International Journal of Community Medicine and Public Health
Biradar SM et al. Int J Community Med Public Health. 2015 Nov;2(4):395-398
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20150962

Research Article

Hepatitis B infection and vaccination: knowledge and attitude among medical students

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Received: 17 October 2015
Revised: 20 October 2015
Accepted: 23 October 2015

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ABSTRACT

Background: Hepatitis B infection among health care professionals can be prevented by strategies like vaccination, increasing awareness and following universal precautions. The present study was conducted on newly admitted medical students to evaluate knowledge regarding HBV and to know their vaccination status. This occasion was also used to motivate students to take HBV vaccine if not taken earlier and to educate about universal precautions.
Methods: Cross sectional study was carried out on newly admitted 1st MBBS students. All the students present on the day of data collection were included in the study and interviewed using pretested questionnaire. Data was analysed using percentages.
Results: Most of the students had good knowledge about disease and modes of transmission & prevention. Surprisingly half of them were unaware of high risk of transmission to health professional. Nearly 40% of the students were unimmunized mainly due to lack of awareness and motivation.
Conclusions: 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.

Keywords: Attitude, Hepatitis B, Knowledge, Medical students, Vaccine

INTRODUCTION

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. Globally more than 2 billion are infected and 350 million are suffering from chronic disease. About 6% of the world population is carrier for HBV accounting for about 80 million carriers. Annually about 5,00,000 to 1.2 million people die due to chronic hepatitis, cirrhosis, and hepatocellular carcinoma related to chronic HBV infection.[1-5] 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.[6] HBV is highly infectious and is transmitted by percutaneous and permucosal 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.[7-10] 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.[11,12] World Health Organization has recommended that HBV vaccine should be made part of mass immunisation programs as tool for prevention.[13]

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 newly admitted medical students to evaluate knowledge regarding HBV and to know their vaccination status. This occasion was also used to motivate students to take HBV vaccine if not taken earlier and to educate about universal precautions.

METHODS

This was a cross sectional study done on students of ESIC medical college, Gulbarga. The purposive sampling method was used to select newly admitted 1st MBBS students (2015 batch) as study subjects. All the 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 72 students present on the day of data collection were included in the study. All these students were interviewed using pretested questionnaire and data was analyzed using percentages.

RESULTS

Most of the students were aware about disease (100%), its causative agent (87.5%) and diagnostic tests (91.6%). The knowledge about ideal age for Hepatitis B vaccination was answered correctly by 68.1% students whereas only 50% students acknowledged about high risk to doctors & health care personnel (Table 1).

Table 1: Awareness about Hepatitis B.

Awareness	No	%
Heard about Hepatitis B	72	100
Caused by HBV	63	87.5
Diagnostic Tests available	66	91.6
Ideal age for vaccination	49	68.1
Doctors are at risk of infection	36	50

N=72

Media 84.7% (TV, internet, radio and newspaper) was the most common source of information indicating its importance in reaching general public. Other sources were health workers (38.8%), friends & family (22.2%) (Table 2).

Table 2: Source of information about Hepatitis B.

Source of information	No	%
Media	61	84.7
Doctors / Health workers	28	38.8
Friends & Family	16	22.2
Others	14	19.4

N=72

94.4% students accepted that HBV spread through transfusion of unsafe blood and sharing of needles. Majority students were aware that HBV is transmitted also by having unsafe Sex (87.5%) and from pregnant mother to child (83.3%) (Table 3).

Table 3: Knowledge about modes of transmission.

Modes of transmission	No	%
Transfusion of Blood/ its products	68	94.4
Sharing of Needles / Intravenous drug users	68	94.4
Multiple Sex Partners	63	87.5
Mother to Child Transmission	60	83.3

N=72

Majority of students (98.6%) thought about hepatitis vaccine as tool for prevention. They also agreed that use of safe blood (95.8%), disposable needles (94.4%), Safe sex (87.5%) and condoms (86.1%) are important preventive methods (Table 4).

Table 4: Awareness about preventive measures.

Awareness about Preventive measures	No	%
Use of Hepatitis B Vaccine	71	98.6
Safe Blood/ its products	69	95.8
Avoid Sharing of Needles intravenous drug users	68	94.4
Avoid Multiple Sex Partners	63	87.5
Use condoms	62	86.1

N=72

Nearly 40.2% students were not vaccinated for Hepatitis B. The main reason cited was lack awareness (20.8%). Some students felt it is not required (12.5%) and few students neglected (0.7%) to take vaccine (Table 5).

Table 5: Reason for not taking Hepatitis B vaccination.

Reason	No	%
Not aware about vaccine	15	20.8
Considered Not necessary	9	12.5
Neglected	5	0.7
Total	29	40.2%

N=72

DISCUSSION

In our study the overall awareness about Hepatitis B disease was good but only half of the students were aware of risk to health care personnel. A 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. These

results show more awareness to be created among students regarding risk to health care workers.

Many studies including our study have shown role 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.[15] The different type of Medias 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 were only 57.81%, 31.25%, 34.37% students identified correctly transmission modes *viz.* transfusion of blood, sexual intercourse, mother to her baby respectively.[14]

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.[15]

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.[14] These findings show that awareness and motivation is necessary to improve the vaccine coverage.

CONCLUSION

Most of the 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 40% 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.

ACKNOWLEDGEMENTS

The authors are very grateful to the students who participated in the study and helped collect the data.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Biradar SM, Kamble VS, Reddy S. Hepatitis B infection and vaccination: knowledge and attitude among medical students. Int J Community Med Public Health 2015;2:395-8.