6. SUMMARY AND CONCLUSION

The Present study deals with the prevalence and genotyping of Hepatitis B virus surface antigen among pregnant women attending maternity hospital in Krishnagiri district, Tamil Nadu.

The study was conducted in Krishnagiri district which is located in north Tamil Nadu. All pregnant women attending antenatal clinics in General Hospital and primary health centers, Krishnagiri district (Hosur, Krishnagiri, Kelamangalam, and Kaveripattanam taluk) were included in the study. Participation was voluntary and each one involved in the study has given a written consent. The selection was by simple random sampling method from January 2006 to March 2007.

The serum collected was tested for HBsAg by one step HBsAg test, ELISA for the detection of antigen/antibody and molecular diagnosis were performed for the confirmation of hepatitis B virus infection.

Seven hundred and sixty two pregnant women were participated in this study and serological assay was performed in which the overall prevalence rate for HBsAg, HBeAg and HBeAb was 5.0%, 38.0%, and 72.0% respectively.

Different age group from 15 - 45 were participated in this study, the prevalence was high in teen age (15-19) group which recorded HBsAg (9.4%), HBeAg (3.8%) and HBeAb (11.3%). Based on the educational status the prevalence rate was high among illiterate women’s and results are HBsAg 5.5%, HBeAg 2.9% and HBeAb 5.1%. With regard occupational group housewife, student and employees were participated. The results revealed that student community shows high prevalence (7.4%) for HBsAg serological markers. Whereas housewife and employee were infected moderately for the serological markers HBeAg (2.9%) and HBeAb (5.0%).
Prevalence of serological markers HBsAg, HBeAg and HBeAb among pregnant women with reference to number of pregnancy was studied. Prevalence of HBsAg was high (6.4%) in the first and third pregnancy, whereas in second pregnancy recorded 3.6%. Prevalence of HBsAg in relation to associated risk factors among pregnant women with previous history of immunization status showed 16.6%, blood transfusion (14.2%), jaundice (13.3%), dental therapy (7.1%) and in surgery 7.6%. Among these risk factors those were previously immunized for jaundice shows high prevalence.

PCR was performed for the diagnosis of HBVDNA among 39 HBsAg positive serum samples which revealed 21 were positive for HBVDNA indicates active viral replication and chronic carrier. Genotyping of hepatitis B virus was performed for 21 HBVDNA positive samples. Ligation was carried out with purified PCR product DNA and T/A cloning vector and the ligated product were transformed to _E.coli_ for the expression of complete HBsAg gene. Transformed colonies were screened for blue white colonies and plasmid was isolated. The extracted plasmid was reconfirmed for the presence of insert and sequenced with vector specific M13 forward and reverse primer. The obtained sequence was submitted to gene bank database and the genotype was confirmed by NCBI sites. In genotyping 20 (95.2%) patients were infected with genotype D strain and one (4.8%) with genotype A. Therefore genotype D was the most prevalent in Krishnagiri district.

In conclusion, results from this study have shown HBV prevalence in pregnant women is of intermediate endemicity. Out of seven hundred and sixty two samples, 39 samples were positive for HBsAg and genotype D is most predominant among the pregnant women in Krishnagiri district and genotype A to be the minor infection. Therefore this study helps us to increase awareness of HBV infection. Pregnant women were potential group reflecting high transmission of hepatitis B virus infection to their neonates, general population and their close contacts. Hence universal immunization against HBV is recommended.