Author's response to reviews

Title: Vaccination Coverage And Reasons For Non-vaccination In A District Of Istanbul

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Reviewer's report: Vaccination Coverage And Reasons For Non-vaccination In A District Of Istanbul Title:

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Lawrence E Barker Reviewer:

Reviewer's report:

General

The authors report a study of vaccination coverage and reasons for non-vaccination in a region of Turkey. They find associations between demographics and vaccination, and identify reasons for non-vaccination.

Although I have included some edits below, the authors might consider having the paper reviewed by a native English speaker. The English usage is not bad, by any stretch of the imagination. However, it could be improved.

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

1. I certainly agree that reasons for non-vaccination are important. Still, I don't feel comfortable saying that they are 'as important as vaccination coverage'. If coverage is low, we need to know why. On the other hand, if coverage is high enough for herd immunity to be in effect, it isn't clear to me how useful knowing why the few non-vaccinators are not vaccinated is useful.

We changed the sentence 'as important as vaccination coverage' with "To achieve the EPI targets, information about reasons for non-vaccination is very important."

2. I am concerned that the authors analyzed data from a complex sample survey as though it were a simple random sample (see D. Brogan's paper, available one click from h http://www.rti.org/sudaan/page.cfm?nav=915, for an explanation). For example, the vaccination status of children within a household is correlated, but it is not clear to me if the authors accounted for this. If the
authors are, due to software limitations, unable to do such an analysis, at very least they should recognize it as a limitation.

There is no licenced SUDAAN software in our university, so we recognized this as a limitation in discussion part of the manuscript.

3. Unless I have misunderstood the authors, the data for reasons for non-vaccination were only for measles vaccination. Therefore, we do not know if the reasons for non-vaccination with other antigens were the same. The authors should state this clearly.

The data for reasons for non-vaccination were for completely unvaccinated children in the households with other vaccines. We only didn't ask every vaccine seperately in our questionnaire. We explained this in the manuscript and therefore we stated this as a limitation. We tried to write the sentences about this again more clearly.

4. Many of the non-vaccinators gave reasons that can be easily addressed. The authors did mention this (next to last paragraph). However, I believe this is a major point. I would like to see more attention paid to this, perhaps with discussions of how the reasons can be addressed.

After applying logistic regression we have made some changes in discussion section of our manuscript and discussed the reasons for non-vaccination more.

5. Table 2 could easily be strengthened (ignoring any issues of complex sample survey) by including confidence intervals. Scores intervals are generally valid for fairly small sample sizes, and should work here. For 7 successes out of 16 trials, the 95% scores interval is 0.23 to 0.69. For 3 success out of 16 trials, the 95% scores interval is 0.07 to 0.19.

In our new manuscript confidence intervals are included in table 2.

6. Table 3 is useful. However, the addition of a multivariate analysis would make the paper even stronger. I would use vaccinated (yes/no) as the dependent variable, and the factors in Table 3 as the independent variables, and run a logistic regression. I would also consider (from memory/shot card) as a factor for the logistic regression. A weighted analysis would be ideal but, if this is not possible, an acknowledgement of the problem would be helpful.

* We analysed the data again with multivariate logistic regression analysis. Characteristics that were found, through bivariate analyses, to be significantly associated with vaccination coverage were entered into a multivariate logistic regression model. We didn't consider the source of information about vaccination status of the children (from memory/shot card) as a factor for the logistic regression, because we didn't find any relation between the source of information and vaccination status of children in a chi-square test.

* The results of logistic regression are added as table 4 to the manuscript.

* Abstract has been changed also, because of logistic regression was applied.

* We add some more references because after logistic regression some of our results get more stronger while some relations have dissappeared.
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 authors were inconsistent in using the umlaut in Umramiye.

Abstract, methods, second sentence: It should be 'a chi-square test', not just 'chi-square'.

Abstract, results: put semicolons between the reasons for non-vaccination.

Abstract, Conclusion: A better wording would be 'Efforts to increase vaccination coverage should take reasons for non-vaccination into account.'

Introduction, paragraph one: The authors should make explicit that 'the country' is Turkey.

The acronyms BCG and DTP are never explained. Also, OPV is used without explanation. An acronym should be spelled out at its first use, and used thereafter.

The word 'data' is actually plural, although it is often incorrectly used as singular. The authors should check for subject/predicate agreement whenever the word 'data' is used.

'Overcome' is one word, not two.

ALL OF THE RECOMMENDED MINOR ESSENTIAL REVISIONS ARE DONE.

English of the manuscript is checked once again.