Reviewer's report

Title: Social and cultural features of cholera and shigellosis in peri-urban and rural communities of Zanzibar: findings from a pre-vaccination survey

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Reviewer: james trostle

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Review of Shaetti et al. “Social and cultural features of cholera and shigellosis in peri-urban and rural communities of Zanzibar: findings from a pre-vaccination survey”

1. Is the question posed by the authors well defined?

This is a potentially important paper about shigellosis and cholera, two major contributors to morbidity and mortality worldwide. It is problematic in its present state, however, because it implies that it will address issues related to vaccination for cholera when apparently no questions related to vaccination were asked, and thus all discussion related to vaccination is speculative or derivative. This and other concerns are expanded below.

The paper’s Background section pays attention to the clinical features and epidemiology of both cholera and shigellosis. By paragraph four the focus has shifted to vaccines as a preventive strategy, and the authors state that “consideration of community views of illness and vaccines... is critical...” This is a short (<1 page) section of the review, however, and it emphasizes the importance of “ideas, beliefs and fears... social pressure or rumours...” and then speculates that possibly vaccine priority might differ between urban and rural communities.

It is therefore surprising to find no mention of vaccination in the specific aims of the study listed in the final paragraph before the methods section, even when the first sentence of the Methods section states that the survey was designed to provide baseline data “on community views of diarrhoeal illness and vaccination.” If vaccination data were contained in another of the five sections of the interview described in the first paragraph of the subsection entitled “Instrument,” then it seems quite important to greatly condense the data in this manuscript so as to be able to include information about vaccination attitudes here. After all, the reader has been led to expect these data!

2. Are the methods appropriate and well described?

AND 6. Are limitations of the work clearly stated?

The study design makes clear that survey respondents were “unaffected adults living in areas of high risk,” but this makes later presentation of data about self-treatment and health service use sometimes problematic. Respondents were not asked to report their actual experience but rather to interpret and respond to
a standardized vignette. While the section subtitled “strengths and limitations” notes that these data were based on self-report rather than observation, it does not discuss the fact that respondents were reacting to (and speculating about what they might do in case of) the occurrence of disease events that usually were not a part of their experience (the third paragraph under the subsection entitled “Recognition and importance of illnesses and past episodes” states that less than 8% of the peri-urban and 24% of the rural sample had a household member who had EVER suffered from cholera, and no data are given on shigellosis.)

The reader may forget the fact that these respondents are not reporting on what they have done to manage cases of cholera in their household, rather they are reporting what they might do, or think they should do, in such a case. Even though both are self-reports, these are quite different types of evidence. Given this, phrases like the following are too easy to misinterpret: “The most prominent self treatment at home in the rural community…” ; “they primarily relied on giving the patients”; “cholera self treatment varies markedly”; “the latter…relied more on rehydration to treat the case described in the cholera vignette,” etc.

The authors’ discussion of the relevance of prior exposure to disease to subsequent reports of its symptoms dismisses the impact of by referring to differences in exposure rates between the two samples, emphasizing that the rural group with higher exposure had poorer understanding of symptoms. But this is not the appropriate way to make the comparison: they should have compared the responses of those with and without disease experience across their samples, though the numbers are small for urban cholera.

A second analysis problem concerns the interpretation of differences between the two samples as being attributable to their level of rurality/urbanity. While the authors do show that the social and demographic characteristics of the two samples are quite different, level of education itself is one of the most important differences between them relevant to the objectives of this study. Table 1 shows that 57% of the peri-urban sample, but only 27% of the rural sample, had reached secondary school or higher, and only 10% of peri-urban but 35% of the rural sample had attended Koranic schools. Since so many of the outcomes of this study might be related to educational attainment, there should be more discussion of whether the differences in the samples might be related solely to education rather than to rurality/urbanity. (The authors might test this by comparing people of similar educational attainment across the two samples.)

3. Are the data sound?

The valences used and form of calculating what is called “prominence” on p. 13 does not appear well-justified to this reader. It is not clear theoretically why spontaneous responses are so much more important than prompted ones, nor is it clear why the value for “prominence” should combine both prompted/unprompted and “most troubling, most important, or most helpful.” (Why not, for example, first mentioned?)

Participation and refusal rates should be given along with sample characteristics. 4. Does the manuscript adhere to the relevant standards for reporting and data
deposition?
Yes.

5. Are the discussion and conclusions well balanced and adequately supported by the data?

I was confused about why the peri-urban sample would “acknowledge fatality” more often than rural villagers (p. 15). Leaving aside the question of what “acknowledge fatality” means, I would guess that both cholera and shigellosis have higher case fatality rates in rural than peri-urban areas. Is this true? If so, why is it not reflected in responses to the vignettes? Might it be the case that the relatively low proportion of peri-urban households with experience of cholera might actually increase their levels of fear? I would like to see more discussion like this.

There were a number of places where it seemed that the textual description did not match data in the tables. For example, in the first paragraph under the subtitle “Patterns of distress for cholera” the text says “symptoms related to shigellosis… were hardly ever mentioned spontaneously” yet the table says this happened in .20 of the peri-urban and .1 of the rural sample.

Similarly, while the second paragraph under this same subsection states that rural respondents expected cholera to have negative impacts on normal healthcare routines, the first paragraph of the Conclusion states that “The disruption of health services was not regarded as a problem…”

Under the subheading “Implications for practice” the authors suggest that the communities’ positive attitude toward allopathic health services “indicate the priority for strengthening health systems… rather than a need for a vertical programme.” This does not seem to be a fair conclusion, since a preference for allopathic treatment would presumably be satisfied under either a health system approach or a vertical programme approach.

The conclusion ends with a sentence that again takes up the issue of vaccine acceptance and demand. Again, this seems to take the manuscript well beyond the data it presently describes.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?

Yes. It may be important to note that the definition of “cultural epidemiology” described under the subheading “Instrument” is only one of a number of approaches within this emerging subdiscipline (see others reviewed for example in Trostle 2008, in an entry entitled “Cultural Epidemiology” in the International Encyclopedia of Public Health).

8. Do the title and abstract accurately convey what has been found?

Not completely.

Suggest title change: “In a peri-urban and a rural community in Zanzibar” since only one community of each type was surveyed; and perhaps delete the subtitle “findings from a pre-vaccination survey” since attitudes or practices related to vaccination itself were not a part of the survey. (OR preferably keep the subtitle
The abstract background focuses on vaccination, stating that “social and cultural perceptions of illness are likely to play an important role” in determining acceptance and use of vaccines. But the data collected and analyzed in this manuscript concern categories of distress, perceived causes, and potential help-seeking for cholera and shigella infections. Apparently no questions were asked that might assess acceptance and use of vaccines. If the abstract is to be consistent with the data, the background needs to be reformulated to focus on perceptions of the two conditions instead of vaccination. In addition, the abstract’s conclusion states that its findings are “notable,” which one would think should be left for readers rather than authors to decide, and goes on to recommend that “future research on community views affecting cholera vaccine acceptance… should clarify effects on demand and acceptance…” which is also hard to interpret.

9. Is the writing acceptable?
Yes.

Final summary of recommendations:

Discretionary:
I. expand or delete paragraphs on vaccination under Background, following decision about main focus described below under “Major compulsory” change
II. Make presentation of “cultural epidemiology” slightly more expansive.

Minor Essential:
I. Harmonize table and text descriptions as well as results and conclusion sections.
II. Report refusal rates.
III. Expand theoretical rationale for assigning scores related to “prominence.”
IV. Revise title and abstract as described.

Major compulsory:
I. Decide whether paper will include or exclude vaccination-related results. If so, background and other sections described above are OK as is, if not, they need to be significantly revised and shortened.
II. Clarify throughout that the results describe respondent perceptions and intentions rather than experiences and history.
III. Discuss relevance of education differences between the samples and whether differences should be so heavily attributed to rurality/urbanity.

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

**Quality of written English:** Acceptable
**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.