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## The seroprevalence of hepatitis B infection among blood donors in the blood bank of a tertiary care hospital

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### ABSTRACT

*This study is mainly aimed to know the seroprevalence of Hepatitis B infection among Blood donors, attending the Blood Bank of Bhaskar Medical College , Ranga Reddy district. A total of 6754 Donors were screened for Hepatitis B virus for a period of 6 years from January 2007 to December 2012 . The Seropositivity of Hepatitis B virus infection was 0.25%.*

**Keywords:** HbsAg , Seroprevalence, Seropositivity, , Hepatitis B virus

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### INTRODUCTION

Type B Hepatitis was originally observed in persons receiving Blood transfusion or serum inoculation. This is the most important type of Viral Hepatitis resulting in a carrier state, or development of Chronic Liver disease including Chronic Hepatitis, Cirrhosis and Primary hepatic Cancer and Mortality with Hepatitis B infection is about 0.5 to 2% but it is more in post-transfusion cases.

A proper Screening of the Donor is important and mandatory to prevent these infections so that the Blood Transfusion does not harm the patient. The risk of transmitting these infections can be effectively reduced by accurately screening the Donor for these infections. This study is done mainly to note the seroprevalence of Hepatitis B infection among Blood Donors. Blood Transfusion is an important intervention to save many lives. Blood Transfusion may itself result in complication - which includes transmitting several infections like HIV, Hepatitis B, Hepatitis C ,Syphilis and malaria.

### MATERIALS AND METHODS

A total of 6754 Donors both voluntary and replacement, attending the Blood Bank of Bhaskar Medical College, for a period of 6 years from January 2007 to December 2012 were screened for Hepatitis B surface Antigen.

Professional Donors were strictly eliminated by taking adequate history, proper clinical exam, and by following the Donors' selection criteria meticulously. The Donors' samples were screened for HBsAg, HIV , Hepatitis C, and VDRL and Malaria. Only HBsAg Seropositivity was taken into consideration for this study.

Donors were screened for Hepatitis B by Immunochromatographic Technique device designed for qualitative detection of HBsAg in serum. Those found positive in screening test were confirmed by ELISA.

**RESULTS AND DISCUSSION**

A total of 6754 Donors were screened for Hepatitis B infection of which 17 were seropositive for HBs Ag – an incidence of 0.25%.

The Seropositive samples for HBsAg is shown in table 1 below

**Table 1**

Year	Number of Samples	Number of Positive samples	Seropositivity%
2007	470	2	0.43%
2008	1018	10	0.98%
2009	1207	1	0.083%
2010	1356	1	0.073%
2011	1323	1	0.075%
2012	1380	2	0.14%
	Total samples is 6754	17	0.25%

The number of Donors increased from 470 in 2007 to 1356 in 2010, and 1380 in 2012.

The overall incidence of Hepatitis B—17 positive cases of 6754 Donors—accounting for 0.25%.

The Seropositivity of Hepatitis B Virus in other Indian studies have been shown to range between 1.86% to 4%. [1-4]

In another study the seropositivity of Hepatitis B Virus was found to be 1.53% in 1996, which decreased to 0.99% in 2002.[5]

In another Study the Seropositivity of HBs Ag for 2006 to 2008 ranged from 2.6% to 3.43% . [6]

The Studies in the West have shown that the risk of transmission of HBsAg has become very low because of preventing the virus to enter the blood supplied. [7,8]

The increased risk of transmission of Hepatitis B virus could be minimised by introduction of a few more screening tests of Donors' sample.

The introduction of Anti- Hepatitis B core antigen (HBcAg ) and Ig M for hepatitis B infection is recommended to detect during the window period. [6]

**CONCLUSION**

Hepatitis B Virus is a very highly infectious far more than HIV in minute trace of infected blood, as little as 0.00001ml can be infectious. Mortality with HBsAg infection is about 0.5 to 2%, but may be more in post-transfusion cases. It is possible to decrease the HBs Ag infection and improving the Blood Transfusion / Blood products safety by the implementation of selective criteria of donor strictly as per guidelines laid down by the Government of India and use of sensitive laboratory screening tests.

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