

Original Research Article

Knowledge and Behaviour about Hepatitis B Infection and its Prevention among MBBS and Nursing Students in a Medical College of Assam, India

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Abstract: Hepatitis B virus (HBV) infection is a global health problem, currently about one-third of the world population has been infected with HBV. As because of emergence of the blood-borne pathogen like HBV and admission of the number of patients with HBV infection are also increases in the hospital, thereby professionals like MBBS and Nursing students are at risk. As hepatitis B infection is a major health hazard throughout the world, healthcare students should have complete knowledge about the transmission of the disease and its preventive measures. Total 425 students of MBBS and Nursing of Jorhat Medical College were included in the study using self administered questionnaire consisting of knowledge and behaviour. Out of 425 students, 70.5% were MBBS and 29.5% were Nursing students. The response rate was 100%. The knowledge about the source of information regarding the Transmission of HBV was 88.3%. Majority of the students (88.3% of MBBS and 82.4% of Nursing students have gathered the information from medical literatures. The level of knowledge was higher among MBBS students than nursing students. Multiple responses were observed in both MBBS and Nursing students in knowledge regarding route of transmission of HBV. The level of knowledge regarding clinical presentation of disease was higher among MBBS students (84.5% for fever) as compared to Nursing students (44.8%). Knowledge regarding personal protective measures were 100% in both groups.

Keywords: Awareness, Hepatitis B infection, MBBS and Nursing students, cross sectional study, vaccine

INTRODUCTION

Hepatitis B infection is a major health hazard throughout the world and the 10th leading cause of death. Three hundred and fifty million chronic carriers of hepatitis B virus (HBV) are present throughout the world [1].

India has over 40 million HBV carriers and accounts for 10–15% of the entire pool of HBV carriers of the world. Of the 25 million infants born every year in India, it is estimated that over 1 million run the lifetime risk of developing chronic HBV infection. Every year over 100,000 Indians die due to illnesses related to HBV infection [2, 3].

Spread of HBV infection in many South Asian countries is attributed to unsafe blood supply, reuse of contaminated syringes, lack of maternal screening to prevent perinatal transmission [4]. Medical and nursing students are more vulnerable to infectious diseases because they directly come in contact with patients and deal with blood transfusion, surgical instrument, and unsafe injections and deficient in practice in personal

protective measures [5]. Blood and body fluid are most commonly seen as the mode of transmission in healthcare professionals. So, vaccination programs should be made mandatory in all countries and training in universal precautions should be given to all MBBS and Nursing or health care students.

The objective of the present study is to assess the level of knowledge and behaviour about hepatitis B virus infection and its preventive measures among MBBS and Nursing students in Jorhat Medical College, Assam, India.

MATERIALS AND METHODS

A cross-sectional study was conducted of all the students starting from 1st year to final year MBBS and Nursing students of Jorhat Medical College, Assam. 450 pre-design questionnaires were distributed among MBBS (320) and Nursing (130) students. All the questions were in English and multiple choice format based on the most reliable books on infectious diseases. Initially, the students were well informed and explained about the study. Students who were voluntarily wanted

to participate were included in the study. A questionnaire containing 34 questions to assess the level of knowledge, attitude and behaviour about hepatitis B and also knowledge and practices of personal protective measures and was distributed among the MBBS and Nursing students. The questionnaire started with person's name, gender, and educational year; remaining questions were about knowledge, mode of transmission prevention, immunization, injection safety and other personal protective measures. All the students were advised to submit their questionnaires within three days.

Inclusion criteria

All MBBS and Nursing students who voluntarily wanted to participate and after obtaining informed consent were included in the study.

Exclusion criteria

1. Incomplete information in the questionnaire
2. Those students who did not submit their questionnaires
3. Those who did not submit their questionnaire in stipulated time i.e., 3 days.

Out of 450 questionnaires, 425 questionnaires were finally selected for study purpose (18 questionnaires were rejected due to incomplete information and 7 questionnaires were rejected due to inability to submit in stipulated time).

Ethics clearance was taken from the Institutional ethics committee. The statistical analysis was performed by using SPSS software version 18.

RESULTS

As shown in Table - 1, the response rate was 100%, out of which 50.5% were male and 49.5% were female. Among them, 70.5% were MBBS and 29.5% were Nursing students.

As shown in Table – 2, The level of knowledge was higher in MBBS than Nursing students. The knowledge about the source of information regarding the transmission of HBV, 88.3% MBBS

students have gathered the information from medical literatures whereas 82.4% Nursing students have gathered it from medical literatures. The knowledge regarding route of transmission and source of HBV infection, we get multiple responses from both MBBS and Nursing students. Only 52% of MBBS students were answered correctly about the incubation period of HBV whereas only 44.8% of Nursing students were answered it correctly. Only 78% of MBBS students knew about the existence of reservoir of infection whereas only 55.2% of Nursing students knew about the existence of the reservoir of infection.

As shown in Table-3, The level of knowledge regarding the clinical presentation of HBV revealed that fever is the clinical presentation answered by 85.3% of MBBS students whereas 44.3% of Nursing students answered it, passage of dark urine was answered by 95% of MBBS students whereas it was answered by 96% of Nursing students, Loss of appetite, weakness and fatigue and Jaundice was answered by 100% of MBBS students whereas knowledge regarding these clinical presentations were a bit lower in Nursing students.

As shown in Table 4, the level of knowledge regarding the prevention of HBV infection revealed that 100% of MBBS and Nursing students knew about the role personal protection against HBV infection in health care. 95.6% of MBBS students knew about the personal protective equipments and 90% knew about the proper handling of needles and sharps disposal whereas 96% of Nursing students knew about personal protective equipments and 96.8% knew about the proper disposal of needles and sharps. 100% of MBBS students and Nursing students knew about the personal protective equipments gloves. 70% of the MBBS students knew about the personal protective equipments face mask and goggles (63.3%) as personal protective measures whereas 88% of Nursing students knew about the personal protective equipment face mask and goggles (64%). 95% of MBBS students knew about the availability of vaccine whereas 88% of Nursing students knew about the availability of vaccine.

Table 1: Distribution of students according to Age and Sex

Profile of students	No. of students	Percentage
MBBS	300	70.5
Nursing	125	29.5
Total	425	100
Sex		
Male	215	50.5
Female	210	49.5
Total	425	100

Table 2: Distribution of students according to their knowledge about the transmission of HBV

Knowledge about HBV	No. of students (N=425)		Total
	MBBS (300)	Nursing (125)	
Source of information			
Medical literature	265(88.3)	103 (82.4)	368
Mass media	35(11.7)	22 (17.6)	(86.5)
Other people	0	0	57(13.5)
Route of transmission (multiple response)			
Blood transfusion	300(100)	112(89.7)	412(97)
Contaminated syringe	200(66.6)	78(62.5)	278(65.4)
Sexual intercourse	230(76.7)	56(44.8)	286(67.2)
Placental route	185(61.7)	45(36)	230(54.1)
Source of infection			
Blood & blood products	300(100)	112(89.6)	412(97)
Body fluids	230(76.6)	95(76)	325(76.4)
Secretions	156(52)	45(36)	201(47.2)
Incubation Period			
0-7 days	74(24.6)	34(27.2)	108(25.4)
7-15 days	70(23.3)	35(28)	105(24.7)
15-45 days	156(52)	56(44.8)	212(49.8)
Existence of reservoir of infection			
Yes			
No	234(78)	69(55.2)	303(71.2)
	66(22)	56(44.8)	122(28.7)

Table 3: Distribution of students according to their knowledge about clinical presentation of HBV infection

Clinical features of HBV	Numbers (%)		
	MBBS	Nursing	Total
Fever	256 (85.3)	56(44.8)	312(73.4)
Joint pain	123(41)	45(36)	168(39.5)
Abdominal pain	156(52)	60(48)	216(50.8)
Dark urine	285(95)	120(96)	405(95.2)
Loss of appetite	300(100)	112(89.6)	412(96.9)
Weakness and fatigue	300(100)	86(68.8)	386(90.8)
Jaundice	300(100)	120(96)	420(98.8)

Table 4: Distribution of students according to their knowledge about preventive measures for HBV infection

Knowledge about personal protection	No. of students		
	MBBS	Nursing	Total
Role personal protection in health care			
Yes	300 (100)	125(100)	425
No	0	0	(100)
Types Personal protective measures Personal protective equipments			
Proper handling of sharps and needles	287(95.6)	120(96)	407(95.7)
Personal protective equipments			
Gloves	300(100)	125(100)	425(100)
Face mask	210(70)	115(88)	325(76.4)
Goggles	190(63.3)	80(64)	234(55)
Availability of vaccine			
Yes	285(95)	110(88)	395(93)
No	15(5)	15(12)	30(7)

DISCUSSION

In our study the level of knowledge was higher among MBBS students than the Nursing students. May be exposure to more knowledge and skill is the reason for it. Choudhury P *et al.*, [6] Ali Al-Jabri *et al.*, [7] also

found that knowledge regarding Hepatitis B was higher among medical students than nursing students. While Maroof KA *et al* [8] found that first year medical and nursing students had low knowledge regarding Hepatitis B. Most common source of information was found to be

medical literature in our study. Knowledge regarding route of transmission and incubation period was found to be adequate among nursing and medical students. Sujatha P *et al* [9] in their study among under graduate medical students also found that knowledge of the students regarding modes of transmission and incubation period was satisfactory. Though among nursing students, detailed knowledge regarding HBV was lacking. It may be due to the facts that some knowledge is based on theoretical concepts without practical application. Similar findings were obtained by Swarnalatha N in a study among nursing students [10].

Knowledge of the students regarding clinical presentation of HBV infection was found to be good though medical students had more knowledge than their nursing counterparts. In our study all MBBS and Nursing students knew about the role of personal protection against HBV infection in health care. This is a very positive finding of our study. Paul B *et al* [11] in their study in a tertiary care hospital in Kerala found that more than 75% medical and nursing students have knowledge about personal protection against HBV infection in health care but the compliance was found to be low. In this study More than 85% students were aware of a potent vaccine against HBV infection. Reang T *et al* [12] in their study also found that students had high level of awareness about prevention of HBV infection and 84% were vaccinated with Hepatitis B vaccine. Though our study showed that medical and nursing students knew about Hepatitis B but still the knowledge is not universal and few students are yet to be educated.

CONCLUSION

The level of knowledge about the hepatitis B infection and source of infection, transmission were higher among MBBS students as compared to Nursing students whereas the knowledge regarding personal protective measures were same in both the groups. Since the nursing students are more prone to the spread of infection, awareness should be created among them a to reduce the spread of hepatitis B infection

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