TO FIND OUT THE FREQUENCY OF HEPATITIS B SURFACE ANTIGEN POSITIVITY IN MOTIVATED PEOPLE OF JAMRUD TEHSIL KHYBER AGENCY

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ABSTRACT

Objectives: *To find out the frequency of hepatitis B surface antigen positivity in population living in Jamrud area of Khyber Agency.*

Material and Methods: *This descriptive .study was conducted at Shakeel Health Center Jamrud Khyber Agency in collaboration with the department of Gastroenterology, PGMI, Hyatabad Medical Complex from June 2006 to December 2007 in Jamrud Tehsil Khyber Agency. After two weeks of awareness campaigns in the targeted area, free testing for hepatitis B surface antigen was arranged at Shakeel Health Center in collaboration with the department of Gastroenterology, PGMI, HMC. The screening method used was immunochromatographic method. Seronegative subjects were offered vaccination against HBV and all subjects were counseled regarding prevention of HBV infection.*

Results: *During 18 months period 4180 people offered themselves to be screened for HBsAg. Of these 719 (17.20%) were found to be HBsAg positive. The male to female ratio was almost 1.03 :1. The most commonly affected age group is 20 – 40 years.*

Conclusion: *The seroprevalence of HBsAg is 17.2% in the population living in Jamrud area of Khyber Agency.*

Key Words: *HBsAg, Vaccination, ICT.*

INTRODUCTION

To understand and assess the magnitude and dynamics of transmission of a disease and its control and prevention, the assessment and study of its prevalence is very important.[1]

Hepatitis B is a major health issue worldwide, especially in developing and underdeveloped countries, like Pakistan. Approximately 2 billion people are infected worldwide. About 400 million people are chronic carriers, and 75% of them are residing in Asia[2,3,4]. About 13 million people are chronic carriers in Pakistan. The prevalence of HBsAg in Pakistan is estimated to be around 10-1 5%[5,6].

Acute HBV infection resolves in 90 – 95% of cases. Chronic liver disease like cirrhosis and its complications including hepatocellular carcinoma develop in 5 – 10% of cases[7,8].

Annually about 1 – 2 million people die of HBV related diseases[6].

The exact prevalence/incidence of chronic hepatitis B in Pakistan has not been determined due to lake of well-designed studies. Various figures reported in different studies are mainly hospital based and represent only a small number of population.

As hepatitis B virus disease is preventable and vaccine is available for its prevention, we conducted this study to see the frequency of HBV and to counsel the targeted population regarding

prevention of HBV infection.

MATERIAL AND METHODS

Study Design and Setting: We conducted this study in six villages of Jamrud Tehsil (Shah Kas, TD Bazar Kalay and Ghundi Kalay,Sperah kalay,Qadam kalay and Sur kamar kalay.), having an estimated population of 75000. This area is located at 15 Kms to the west from Peshawar and is one of the nearest tehsil of FATA (Federally Administered Tribal Area) in Khyber Agency. The study was carried out at Shakeel Health Center over a period of 18 months (June 2006 – December 2007).

Shakeel health center is located in Fauji Plaza in the main Tehsil Bazar,opposite Tehsil Headquarter Hospital Jamroad. The center is staffed by three specialists(a Gasroenterologists, a Gynecologist and a Medical specialist), four General Practioners(three males and one female) and seven paramedical personal.

The center has the facilities of laboratory,E C G, Ultrasonography, medical store and vaccinatiopn facilities for preventable diseases. An average of 200 patients attend this center on daily basis.

Two weeks before launching the study, a well-organized and designed campaign was made through posters on roads and in schools alongwith mobilization of influential leaders, Health workers and religious scholars of Mosques in the area under study.

Persons who consented were counselled before testing for evaluation of risks/modes of transmission and tested for HBsAg using ICT Kit free of cost. Those found positive for HBsAg were thoroughly interrogated for possible modes of infection like injections, dental procedures, surgical/Gynecological procedure, sharing needles, shaving habits, etc.

Seropositve persons were further confirmed by ELIZA and examined for evidence of chronic liver diseaes. Seronegative persons were offered vaccination.

Patients having chronic hepatitis B were offered evaluation for treatment.

The informations thus collected were entered on a structured proforma and statistical analysis was done using SPSS version 10.

Inclusion Criteria.

1. Persons who consented.
2. Persons > 03 years & < 60 years of age.

Exclusion Criteria

Those patients who were already diagnosed as HBsAg positive were excluded from the study.

RESULTS

A total of 4180 people were screened, 719 were HBsAg positive with a seropositivity rate of 17.20%. Out of 4180 people 2180 were males and 2000 were females with HbsAg detection rate of 16.74% and 17.70% respectively.(table-1).

The male to female ratio for seropositive individuals was 1.03:1. The most commonly affected age group was 20 – 40 years (Table-2).

Among males , the most commonly affected age group was 10 – 19 years & 40 – 49 years (Table 03).

Out of female HBsAg positive patients, the most common affected age group was 30 – 49 years (Table 04).

The most common mode of transmission was therapeutic needle stick/ injections. Dental extraction / surgery and blood transfusion was reported by 30% & 16% respectively. In female

GENDER WISE FREQUENCY OF HBAG POSITIVE INDIVIDUALS

HBsAg status	Males (%)	Females(%)
Positive	365(16.74%)	354(17.70%)
Negative	1815(83.25%)	1646(82.30%
Total	2180	2000

Table 1

HBSAG POSITIVE BY AGE GROUP

HBAg	3 - 9(Yrs)	10 -19(Yrs)	20 - 29(Yrs)	30 - 39(Yrs)	40 - 49(Yrs)	50 - 60(Yrs)
Positive	61(13.12%)	110(17.8%)	224(16.9%)	226(19.50%)	78(17.30%)	20(11.70%)
Negative	394(86.88%)	505(82.20%)	1096(83.10%)	934(80.50%)	372(82.70%)	170(88.30%)
Total	465	615	1320	1160	450	190

Table 2

HBSAG POSITIVE BY AGE AND SEX (MALES)

HBsAg	3 - 9(Yrs)	10 -19(Yrs)	20 - 29(Yrs)	30 - 39(Yrs)	40 - 49(Yrs)	50 - 60(Yrs)
Positive	31(15.20%)	62(17%)	109(16%)	114(19%)	40(17.80%)	9(11%)
Negative	219(84.80%)	253(83%)	571(84%)	486(81%)	210(82.20%)	76(89%)
Total	250	315	680	600	250	85

Table 3

HBsAG POSITIVE BY AGE AND SEX (FEMALES)

HBsAg	3 - 9(Yrs)	10 -19(Yrs)	20 - 29(Yrs)	30 - 39(Yrs)	40 - 49(Yrs)	>50(Yrs)
Positive	30(14%)	48(16%)	115(18%)	112(20%)	38(19%)	11(13%)
Negative	185(86%)	252(84%)	425(82%)	448(80%)	162(81%)	74(87%)
Total	215	300	640	560	200	85

Table 4

patients history of gynecological intervention was there in 30% of female patients. Tattooing was seen in 30% of cases (Table-5).

DISCUSSION

Chronic hepatitis B is a major health problem worldwide and especially in developing countries like Pakistan. The HBsAg seropositivity in our study is 17.20%. The exact prevalence of hepatitis B in our country is not known, however various studies conducted in different parts of the Pakistan have reported variable frequencies of hepatitis B.

A study conducted by Red Crescent society in Islamabad reported that 8.4% - 6.9% of patients were positive for HBsAg[9,10].

Another study reported 2.11% – 3.53% positivity in Rawalpindi[11,12]. Similar studies from Islamabad, Lahore, Karachi and Jamshoro have reported seropositivity rates of 2.5%, 2.6 – 5.06%, 3 – 5.4% and 4% respectively[13–18]. While a study conducted in Izmar, Turkey among blood donors has reported HBV seropositivity of 1.4%[19].

The high frequency of HBsAg positivity in our study may be due to various local factors including lack of education and health awareness among the population and health care workers, particularly the dispensers and general practitioners.

Another factor for high frequency may be the fact that most of the patients are inclined towards using injectable medicines for common illnesses like flue, body aches and fevers.This fact is also revealed in a study conducted in Barcelona,Spain where the prevalence of HBV seropositivity was 22.5% among injectable drug users[20].

The poverty, low socioeconomic status of individuals and lack of education are the other major factors for high frequency of HBV infection. Despite all these factors we believe that seroprevalence of HBsAg in Pakistan is underestimated. A recent cross sectional survey done in New York City of the Asian American

GENDER WISE FREQUENCY OF HBAG POSITIVE INDIVIDUALS

Mode of transmission	Number of patients	Percentage
Needle stick injury/ Therapeutic injections (>10 in life time)	271	45.90 %
Surgery/Blood Transfusion	200	27.82 %
Gynecological intervention	112	15.48 %
Tattooing	86	12.00 %
Total	719	--

Table 5

population found a remarkable 23% with detectable serum HBsAg.[21]

The most common age group affected in our study was 20 – 40 years (32%). In the age group above 50 years the frequency was about 1.46%. This was due to the fact that only 86 patients offered themselves for screening in this age group.

The most common route of transmission is the injectable medicine users, blood transfusion and use of contaminated surgical instruments [22]. Vertical transmission from mother to baby during labor and sexual intercourse etc are other routes of transmission [22,23].

CONCLUSION

The frequency of HBsAg positivity is high in Jamrud area of Khyber Agency. Extensive mass awareness campaigns are needed to educate the people regarding the modes of transmission and ways to prevent it.

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CORRIGENDUM

"THE FREQUENCY AND MANAGEMENT OF INTESTINAL TUBERCULOSIS; A HOSP ITAL BASED STUDY" published in 2008; 22(2): 152-6, has the list of authors corrected to Atta Ullah Arif, Liaqat Khan, Asadullah, Muzafaruddin Sadiq instead of Atta Ullah Arif, Liaqat Ali Shah, Asadullah, Muzafaruddin Sadiq.

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