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Prevalence of hepatitis B virus infection in Sexually Transmitted Disease (STD) clinic attendees

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Abstract: *Hepatitis B infection with its long term consequences, in some with associated morbidity and mortality is a big concern worldwide, more so in developing countries. Sexual transmission being one of important modes oftransmission more a probability in Intermediate and Low endemicty areas for HBV like in India. Different studies in India showedHBsAg positivity ranging from 2 to 4.7%. Our study revealed HBsAgprevalence of 3.52%,.out of 13,246 who attended STD clinic and tested for HBV during 5 years (April,2011 to March,2015),467persons werepositive(331 males and 136 females)People with multiple partners had higher positivity. Males predominated with 70.87%. 43 males with HBsAg positivity gave homosexual contact history.*

Conclusion:*Sexual transmission of HBV still a possibility, can be prevented by adopting safe sex practices and continued screening of all, who attend STD clinic for evidence of HBV infection and vaccinating all those who have tested negative, especially the immunocompromised.*

Keywords: *HEPATITIS B HBV HBsAg STD Sexual transmission*

I. Introduction

Hepatitis B virus (HBV) infection is a global health problem and approximately one third of the world population is infected with HBV as per World Health Organization (WHO) estimates[1,2]. India accounts for 10-15% of the global pool of HBV carriers[3]. Transmission of HBV is largely through vertical(mother to child),sexual, and parenteral. Countries are classified into three categories based on prevalence of hepatitis B surface antigen(HBsAg) as high(>8% of population is HBsAg positive),intermediate(2-7%), and low(<2%)[4]. The predominant route of transmission in a region varies according to the endemicity of HBV infection[4].

Perinatal and early childhood exposures are responsible for most transmission in higher prevalence areas and sexual contact, and injection drug use accounts for the transmission inintermediate and low prevalence areas[5]. Sexual transmission accounts for a majority of the transmission occurring in adult life[5]. India is grouped under countries with intermediate endemicity where the overall rate of HBsAg positivity ranges between 2-4.7% [6] .Heterosexuals who have unsafe sex with multiple partners and homosexual and bisexual men are high risk groups for sexual transmission[7] .

The aim is to study the prevalence of HBV infection in STD clinic attendees.

II. Material and Methods

The study was conducted at department of Dermatology,Venereology, and Leprosy at Gandhi hospital,Secunderabad.; over a period of 4 years (from April 2011 to March2015).

All patients who attended the STD out patient department during this period , who were aged 15 years or more were included in the study.All patients underwent serological testing for HBsAgby rapid test irrespective of their complaints.

III. Observations and Results

Out of 13,246 patients that were included in the study 7698 (58.11%) were males and 5548(41.88%) were females with a male to female ratio of 1.38 . Number of patients in different age groups is shown in Fig.1.

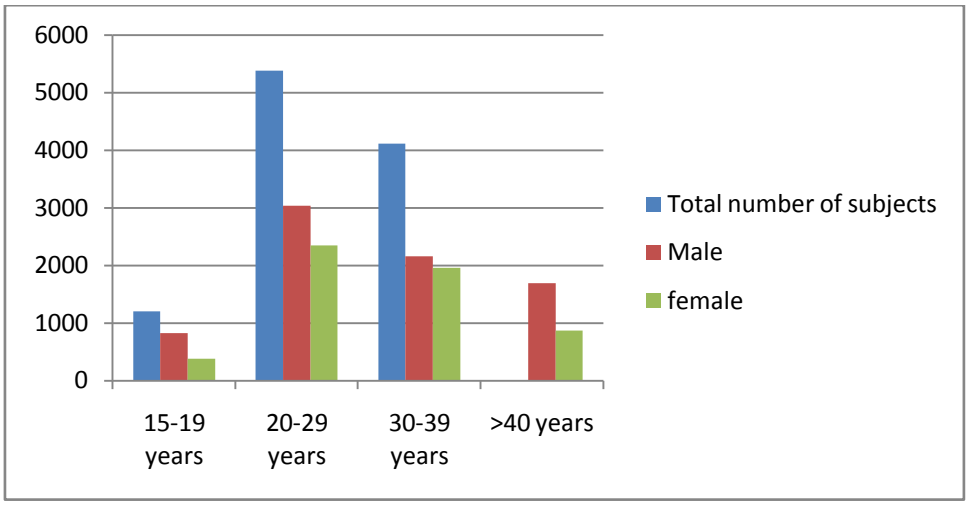

Figure 1

As seen in Fig.1 20-29 years age group has highest number of male (3033-39.3%) and female(2345-42.2%) subjects.

Table 1.Age and sex distribution of HBsAg positive cases

Age group	**Male (%)**	**Female (%)**
15-19 years	**2 (0.6%)**	**0**
20-29 years	**162 (48.94%)**	**73 (53.67%)**
30-39 years	**108 (32.63%)**	**42 (30.88%)**
>40 years	**59 (17.82%)**	**21 (15.4%)**

A total of 467 subjects were tested positive for HBsAg of which 331 (70.87%) were males and 136(29.12%) were females as shown in Table 1.

Table 2.Distribution of subjects according to Number and type of sexual partners ,sexual orientation, and seropositivity for HBsAg

Variable	Number of subjects		HBsAg positive		Percentage ofHBsAg positivity	
	Male	Female	Male	Female	Male	Female
Number of sexual partners						
Single	2194(28.5%)	4584(82.62%)	43	35	12.9%	25.7%
Multiple	5504(71.49%)	964(17.37%)	288	101	87%	74.26%
Type of sexual Partner						
CSW	2865 (37.21%)	0	194	0	58.61%	0
Known	1347 (17.49%)	1525 (27.48%)	43	22	12.9%	16.17%
Unknown	1721 (22.35%)	682 (12.29%)	66	83	19.93%	61.02%
Spouse	1765 (22.92%)	3341 (60.21%)	26	31	7.85%	22.79%
Sexual orientation						
Heterosexual	7407(96.21%)	5548(100%)	287	136	86.7%	100%
Homosexual	261 (3.39%)	0	43	0	12.99%	
Bisexual	30 (0.38%)	0	1	0	0.3%	

Both male and female subjects with multiple sex partners have shown higher seroprevalence as illustrated in Table 2.Having multiple sex partners and that partner being a commercial sex worker (CSW) is a risk factor significantly associated with HBV positivity in men. Majority of HBsAg positive subjects [males (86.7%) , and females (100%)] are clustered in the heterosexual group.

IV. Discussion

Hepatitis B virus can cause both acute and chronic infection.HBV is transmitted by exposure to infectious blood and body fluids.The virus is present in blood,serum, and wound exudates in high concentrations;in moderate concentrations in semen, vaginal secretions, and saliva ; and in low concentration in urine, sweat, tears and breast milk.In areas with intermediate and low endemicity sexual transmission is the major route of transmission of HBV.

In this study we have noted a higher prevalence of HBsAg positivity among subjects who are older than 20 years which is compatible with the fact that sexual transmission is a predominant route of transmission of HBV in India. Among 13246 subjects 331 (4.29%) of males and 136 (2.45%) of females were seropositive for HBsAg , with an average prevalence of 3.52%. This is in concordance with the results of Neeraja Jindal et al ,where the seroprevalence for HBV was 3.7% [8] .

A higher HBV seroprevalence was noted among males attending STD clinic which owes to the fact that men frequently self report to STD clinic.Subjects with multiple sexual partners have shown higher prevalence of HBV.

The results of this study emphasise on sexual route of transmission of HBV. HBV infection could be prevented in India through STD control activities.Therefore patients attending STD clinic should be routinely screened for HBV.

Conclusion: *Sexual transmission of HBV still a possibility, can be prevented by adopting safe sex practices and continued screening of all, who attend STD clinic for evidence of HBV infection and vaccinating all those who have tested negative, especially the immunocompromised.*

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