Reviewer’s report

Title: Risk factors for Contracting Watery Diarrhoea in Kadoma City, Mashonaland West Province, Zimbabwe, 2011

Version: 2 Date: 21 June 2013

Reviewer: marzia lazzerini

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The paper is of value, especially for the analysis done on water sources, and the final message. It could be published after some ESSENTIAL revisions.

ABSTRACT

1) “Kadoma City experienced an unexpected increase in watery diarrhoea cases from 27 to 36”: It is not clear what the numbers mean. I suggest to delete them.

2) “between weeks 36 and 38 in 2011”: later in the abstract and in several points in the text, and Figure you use both weeks numbers and dates. This is confusing. I suggest to use one system only. Maybe dates are more clear to everybody.

3) “Ngezi and Rimuka townships”: add that this is in Kadoma City, Zimbabwe.

4) “Epi Info statistical software was used to capture and analyse data”: I suggest to delete “capture”

5) Factor significantly associated with diarrhoea: I suggest to divide them into protective and risk factors (otherwise it is confusing for the reader)

5) “municipal water tested was free of E.coli, 52% of shallow wells and 3/15 boreholes tested were positive for E.coli”: please use absolute numbers (and % in brackets).

TEXT

BACKGROUND

7) Page 5 “In 2011, Kadoma City experienced an upsurge of watery diarrhoeal cases during week 36, in 2011. The total cases reported by the city’s five clinics doubled from 27 to 53 cases between week 35 and 36. The cases further doubled from 55 to 107 between...
week 37 and week 38. The weekly watery diarrhoeal cases at the under 5 clinic crossed the action threshold line during week 36. The diarrhoeal cases at the under 5 clinic increased 7 fold, from 7 to 50 cases, between weeks 35 and 38.”

: It would be good to reference a figure (Figure 2) and maybe draw the “action threshold line”.

If you do not draw the threshold, it would be good if you can specify how much it is, and where it comes from.

METHODS

8) “A control was a child who did not develop diarrhoea from 5thSeptember 2011 to the day of the interview,”: define from when to when the interview where taken.

9) Sample size “Epi Info™ statistical software (CDC 2011) was used to calculate sample size.

Assuming 30 % exposure in controls and 50% exposure in cases, using unchlorinated water, Odds Ratio of 2.4, 95% confidence level, 80% power, and 10% refusal rate the required sample size was, 106 cases and 106 controls. [8]” : Why is a study referenced here? Did you used the sample size of another study, or, as stated, did you calculated it yourself?

RESULTS

10) Figure 1 is linked in the text, but it is absent. I guess that what it is now Figure 1 should be Figure 2.

11) Page 8, last paragraph” All 33 municipal water samples were satisfactory”: do you mean that they were below the threshold for contamination. I suggest to write this explicitly.

12) Page 9, first paragraph” The demographic characteristics of cases and controls were comparable.” : I suggest to substitute “comparable” with “There were not significant differences “

13) Multivariate analysis, first line” Independent risk factors for contracting diarrhoea was hand washing in a single bowel”: I guess you meant “single bowl”.

14) Multivariate analysis, first line: there are some dots that need to be deleted.

DISCUSSION

15) In general, this could be somehow shorter. Rather than addressing each factor one by one, I suggest to discuss what these associations, taken together, mean. It seems to me that 1) This is faecal contamination; 2) This is coming from poor water sources, in absence of good municipal water. You could also add
some reference on studies on improved municipal water, to comment how this may have an impact on diarrhoea, and reduce cost for care.

16) Page 10, first paragraph “The multiple peaks, 3 to 5 days apart, suggest the incubation period of the causative organisms to be between 3 to 5 days. The causative organisms that were isolated, (Rotavirus, Salmonella, Shigella and E. coli) fit into the average incubation period of 3 to 5 days”: Add a comment on whether this is typical from faecal contamination. Add reference as needed.

17) Page 11, second paragraph “In Kadoma city”: add “in this epidemic”

18) Page 13, first line “Some of the limitations for this study include the following: Some children”: delete capital letter from “Some”

CONCLUSION

19) first line “The outbreak was propagated; water washed and affected all the residential areas in Kadoma City.”: Substitute semicoma with comma.

RECOMMENDATION

20) Maybe you could number the recommendations.

PUBLIC HEALTH ACTIONS TAKEN

21) “Health education on importance of practicing good personal hygiene, boiling and treating water with water purification tablets before drinking and long term benefits of exclusive breast feeding should continue. All municipal clinics now have weekly updated diarrhoea thresholds” : Why “weekly updated diarrhoea thresholds” Do you mean weekly updated reports?

22) “In view of the protective effects of municipal water, the installation of dedicated electricity power lines was expedited by the Zimbabwe Electricity Supply Authority”: make more explicit why electricity is important (I guess to pump the water)

Level of interest: An article of importance in its field

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

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
'I declare that I have no competing interests'