Reviewer's report

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

Version: 4 Date: 8 February 2006

Reviewer: Lawrence E Barker

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)

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.

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 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.

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.

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.

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.

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.

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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 authors were inconsistent in using the umlaut in Umraňie.

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.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions.

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

Quality of written English: Needs some language corrections before being published.

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.