Author's response to reviews

Title: Assessment of measles Immunity among Infants in Maputo City, Mozambique.

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Author's response to reviews: see over
Reply to the reviewer’s comments:

Reviewer Julie Cliff

Comment
Major revisions:
Address the question of the possible influence of measles mass vaccination campaigns. A campaign in 1979 has implications for the chosen age cut-off dates. The authors mention a campaign in 2005. How did the timing relate to the study?
Address the possible influence of HIV in the discussion.

Reply from the authors
We agree with the referee opinion and we added in the methods that the study was performed between June and September 2005, just before the national measles campaign.

We had 83% of seroconversion rate what is a good response. We did not screen our subjects for HIV even knowing the negative influence of HIV in vaccine conversion rate. We acknowledge the importance of the problematic but in our study we would not like to discuss the HIV influence since will be inconclusive.

Minor Essential Revisions

Unlikely that EZ vaccine has been the vaccine used since 1981. Make clear if it was at the time of the study.

In the first paragraph of the methods section we added that EZ was the vaccine in use when the study was performed.

Height-for-age. etc. (not height-to-age)

Corrected as suggested by the reviewer.

Discretionary Revisions

Reference 5 refers to Mozambique, whereas the following reference 6 does not. Make clear if this is a general statement or applies to Mozambique.
Use of the Road to Health chart and history for mother's vaccination status are unreliable methods. Suggest omit.
Weight, height and age determined at recruitment is a method, so does not belong in the results.

It is a general statement

We thank the referee for the comment.

Omitted in result section as suggested by the reviewer.

Reviewer Claude P. Muller

Comment
Major revisions:

Reply from the authors
was no difference in measles IgG seroprevalence between children born from mothers, which were born before or after the implementation of the national immunization programme. Was there any difference for the mothers? However only sporadic cases (How many??) were reported during the study period in the corresponding area. Sensitivity and specificity of the EIAs used must be taken into account for the discussion of the results. There is no reason not to include IgG+/IgM- children in the group of those which have seroconverted since all of them were IgG- before vaccination, and it is well known that measles IgM after vaccination may be very low. the authors suggest to vaccinate children at 6 months of age. However the true seroconversion rate was probably much higher (see above) and none of the children developed clinical measles although there seemed to be many opportunities for infections as suggested by the putative subclinical infections. Thus the conclusions of this paper are not consistent and should be reconsidered before publication of the manuscript.

We reanalysed the data and there was no IgG difference among these groups of mothers. It was added in the results section.

It was added in the discussion section (41 & 53 reported cases)

It has been taken in account and added in the discussion section.

We agree with the referee opinion and we recalculate seroconversion including positive results of both isotypes. Table 2 modified and the last column is bivariate analysis of presence/absence of IgM and IgG after measles vaccination.

The study evidenced the majority of six months children were IgG negative but our concern as discussed is to boost the immunity to avoid the wide window of susceptibility before vaccination and we suggest two options. The first is to vaccinate at six months of age however we recognise the difficult in availability of one effective vaccine at the moment and the fact limit the option. So it is clearly the second option is more reliable and will hopefully protect longer.

Reviewer: Tetsuo Nakayama

Comment

Major revisions:

MicroImmune test kit. Is the detection system based on a capture method or indirect EIA? conflicting reports on sensitivity, using

Reply from the authors

MicroImmune test is a capture EIA.

There have been a number of studies on the
indirect EIA and IgG capture EIA. Do you have any preliminary data on it?

Oral fluid samples positive for IgG EIA should be checked for background absorbance values to the negative-antigen wells.

The authors mentioned detection of IgM antibodies in 142 infants initially IgG negatives. How about the remaining initially IgG positives?

Review: Marcela F Pasetti

It will be helpful to include the results from the IgM measles oral fluid test both in the 6 and the 9-month old as well as the post-vaccination IgM and IgG data in the tables.

The authors propose to increase vaccine coverage to reduce wild type virus
circulation. Another alternative would be the use of vaccine strategies that can safely prime immune responses early in life bypassing the pre-existing antibodies (either from the mothers or acquired through contact with circulating virus).