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HEPATITIS B AWARENESS AMONG MEDICAL STUDENTS AND THEIR VACCINATION STATUS IN A MEDICAL COLLEGE IN WESTERN UP

Health Science

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ABSTRACT

Background: India is in the intermediate hepatitis B virus endemicity zone with hepatitis B surface antigen prevalence among the general population ranging from 2% to 8%.Health care professionals are at a high risk of getting .Hep B infection which can be prevented by strategies like vaccination, increasing awareness and following universal precautions. The present study was conducted on medical students (3rd Semester) to evaluate their knowledge regarding HBV and to know their vaccination status. Also along with data collection, students were educated about hepatitis B vaccine and about universal precautions before they start with their clinical postings.

Methods: Cross sectional study was carried out on 3rd semester MBBS students (batch 2012-2013). All the students present on the day of data collection were included in the study and interviewed using pretested questionnaire. Data was analyzed using percentages.

Results: Most of the students had good knowledge about disease and modes of transmission & prevention. Surprisingly only 56.6 percent were aware of high risk of transmission to health professional and doctors. Main source of information was media (85.4percent).Nearly 82% of the students were immunized and main reason among those unimmunized was unawareness about vaccine availability.

Conclusions: It is recommended that Hepatitis B vaccination should be made available for all unimmunized students who enter medical profession. The orientation and sensitization programm should be held to create awareness regarding HBV infection preferably at the time of admission into medical college ,else no later than start of their clinical posting.

KEYWORDS

Attitude, Hepatitis B, Knowledge, Medical students, Vaccine

INTRODUCTION:

Hepatitis B infection is an ancient disease from the times of Bronze Age[1] which had been suspected as an agent of infection in the 50s and was later reported first as Australian antigen in the 60s,[2] and subsequently discovered under the electron microscope in the 70s.[3] Vaccination for hepatitis B was introduced in the 80s.[4] Hepatitis B is a major public health problem as one-third of the world population is infected with hepatitis B virus (HBV).[5,6] Based on the prevalence of hepatitis B surface antigen (HBsAg),different areas of the world are classified as having high (≥8%), intermediate (2%–7%), or low (<2%)HBV endemicity.[7] India is in the intermediate HBV endemicity zone (HBs Ag prevalence among the general population ranges from 2% to 8%) with 50 million cases which makes it the second largest global pool of chronic

HBV infection.[8,9]Among the health-care workers (HCWs), seroprevalence is two to four times higher than that of the general population.[10]

Hepatitis B is the major infectious disease of mankind. It is the most common cause of chronic Hepatitis, liver cirrhosis and hepato-cellular carcinoma worldwide .The health professionals are at the risk.

Vaccination against Hepatitis B can prevent this deadly disease. Hepatitis B is an acute systemic infection with major pathology in the liver, caused by Hepatitis B virus (HBV) and transmitted usually by the parenteral route. Even after discovery of an effective vaccine it still continues to be a major public health concern worldwide India has point prevalence of 2.1% and carrier rate of 1.7%. Some studies have shown higher carrier state ranging from 11% in healthcare worker to 5% in general population (11) HBV is highly infectious and is transmitted by per cutaneous and per mucosal exposure to infected blood and other body fluids (i.e. semen and vaginal fluid). Most common routes of transmission include mother-to-infant, unsafe injection practices, blood transfusions and multiple sexual partners. (12-15)Health professionals are at high risk of getting HBV infection. Approximately 66,000 hepatitis B viral infections are reported per year due to needle stick injuries. It was reported in study on medical students that 30% of reported needle stick injuries occurred in the operation room.(16,17) World Health Organization has recommended that HBV vaccine should be made part of mass immunization programs as tool for prevention(18). HBV among health care professionals like medical students can be prevented by strategies like vaccination, increasing awareness and following universal precautions. The present study was conducted on 3rd semester medical students to evaluate knowledge regarding HBV and to know their vaccination status. Also along with data collection, students were educated about hepatitis b vaccine and about universal precautions before they start with their clinical postings.

METHODOLOGY

This was a cross sectional study done on students of Rama medical college, Hapur (June 2013). The purposive sampling method was used to select 3rd semester MBBS students (2012-2013 batch) as study subjects. Out of total 150, students who were willing to participate were included in the study. Those who were not willing to participate were excluded from study. After taking their informed consent total of 106 students were included in the study. All these students were interviewed using pretested questionnaire and data was analyzed using percentages

RESULTS:

All of the students were aware about disease (100%), and most were aware about its causative agent (94.3%) and diagnostic tests (92.45%). The knowledge about ideal age for Hepatitis B vaccination was answered correctly by 79.2% students whereas only 56.6% students acknowledged about high risk to doctors & health care personnel (Table 1).

TABLE1Knowledge about Hepatitis B

	NO. OF STUDENTS	PERCENTAGE(%)
Awareness about Hepatitis B.	106	100
CAUSATIVE AGENT (HBV)	100	94.3
Availability of diagnostic tests	98	92.45
Age for vaccination	84	79.2
Doctors and HCW are at highrisk of infection	60	56.6

Media 85.4% (TV, internet, radio and newspaper) was the most common source of information indicating its importance in reaching general public. Other sources were health workers (11.32%), friends & family (2.8 %) (Table 2).

Table 2: Source of information about Hepatitis B.

Source of information	Number of students	PERCENTAGE(%)
MediaTV, internet, radio and newspaper	91	85.4
health workers	12	11.32
Family and friends	3	2.8
others	0	0

Table 3 shows data regarding knowledge of students about modes of transmission.94.3 % were aware about its transmission via bood and blood products.83.9% were aware that I.V drug abuse and sharing of needles can transmit hepatitis B.81.1% were aware that sexual promiscuity /multiple sexual partners can increase risk of hepatitis B transmission.and only 63.2% were aware about mother to child transmission of the virus

Table3 : knowledge about modes of transmission:

Mode of transmission	Number of students	PERCENTAGE (%)
Transfusion of Blood/ its products	100	94.3
Sharing of Needles / Intravenous drug users	89	83.9
Multiple Sex Partners(sexual route)	86	81.1
Mother to Child Transmission	67	63.2

Table 4 is showing results of section of questionnaire on awareness about preventive measures. Only 73.58% were aware about vaccine availability.69.9% were aware about safe blood and blood products use as preventive measure.67.9% were aware about no sharing of needles and no IV drug abuse.71.69% were aware about avoidance of sexual promiscuity/multiple sexual partners to prevent its transmission. Only 64.15% were aware that using condom can help in prevention of transmission (Table 4)

Table 4: Awareness About Preventive Measures

Preventive measures	Number of students	PERCENTAGE(%)
Use of Hepatitis B Vaccine	78	73.58
Safe Blood/ its products	69	65.09
Avoid Sharing of Needles intravenous drug users	72	67.9
Avoid Multiple Sex Partners	76	71.69
Use condoms	68	64.15

It was found that only 82.07% (87) were vaccinated against Hepatitis B while 17.92%(19) were non vaccinated (Table 5).Further questions (out of 19 unvaccinated students) revealed the reason for not taking vaccine as depicted in Table 6.In this not considering it necessary (8 students) and not being aware (5 Students)and neglected in spite of knowledge (6 students) came as results(Table 6)

Table 5 : vaccination status of students:

	Number of students	PERCENTAGE(%)
Vaccine for hepatitis B taken	87	82.07
Not taken vaccine	19	17.92

Table 6: Reason for not taking Hepatitis B vaccination.

Reason	Number of students	PERCENTAGE(%)
Not aware about vaccine	5	26.3
Considered Not necessary	8	42.1
Neglected	6	31.57
Total (non vaccinated out of 106)	19	17.92

DISCUSSION

In our study the overall awareness about Hepatitis B disease was good but only more than half of the students were aware of risk to health care personnel. Asimilar study conducted in Syria observed that awareness among first year medical students about HBV was 89.06% and causative agent was answered correctly by 67.1%.14 About 51.5% students said ideal age for vaccination as infancy and only 50% agreed that health professional are at high risk(19). Results show more awareness to be created among students regardingincreased risk to health care workers. Many studies including our study have shown role of media in spreading awareness. A study conducted on married women in Jammu also reported that Friends, radio, television, newspaper, doctor and magazines were the source of information in 20%, 10%, 35%, 5%, 25% and 5% of the women respectively (20).This Suggests that media can act as powerful tool to reach all kind of people even in remote rural areas. Most students were aware about the routes of transmission. Similar observations were made by study in Chennai where 86.7 % dental students were aware about correct modes of transmission of hepatitis B virus.(16) The awareness about modes of transmission in our study was better compared to Syrian study where only 57.81%, 31.25%, 34.37% students identified correctly transmission modes *viz.* transfusion of blood, sexual intercourse, mother to her baby respectively.(21) The preventive measures were better known to our students compared to Study in Jammu where they reported that use of condoms and sterile needles was proposed by 20%, avoidance of addiction by 50%, and immunization with hepatitis vaccine by 60% of the women as preventive measures against HBV infection.(20) Though most students agreed about Hepatitis B vaccine for prevention of disease nearly 40% students have not taken the vaccine mainly due to indifferent attitude to HBV infection. Among Syrian medical students nearly 69% students were not vaccinated mainly due to lack of motivation and no felt need for the vaccine.(19) These findings show that awareness and motivation is necessary to improve the vaccine coverage

CONCLUSION

Most of our students had good knowledge about disease and modes of transmission & prevention. Surprisingly half of them were unaware of high risk of transmission to them for being a health care professional. Nearly 17.92 %(19) students are unimmunized and face risk of contracting the disease in future. Hence it is recommended for Hepatitis B vaccination for all unimmunized students who enter medical profession. The orientation and sensitization programme should be held to create awareness regarding HBV infection.

There is need for more focused efforts and preventive measures to be put in to protect the medical students from the deadly infection. A proposal was put up to the college administration to provide hepatitis B vaccine to the unvaccinated students. A one hour session was cconducted for all students to make them aware about hepatitis B transmission and Universal Precautions to make them more aware and responsible for their protection before starting their clinical postings.

Recommenation

It was also proposed that such session should be conducted for medical Students on their admission into MBBS first year and hepatitis B vaccination facility should be made available to medical students in the attached hospital.

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