared but by including the baseline nasal symptom score as a covariate it is the absolute change in nasal score between groups that is being compared. This is the correct analysis for change from baseline data [1][2], percentage change is not, but the authors need to make this clear.

The sample size calculation is based on a 30% reduction in baseline score. But this study is looking to find a difference in absolute change in nasal score from baseline. As this is used in the analysis it should also be used for the sample size calculation. The authors must state the clinically important difference in change from baseline nasal score and its standard deviation and the significance level and power for their sample size calculation. For example assuming that the change is 30% of 4.5 (the nasal score at the last week screening visit with a standard deviation of 2.6) this gives delta of approximately 0.5 which from [3] gives a sample size of 105 at 5% significance and 95% power.

The subgroup analyses stratified by disease severity will presumably be under powered because of the smaller sample size. The stratification also needs clarification as the criteria used and the number of strata are unspecified.

Can the authors state if more than one child was recruited from the same family? There is an implicit assumption that each observation is independent but this would be violated if more than one child came from the same family.

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Discretionary Revisions (which the author can choose to ignore)

Is the formal comparisons in Table 5 really necessary? The large sample size means that the 95% Confidence Interval is +/- 1.25%. Is a difference this small of any clinical significance at screening?
In England and Wales children assent but their parents/guardian consent. Can this be clarified and can consent/assent be included in the flow diagram?


**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests