Hepatitis B Infection Among the Garments Workers - A Factory Based Study

*Islam T,[1] Mustafa M,[2] Mustafa M,[3] Islam MM,[4] Parsa N[5]

Screening for HBsAg is being practiced before vaccination for hepatitis B vaccine due to high incidence of hepatitis B transmission. That is why HBsAg screening was carried out in a garment factory for hepatitis B vaccination. A total of 374 employee who had not taken vaccine and who were not screened for hepatitis B already were studied from January 2014 to August 2014 in BP Wear (Ind) Ltd. Out of them 65.24% were female and 34.76 % were male. Only 10 (2.67 %) samples show HBsAg positive by ELISA test. Prevention of HBV infection thorough vaccination is still, therefore the best strategy for decreasing the incidence of hepatitis B associated cirrhosis and hepatocellular carcinoma (HCC).

[Dinajpur Med Col J 2015 Jul; 8 (2):192-194]

Key words: Hepatitis B, HBsAg, garment worker

Introduction

Hepatitis B carrier state has been defined as persistence of HBsAg in circulation for more than six months. Infection is more in male and occurs more frequently in childhood than at a later age. The prevalence rate of HBsAg in different part of the world shows significant variations. The percentage of HBsAg is 0.1% in Northern Europe, North America and Australia where as it is about 5% in Central & Eastern Europe.[1] The percentage is as high as 20% in south East Asia and Western Pacific Region.[2] The overall percentage of HBsAg in Bangladesh is 7.2 % where as is risk group like professional blood donor, prostitute & injectable drug users is 20%, 11% and 8% respectively.[3] However, now the prevalence rate in general population drop to 5.5%.[4]

Methods

In total 374 sample blood of garments workers of BP wear (Ind) Ltd, Tongi BSCIC area, Gazipur belongs to different categories who were not screened for vaccinated against hepatitis B vaccine were studied from January 2014 to August 2014. Workers who had already screened and who received vaccine were excluded. The questioners only include name, sex, age, educational qualification and marital status. Collected samples were tested for HBsAg by enzyme linked immuno sorbent assay (ELISA). Only positive cases were asked about the knowledge of possible mode of transmission. All qualitative data were expressed in frequency percentage.

1. *Dr. Taslima Islam, Professor (C.C.), Department of Physiology, Medical College for Women, Uttara, Dhaka.
2. Professor Dr. Md. Mustafa, Department of Community Medicine, Medical College for Women, Uttara, Dhaka
3. Dr. Munmun Mustofa, Lecturer Department of Community Medicine, Bangladesh Medical College, Dhaka.
4. Dr. Mohammed Montasir Islam, Professor (C.C.), Central Medical College, Comilla.
5. Dr. Nadrin Parsa,, Lecturer, Department of Community Medicine, Medical College for Women, Uttara, Dhaka

For correspondence

Results

Maximum (47.60%) workers were belong to the age group of 18-22 years followed by in 23-27 years age group (22.99%, Table I). Females were more (65.24%) than males (Table II). Educational statuses of maximum workers (47.06 %) were upto primary level (Table III). Only 10 persons (2.67 %) show HBsAg positive result (Table IV). Out of 10 positive case, 4 (40%) were not aware from where they acquired the infection, 3 (30%) had history of taking injectable drugs, 2 (20%) had history of extra marital sexual habit and 1 (10%) had history of taking blood transfusion (fig 1).

Table II: Distribution of the respondents according to their age (n=374)

Age (yr)	Frequency	Percentage
18-22	178	47.60
23-27	86	22.99
28-32	62	16.58
33-37	9	2.41
38-42	11	2.94
> 42	28	7.48
Total	374	100

Table II: Distribution of the respondents according to their sexes (n=374)

Sex	Frequency	Percentage
Male	130	34.76
Female	244	65.24
Total	374	100

Table III: Distribution of the respondents according to their education (n=374)

Educational status	Frequency	Percentage
Illiterate	21	5.61
Upto Primary	176	47.06
Upto Secondary	128	34.22
Upto Higher Secondary	40	10.70
Graduate	9	2.41
Total	374	100

Table IV: Distribution of the respondents according to blood test (n=374)

Blood Test (HBsAg)	Frequency	Percentage
Positive	10	2.67
Negative	364	97.33
Total	374	100

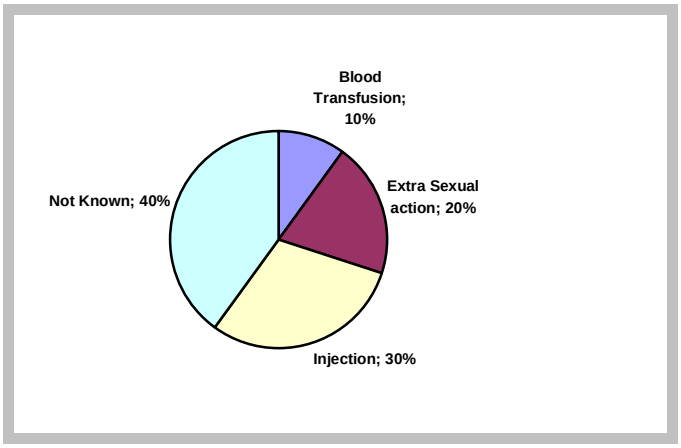

Figure 1. Relation of mode of Transmission is positive cases

Discussion

Five percent (05%) of the world population are estimated as carrier and more than two million people die from hepatitis B virus infection every year.[5] One in 5 and one in 20 carriers are dying prematurely from liver cirrhosis and liver cancer.[6] In healthy Indian adult population the prevalence of HBV varies between 2% to 8%, being higher in south than North and West India,[7] The HBV carrier pool in India is estimated at approximately 40 million.[7]

In Pakistan a study reveal HBV prevalence in healthy adult to be 10%.[8] In Nepal, the prevalence varies between 0.9% and 1.6 % being higher in Katmandu valley than is rural Nepal.[9] Srilanka has reported 10% prevalence of HBV in healthy population.[9] HBV prevalence in our healthy population appear to be decline. It was 7.2% in 1988,[3] now the figure drop to 5.5%.[4] Several factor may have played a role, including introduction of HBV vaccination

in the Expanded Programme of Immunization Schedule, public awareness, family screening and mandatory screening of blood & blood product before donation.

The most important risk factor for exposure to HBV as revealed in this study is injectable producer (30%) which is near similar to study done at Savar by Mamun-Al-Matlab et al.[4] This may be due injudicious use of injectable medication and treatment by non-qualified traditional practitioners, who are unaware of the consequence of unhygienic and unsterile intervention. Since these people still provide the backbone of primary health care (PHC) in our rural areas, educating them through practicable regular continuing medical education programme and mass media is important.

Conclusion

Hepatitis B virus is a major cause of morbidity and mortality not-only in Bangladesh, but the entire South Asian Region A lot of effort has been given to control, if not eradicate the virus from our region. However the reality remains that we will have a long way to go before we may bid farewell to the deadly menace.

References

1. Eueker man AJ. Oxford textbook of Medicine. Oxford: oxford Medical publication 1983, P -118.
2. El-hazani MF. Hepatitis B virus in Saudi Arabia J Trop Med Hyg 1989, 29: 56-60.
3. Mustafa M, Nazrul I, Rahman M et al. Prevalence of HbsAg in Dhaka, Bangladesh JOPSOM, 1991: 10 (1), 22-26.
4. Mamun AM, Salimar R, Karim FM et al. Epidemiology of hepatitis B virus in Bangladesh general Population hepatobilliary pancreat Dis Int 2008, 7 (6): 595-599.
5. Sobeslavski O. Prevalence of hepatitis B markers of hepatitis B infection in various countries. A WHO collaborative study, WHO. Bull 1980; 58 (4): 621-28.
6. Hileman MR, Neuro-direction is vaccine development and utilization J infects Dis 1985: 151 (3): 407-11.
7. tandon BN, Gandlin BM, Joshi YK. Etiological spectrum of viral hepatitis and prevalence of markers of hepatitis A and B virus infection is North India. WHO Bull 1984; 62:67-73.
8. Malik IA, Legters LJ, lugman M, et at. The serological markers of hepatitis A and B in healthy population in Northern Pakistan. J Pak Med Assoc 1988; 38: 69-72.
9. Shrestha SM. Sero epidemiology of Hepatitis B in Nepal. J com dis 1990; 22:27-32.