

Assesment of Hepatitis B prevalence amongst the pregnant women attending the Ante Natal Clinic of a teaching hospital in West Bengal.

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Abstract: The present study is a cross sectional study which aims at the assessment of the prevalence of Ante natal Hepatitis B. A total of 456 study participants were enrolled. Probability sampling using the systematic method was used to include study participants. The sampling frame consisted of all pregnant women attending ANC at College of Medicine and Sagore Dutta hospital. The sampling interval (K unit) was calculated as 9 mothers using ANC records that showed a monthly attendance of 860 first visit attendances. After obtaining written consent from an informed client, Three to five milliliters (3-5 Mls) of whole blood was collected from each study participant by venous puncture, and serum was separated. The serum was tested by immunochromatographic method to detect HBsAg . There was to ethical controversies or conflict of interest. Data compilation and analysis were done as per standard statistical methods by using the software "R". screening. Of the 456 study participants, whose serum samples were collected and screened only 11 (2.41%) were positive, with detectable levels of Hepatitis B surface antigen. Out of 456 participants, 293 were primigravida (69%). All of these 11 HBsAg seroreactive cases were primigravida. The youngest participant was 19 years and the oldest was 42 years. Age group 20-24 years had the highest number of participants (n=151, 33%). Antenatal screening for Hepatitis B is useful for early intervention and management of vertical transmission.

Key words: Pregnant, HBsAg

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I. Introduction

Hepatitis B is a partial double stranded DNA virus. Chronic Hepatitis B virus (HBV) infection is the one of the most common causes of liver cirrhosis and hepatocellular carcinoma [1]. Vertical transmission of HBV is the major cause of chronic HBV infection [2-8]. In 1992, the Global Advisory Group to the World Health Organization (WHO) had recommended that all countries integrate hepatitis B vaccine into national immunization programs. As a result, several countries introduced hepatitis B vaccination in their routine immunization program. The Strategic Advisory Group of Experts (SAGE) on immunization meeting in October documented that 185 (95%) countries worldwide had introduced hepatitis B vaccination in their infant schedules with only 97 (49%) countries providing the recommended birth dose [9,10]. Keeping these facts in mind, the present study aims at the assessment of the prevalence of Ante natal Hepatitis B screening to induce early intervention and control vertical transmission.

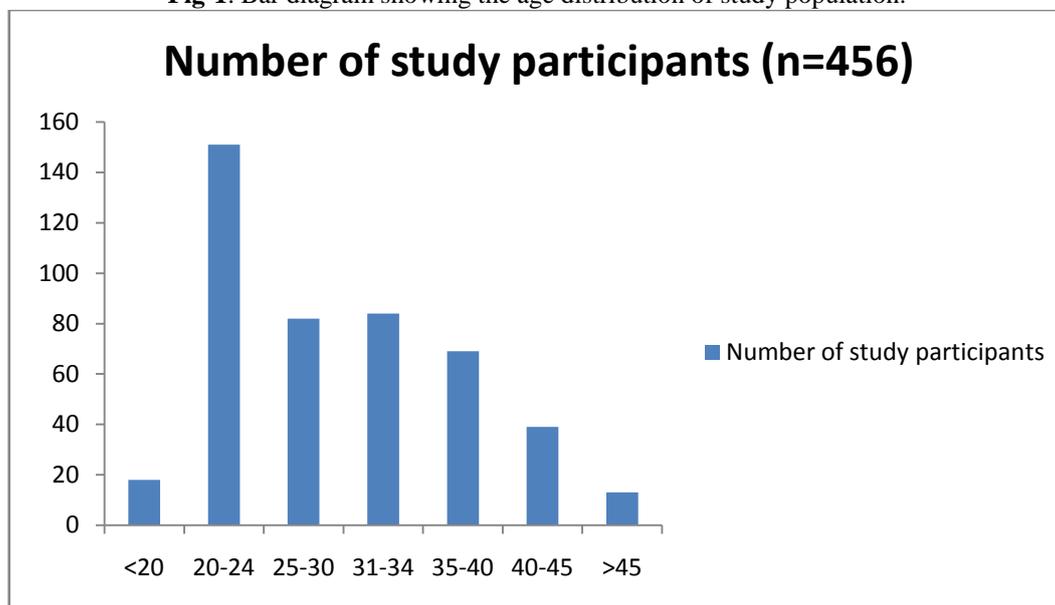
II. Materials and methods:

This is a cross-sectional study was conducted among pregnant women attending antenatal clinic services in a teaching Hospital in West Bengal in the period between 1st January 2017 and 31st December 2017. The sample size was calculated using single population proportion formula [11] by assuming lowest prevalence of HBV 5.6% [12] and highest prevalence of 24% [12]. Accordingly, a total of 456 study participants were enrolled. Patients with HIV sero reactivity and other known co morbidity were excluded. Probability sampling using the systematic method was used to include study participants. The sampling frame consisted of all pregnant women attending ANC at College of Medicine and Sagore Dutta hospital. The sampling interval (K unit) was calculated as 9 mothers using ANC records that showed a monthly attendance of 860 first visit attendances. After obtaining written consent from an informed client, Three to five milliliters (3-5 Mls) of whole blood was collected from each study participant by venous puncture, and serum was separated. The serum was tested by immunochromatographic method to detect HBsAg . There was to ethical controversies or conflict of interest. Data compilation and analysis were done as per standard statistical methods by using the software "R".

III. Results:

Of the 456 study participants, whose serum samples were collected and screened only 11 (2.41%) were positive, with detectable levels of Hepatitis B surface antigen. Out of 456 participants, 293 were primigravida (69%). All of these 11 HBsAg seroreactive cases were primigravida. The youngest participant was 19 years and the oldest was 42 years. Age group 20-24 years had the highest number of participants (n=151, 33%).

Fig-1. Bar diagram showing the age distribution of study population:



IV. Discussion:

In this present study, Hepatitis B prevalence was found to be 2.41%. Age group 20-24 years had the highest number of participants (n=151, 33%). The study performed by Rajendiran et al showed that the prevalence rate of HBsAg was 1.01 % (13 positive out of 1282 cases) with the highest prevalence in age group 26-30(46%) [13] where as another study done by Kirbak et al. showed that the prevalence of Hepatitis B surface antigen (HBsAg) among pregnant women attending ANC in Juba was 11% (31 out of the 280 samples) and in a study conducted by Khan et al. in Pakistan, , out of 140 pregnant ladies 8 (5.7%) were positive for HbsAg which are quite higher than that of us [10,14]. In the study done by Kirbak also documented that, the youngest participant was 15 years and the oldest was 44 years. Age group 20-24 years had the highest number of participants (n=95, 33.9%), similar to our study [10]. Khan et al, showed higher prevalence of Hepatitis B amongst the multigravida where as, in our study, all eleven HBsAg seroreactive cases were primigravida [14].

V. Conclusion:

Antenatal screening for Hepatitis B is useful for early intervention and management of vertical transmission.

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