

Reviewer’s report

**Title:** Prevalence and risk factors of hepatitis B and C virus infections in an urban community in Dhaka, Bangladesh

**Version:** 1  **Date:** 2 April 2010

**Reviewer:** Mamun Mahtab

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General comments:

Hepatitis B virus (HBV) and hepatitis C virus (HCV) represent two major hepatotrophic virus that causes chronic liver diseases and their squeal; cirrhosis of liver and hepatocellular carcinoma. Epidemiological data and clinical predictions indicate that about 40 million people of this country may have been infected with the HBV. In addition, about 8-10 million people of this country may be chronically infected with the HBV. Although, the numbers of HCV-infected persons seem to be much lower than those of HBV, actually there are few studies about HCV prevalence in Bangladesh.

This study was conducted to check prevalence and risk factors of HBV and HCV infection in an urban community in Dhaka, Bangladesh. The logic for this study came from the fact that almost all studies about HBV and HCV prevalence have been accomplished in selected patients in Bangladesh (according to the authors). They measured HBsAg and anti-HBc as markers of HBV infection. Anti-HCV was as a marker of HCV infection. The authors have postulated that the outcome of this study would help to develop prevention and control strategy against HBV and HCV in Bangladesh.

**Major compulsory revisions:**

1. There are significant scientific flaws regarding logics for conducting this study. In the Introduction, the authors have mentioned that there is lack of prevalence study about HBV among general population of Bangladesh, and most of the studies have been conducted in selected groups of population (they have provided reference 5-9 to validate their claims). This is not true and the authors are also aware of this. They have provided reference 4 that described HBV prevalence among general population of Bangladesh. I am confused why Reference 4 was used to validate a global impact of HBV, which is not the case. Also, Mahtab et al. Studied HBV prevalence among 1018 apparent healthy population of Bangladesh (Mahtab et al. Hepatobilliary Pancreat Dis Int 2008; 7: 595-600). As prevalence study of HBV has been conducted in Bangladesh, the authors of this study should cite these references. Subsequently, they should explain the rationality of the present study. In that section, they are supposed to state the novelty of their study (I believe that there are some excellence in their study design). In this part, they should mention why further studies were needed to develop insights about HBV and HCV prevalence in Bangladesh. The limitations of already published studies should be clearly mentioned. I am not
sure why the authors decided to skip already published studies about HBV and HCV prevalence at Bangladesh in general population.

2. The authors should provide the rationale for conducting the study at Kamalpur area of Dhaka. If this is due to presence of urban field site of ICDDR, please explain why this field site was selected. Also, the activities of ICDDR at Kamalapur that may influence prevalence of HBV or HCV at that area should be mentioned. This is needed to develop insights if these activities up or down regulate HBV and HCV prevalence at Kamalapur. The title of the manuscript is about HBV and HCV prevalence at an urban area of Dhaka. This site may not be a proper place for epidemiological study as stipulated in Title. Study of HBV and HCV prevalence at an urban study location of ICDDR may be a biased location because the people of this area may have altered KAP (knowledge, attitude and performance) regarding infectious diseases due to prolonged presence of ICDDR team and health education provided by ICDDR. This point must be properly addressed.

3. As mentioned in Reference 26 and 27, the study area is an improvised urban slum area. The authors should alter the title of their paper accordingly, and should add that their study checked HBV and HCV prevalence in an improvised urban area of Dhaka. An urban area and an urban slum area may exhibit different epidemiological spectrum of prevalence of different infectious diseases including HBV and HCV prevalence.

4. Fourteen subjects were expressing HBsAg, but negative for anti-HBc. Please explain the mechanism underlying this. This makes it necessary to show the sensitivity and specificity of estimation of HBsAg and anti-HBc. The authors only mentioned that assessment of anti-HBc and HBsAg were done by ELISA method using commercial kit from Italy. What is Diasorin? Is it the name of the company or name of the city? Both are needed. What is the lowest limit of estimation of HBsAg and anti-HBc by these kits? HBV DNA should be checked in these cases. Also, there should be discussion about these cases after checking sensitivity and specificity of anti-HBc and HBsAg.

5. As mentioned by the authors, this study was conducted to develop insights about prevalence of HBV and HCV and also to develop control or preventive strategies (Page 5, last 2 lines of Introduction). They have suggested that a national strategy may be developed on the basis of this study. However, they have failed to attain these objectives in their study. The research physicians shared the result with the participants. Four-hundred ninety two subjects were anti-HBc-positive, but HBsAg-negative. It is required to assess how many of these subjects were positive for anti-HBs. The presence or absence of anti-HBs would determine the management strategies of these subjects. Taken together, data of anti-HBs of anti-HBc-positive subjects are essential.

Minor essential revisions

6. Provide more information about the followings
   A. Animal bites; type of animals
   B. Visiting unregistered health workers; do they give parental injections?
C. Receiving treatment for STD; nature of treatment.
7. The authors should discuss how these factors may influence prevalence of HBV and HCV infection.

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

Quality of written English: Acceptable

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

Declaration of competing interests:
I have no such interest about this study.