Author’s response to reviews

Title: Parental knowledge and attitudes on paediatric vaccination

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Author’s response to reviews: see over
Title: Parental knowledge and attitudes on paediatric vaccination-30/11/2008

COVER LETTER AND RESPONSES TO REVIEWERS:

Dear Sir,

Please find enclosed the revised manuscript “Parental knowledge and attitudes on paediatric vaccination.” for possible publication in your journal.

Thank you for your comments. Below please find enclosed a detailed answer to the points raised by you and the other reviewers.

Responses to the Reviewers

1- Associate Editor:

1. An additional concern that I have relates to the cross-sectional design. This is briefly addressed in the Discussion, but the issue of reverse causation, i.e. coverage (yes, no) causing changes in attitudes/knowledge could be addressed as well.

We now state in the Discussion: “The cross-sectional design may be another limitation, as the high levels of vaccination coverage in Catalonia and generally positive attitudes to the public health service could have influenced changes in attitudes and knowledge (reverse causation). Therefore, no causal inferences can be drawn from our results”

2. The direction of the associations should be clarified further (e.g. when writing Paternal educational levels were inversely related to coverage (page 6). It is unclear how this association looks like without knowing the scale of education (and how does this relate to the mothers with higher levels of education [having] higher ... coverages (pages 6)? This could be done by describing in more detail all variables that will be analysed.

We have reanalysed this point. Because 87% of responders were mothers, we have carried out the analysis considering the educational level of the mother or father who answered the questionnaire.

3. the authors should clarify in the Results Section where results are not tabulated
We have now eliminated the results expressed in the tables.

4. Table 3 should further explain what is in there (correct answers + what about the 3 3 3 1 schedule (same findings?)? 5. Table 3: the percentage
coverage should be shown instead of the percentage with a particular answer to a knowledge/attitude question
Table 3 has been modified to show the percentages of answers according to both vaccine schedules studies.

6. Important too is to provide further systematic and detailed information in the Analysis section on what exactly can be expected.
We have modified the statistical analysis to the best of our ability. Furthermore, we state in the Methods section “The sample size was calculated with a precision of 0.05 and an expected probability of routine vaccination coverage of 0.97.”

2- Reviewer: Jessica Gullion

Minor Essential Revisions
1. There is a grammar error at the bottom of the first paragraph in the Background section. It should read "Some studies show" rather than "Some studies shows."
This has been corrected.

Discretionary Revisions
1. In several areas of the paper, the authors mention that the importance of mothers’ knowledge and positive attitudes in terms of high vaccination rates. I noticed on the survey instrument that other family members could answer the questionnaire, but I didn’t see a breakdown of respondents. ‘Parents’ is used in most of the analysis, versus material belief as one of the significant findings. It would be helpful to provide the breakdown of relationship of respondent to child.

We now state in the Results section “The telephone questionnaire was answered by the mother in 87.62% (552/630) of cases, with a mean age of 34.08±4.59 years and by the father in 10.80% (68/630) of cases, with a mean age of 37.35±5.46 years. In the remaining 10 cases, the questionnaire was answered by grandparents. “

2. The authors might consider including in the methodology section the number of contacts who chose not to participate in the study. That information is included further in the paper but should be moved up.
This has now been done.

3. Did all of the participants send in their immunization card? I found the high participation rate surprising; here in Texas that would be difficult to achieve, especially getting parents to send in the records.
We now state at the beginning of the Results section “The telephone questionnaire was answered by the mother in 87.62% (552/630) of cases, with a mean age of 34.08±4.59 years and by the father in 10.80% (68/630) of cases, with a mean age of 37.35±5.46 years. In the remaining 10 cases, the questionnaire was answered by grandparents. Data were obtained by the parent reading directly from the
vaccination card. The vaccination card was sent for study by 46.88% (294/627) of parents and the information coincided in 100% of cases. “

In general, these high rates of response may be due both to the fact that the universal public health system (together with the parallel, complementary private health schemes) is generally considered a “good thing” in Catalonia and citizens feel relatively involved in decision making, and also because educational and social levels in Catalonia are both relatively high and relatively homogenous compared to some other countries, although this is to some extent being modified by the recent influx of immigrants from more-underdeveloped countries.

4. Is there a mandate for childhood vaccinations in daycares in this area? I wondered if the reason that the children of older mothers were more fully vaccinated was that they were more likely to work outside the home and have their children in daycare.
There is no law in Spain that mandates vaccination of children. However, most daycare and other educational centres state explicitly that they prefer children to be vaccinated. A total of 77.9% (491/630) of the children attended daycare centres and 32.22% of the mothers stated that they did not work. A total of 10.16% of nonworking mothers took their children to daycares. Another scenario is that the mothers work and the child is looked after by the grandparents, due to the relative lack of public daycares, the relatively high cost of private daycares and the survival, to some extent, of the extended family in Spain compared with other countries.

We reanalysed the data to determine whether the variable “main maternal occupation- household tasks” influenced vaccine coverage. No significant association was found between vaccine coverage of the two vaccine schedules studied and working in or outside the home.

3- Reviewer: Patricia Blank

Major Compulsory Revisions

1. Methods, 1.Para.
a) The response rate is a point of interest in a telephone survey. Could you please mention the response rate not only in the discussion, but also in the Methods?
We now state in the Methods section “A telephone survey of parents of selected children was carried out between October 2003 and September 2004. Only 1.90% of families refused to participate and 25 families could not be located. These families were replaced by reserves until the number of 630 was reached.”

2. Results
a) It would be very helpful, if you would provide some information regarding the parental sample. E.g. who was answering the questionnaire (percentage of mothers, fathers), mean age of the responders etc.
We now state in the Results section “The telephone questionnaire was answered by the mother in 87.62% (552/630) of cases, with a mean age of 34.08±4.59 years and by the father in 10.80% (68/630) of cases, with a mean age of 37.35±5.46 years. In the remaining 10 cases, the questionnaire was answered by grandparents. Data were obtained by the parent reading directly from the vaccination card. The vaccination was sent for study by 46.88% (294/627) of parent and the information coincided in 100% of cases. “

b) Table 2: You present the vaccination schedule according to maternal age. The sample size of this two groups differ strongly (241 vs. 69). Don’t you think that this discrepancy could have influenced the outcome of your result?
We agree that it would have been preferable to have larger and more evenly matched groups and that this would have increased the level of significance but these are the results we obtained.

3. Discussion
a) What do you mean with historical memory of the “older” mothers?
We now state “This may be due, in part, to older mothers being influenced more by memories of the benefits of vaccination and less by current controversies”

Minor Essential Revisions
The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.
The article has been scrutinized by an experienced English medical translator and the faults addressed.

4. Background, 1.Para.
a) The second sentence is hardly to understand, as it is too long (Rumours…).
The sentence has been shortened.

b) The same with the third sentence (Spanish…).
The sentence has been divided in two.

5. Methods, 1.Para.
a) Second sentence (Children born…) is a too long sentence
The sentence has been shortened.

4- Reviewer: Frans J.M. Feron

Major Compulsory Revisions:
1. The conclusions in the abstract are rather general and insufficiently corresponding to the main aim of the study (= to investigate the influence of parental knowledge and attitudes to vaccines and vaccinations).
The Conclusion has been changed.
2. Page 4, line 15: "Therefore the total sample was 630 children" suggests a non response of 0% (!). However, according to page 10, line 24, the percentage of non responders was low: 1.80% (12 families in a total sample of 630 is 1.90%). Still a very low amount of non responders. What is the explanation of this low percentage of non responders? The reviewer is right. This is a mistake and has been corrected to 1.90%. Possible explanations for the low rate of non responders are that the interview as arranged on the day and hour of the parents’ choosing.

3. Page 4, line 20-24: The use of two types of vaccination schedules (3:3:3:3:1 series versus 4:4:4:3:1 series) needs some more explanation. We now state in the Methods section “The 3:3:3:3:1 vaccination series was defined as having received 3 DTPa/w doses, 3 Hib doses, 3 OPV doses, 3 MenC doses and 1 MMR dose and the 4:4:4:3:1 series was defined as: 4 DTPa/w doses, 4 Hib doses, 4 OPV doses, 3 MenC doses and 1 MMR dose. All children who received the 4:4:4:3:1 series had also received the 3:3:3:3:1 series.”

4. Page 5, line 1: "Parents completed a standard questionnaire for each child": what is the validity of the used questionnaire? Reference(s)?

We now include the references of the Spanish studies that have used this questionnaire (Refs: 5, 21, 22). In addition, we carried out a pilot study in 25 mothers to ensure that they understood the questions.

Minor Essential Revisions:
5. Page 10, line 24: Percentage of non responders: 1.80% or 1.90%? Furthermore, 25 families were not located. So, what is the exact non responders in the study? The reviewer is right. This is a mistake and has been corrected to 1.90%.

We now state “Only 12 (1.90% of families refused to participate and 25 (3.97%) families could not be located. These families were replaced by reserves until the number of 630 was reached.

6. Page 11, line 3-12: It is not clear how this paragraph has to be conceived. If authors intend this paragraph as "concluding remarks", this text needs revision. In fact anticipating reference 19 should belong to "Background"/page 3, because this does not concern the results of this study. Reference 19 has been deleted from the Discussion and added to the Background section.

7. Table 2: n= 547 (227 + 209 + 60 + 51)? Due to missings or non responders? We apologize for the confusion. In fact, maternal age was only collected in 310 families. In addition, all children vaccinated with the 4:4:4:3:1 schedule had also received the 3:3:3:3:1 schedule.
8. Table 2 suggests n=287 on coverage of 3:3:3:3:1 schedule respectively
n=260 on coverage of 4:4:3:1 schedule. On the contrary, table 3 suggests a
coverage of n=544 on coverage of 4:4:4:3:1 schedule.

Again we apologize for the confusion. Table 2 shows only the 310 mothers in
whom maternal age was ascertained. It is include in results section.

9. Table 4: Vaccination schedule 3:3:3:3:1 reports n=593+37=630. Vaccination
schedule 4:4:4:3:1 reports n=554+86=640 (!).
This error has been corrected from 554 to 544.

All Authors have seen and approved the manuscript and have contributed significantly to
the work. On behalf of all the authors, I state that the manuscript has not been published
and is not being considered for publication elsewhere.

With best regards,

Eva Borràs López
Barcelona, 30 November 2008

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