Author's response to reviews

Title: Increased seroprevalence of IgG-class antibodies against cytomegalovirus, parvovirus B19, and varicella-zoster virus in women working in child day care

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Author's response to reviews: see over
Dear Dr Furuno,

Thank you for your mail of 17th May 2012 with feedback of the reviewers. We have carefully considered the comments of reviewer 2 and have revised the manuscript accordingly. Please find below a point-by-point reply to the comments made by the reviewer. We hope that these changes meet with your approval and that the manuscript is now acceptable for publication in BMC Public Health.

Sincerely, on behalf of the co-authors,

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Reviewer's report 2

**Title:** Increased seroprevalence of IgG-class antibodies against cytomegalovirus, parvovirus B19, and varicella-zoster virus in women working in child day care

**Version:** 2 Date: 11 April 2012

This review is based upon the author's response to a previous review.

The authors have addressed the revisions that were suggested with the exception of the second major revision.

1. "The data from the general female population was collected using frequency stratification. Turks and Moroccans were oversampled. This stratification must be accounted for in the analysis so that the sampled population is representative of the target population. If the authors have done so, they should indicate this in the methods."

In their response, the authors acknowledge that the comparison group is not representative of the Amsterdam general population of women. However, when reading the study introduction and methods, they appear to be using this group as a representation of the general Amsterdam population. Therefore, this issue need to be addressed.

In the first response to the previous review we acknowledged that the sample used is not meant to be representative for the Amsterdam general female population. Instead it is used as a comparison group of women not working in day care. To be more explicit about this in order to prevent misunderstanding we added the following sentences in the Methods section:

"Women not working in child day care

Data on women not working in day care came from a cross-sectional survey of the adult Amsterdam general population, the Amsterdam Health Monitor (AHM), carried out by the Public Health Service of Amsterdam in 2004 from which a serum repository was established. AHM data was collected using frequency stratification by ethnic group, and women of Turkish and Moroccan origin were oversampled. Seroprevalence reported for this group in our study did not account for the sampling method of the AHM and basic demographic data and blood samples from all female participants in that survey aged 18 to 44 years (n = 298) were included. It should not be considered as representative of women in the Amsterdam general population, but rather as representative of women not working in child day care."

2. The authors appear to have controlled for country of origin in the analysis. However, this is not the same as taking the frequency stratification into account. Typically, this would be done using weights equal to the inverse probability of being sampled. If the authors are going to use these data as the comparison group for their study without accounting for the sampling method, then they should use it in all cases. For example, when comparing the seroprevalence of B19V among DCW, an odds ratio was reported based on the comparison group. However, when reporting the
seroprevalence of CMV among DCW, an odds ratio based only on women of European origin in the comparison group was reported. The same comparison group should be used for all comparisons made in the study, regardless of whether or not it results in significant results. I recommend either using weights in the analysis to obtain the correct racial frequency distribution of the general population, or reporting only those odds ratios that are based on the comparison group that was defined in the study and in Table 1.

This might be an misunderstanding. In all analyses (Parvo, CMV and CMV) the same comparison group is used. The results of the CMV analysis including the seroprevalence of CMV among DCW were reported in table 2. As it was not explicitly mentioned in the results section we have added the following sentence in the result section:

“…The seroprevalence of CMV IgG antibodies among the 529 women with valid test results was 73.0% (95% CI 69.0-76.7%), and was similar among DCW and among the women not working in day care.”

We did not perform a multivariable model incorporating country of birth as a variable, because the seroprevalence of CMV in immigrants born outside Europe approached 100%. We believe that the question “Is working in a day care facility associated with CMV seropositivity for those women NOT born abroad?” is important and therefore, we limited the analysis to the strata of women born in Europe and performed a separate multivariable binominal regression model. We now indicate more clearly in the Results section that this is a subgroup analysis. We feel reporting this analysis is worthwhile and relevant.