Reviewer’s report

Title: A prospective cohort study of the association between drinking water arsenic exposure and self-reported maternal health symptoms during pregnancy in Bangladesh

Version: 2
Date: 8 January 2014

Reviewer: Mohammad Dr Parvez

Reviewer’s report:

I have a few comments that are listed below:

Abstract:
The authors should report and distribution of water arsenic (range and mean) of the study participants. Importantly, the quartiles of the arsenic levels need to be included while reporting an association between the exposure and outcome. Interestingly, a protective effect was noted in the second quartile of arsenic exposure.

Methods:
I see a large number of participants were ‘lost to follow-up’ within a short period of time which I consider a major problem of the study. In fact, a third of the participants were missing in the analysis. I expect authors will address this issue adequately and provide plausible explanation.

I would like to suggest moving the ‘Arsenic exposure’ before ‘Self-reported symptom during pregnancy’ as the exposure should follow the outcome.

Outcome of the study, ‘Self-reported symptom during pregnancy’: The paper should clearly describe the outcomes that were used for this analysis. It indicated that the study participants were asked about their experience on ‘severe morning sickness’, this needs to be clarified in this section. How the severity was defined? Were there separate questions for nausea and vomiting? Was it based on frequency? This is important because nausea and vomiting are common symptoms experienced by women during pregnancy.

Statistical analysis:
It is not clear whether data from a single visit or all the follow-up visits were included in the analysis. It seems from the title that cohort analysis was conducted, thus HR would be more appropriate than OR.

Result:
The author should consider reporting actual arsenic concentration rather than GM which is difficult to explain for policy purpose. In the tables, headers reads, case and control. Was this the analysis/study was this case-control or cohort analysis. If this was a cohort analysis as the title suggests, the headers need to
be changed. I am not clear about the variables that were adjusted in this analysis. The confounding variables used for analysis should be constant across all outcomes. If case different set of variables are used, it needs to be justified.