

## ORIGINAL ARTICLE

# Assessment of 3rd Year MBBS and BDS Student's Knowledge about Hepatitis B Virus and THEIR Attitudes Towards Patient Care in Islam Dental College, Sialkot

ANEELA QAISER<sup>1</sup>, NAVEED INAYAT<sup>2</sup>, SANA CHAUDHRY<sup>3</sup>, NADIA MUNIR<sup>4</sup>, A. SHAKEEL<sup>5</sup>, MARIA RABBANI<sup>6</sup>

<sup>1</sup>Assistant Prof. Department of Science of Dental Materials, FMH College of Medicine and Dentistry, Lahore.

<sup>2</sup>Associate Professor of Prosthodontics, Avicenna Dental College, Lahore.

<sup>3</sup>Associate Professor Oral Biology, Avicenna Dental College, Lahore.

<sup>4</sup>Associate Professor and Head Dental Materials, Avicenna Dental College, Lahore.

<sup>5</sup>Associate Professor of OMFS, Islam Dental College, Sialkot.

<sup>6</sup>Assistant Professor Community dentistry, Dental College Hitech-IMS Taxilla.

Correspondence to Dr. Naveed Inayat, Email: [naveedinayat092@gmail.com](mailto:naveedinayat092@gmail.com), cell 03334436164

## ABSTRACT

Hepatitis B virus is the most common cause of death in developing country like Pakistan. Most common acute symptoms of this DNA virus are nausea, vomiting, abdominal pain, fatigue and jaundice skin and eyes. Mode of transmission is via blood and its products. Most commonly healthcare workers are the volunteer spreading the virus among the community because of lack of knowledge and improper teaching methodology and assessment methods. Identifying and rectifying the community health issues are very important. BDS and MBBS students' knowledge must be assessed and measures are needed to improve.

**Material and methods:** Cross sectional study of two months had been conducted in Islam Medical and Dental College Sialkot to assess the knowledge of hepatitis B virus and their attitude towards hepatitis B patient's care in clinical medical and dental OPD and wards. Close ended questionnaire to assess knowledge and attitude was given.

**Results:** 83 students participated in this study. Mean age of students is 22 years. 41(49.39%) 3<sup>rd</sup> year BDS students and 42(50.60%) 3<sup>rd</sup> year MBBS students were included. 61.5% MBBS students had given correct answered about hepatitis B knowledge while 56% BDS students had given correct answered about attitude towards hepatitis B patient care.

**Conclusion:** 3<sup>rd</sup> year MBBS students have better knowledge of hepatitis B virus than BDS students while BDS students have slightly better attitude towards hepatitis B patient care.

## INTRODUCTION

Hepatitis B is a blood borne viral infection that targets the hepatic system<sup>1</sup>. It is 10<sup>th</sup> most common cause of death. Out of 350 million infected patients, 270 million are from developing countries. Asian countries have 75% prevalence<sup>2</sup>. Pakistan is one of most prevalent country among them<sup>3,4</sup>. Hepatitis B virus is a DNA virus that has acute symptoms like nausea, vomiting, abdominal pain, fatigue and jaundice skin and eyes. Its mode of transmission is via blood, body fluids and sexual contact with infected individuals<sup>5</sup>. It is a virus-host immune system interaction that potentially attacks the liver and may progress to cirrhosis and hepatocellular carcinoma<sup>6</sup>. Incidence of Hepatitis B in Pakistan is 6.62%<sup>7</sup>. This rising rate may be due to lack of proper health facilities, poor economic status and inadequate public awareness about the transmission of major communicable diseases like HBV, HCV and HIV. Medical and Dental practitioners, auxiliaries staff as well as students performing procedures are at high risk of exposure to these blood-borne pathogens<sup>8</sup>. Saliva and gingival crevicular fluid have been established source of HBV transmission, which makes the oral health care professionals more at risk<sup>9</sup>. During dental procedures, transmission of infections could occur through direct contact of blood, saliva or contaminated body fluid and with an injury from needle or sharp instruments<sup>10</sup>. Medical and Dental schools are teaching basic knowledge and arranging infection control workshops and drills to train them<sup>11</sup>. In addition to vaccination, standard universal

precautions, infection control protocols and proper post-exposure management workshops and drills must be arranged to control cross infection among health care workers<sup>12</sup>. Sound knowledge and awareness of blood borne infections like Hepatitis B, modes of transmission, vaccination and knowledge of safe practices and prevention is mandatory for students, who are the clinicians of the future<sup>1</sup>. Medical and dental students start their clinical rotation in third year and involved in management of patients and handling of instruments and materials. The purpose of this study was to assess the knowledge and attitude of students in caring Hepatitis B patients to identify the educational deficiency so to educate them and train their attitude in early clinical academic years. Knowledge of hepatitis B virus disease is equally important for each health care worker. MBBS and BDS students are equally exposed in 3<sup>rd</sup> year clinical rotations duties and good check points to teach them in early academic years.

## MATERIALS AND METHODS

Cross sectional study had been conducted in Islam Medical and Dental College Sialkot in January and February 2020. 100 Study participants, out of which 83 participants completed the questionnaire. Third year BDS and MBBS students who were willing to participate, included in the study and those who were not willing to participate were excluded from the study. The study was approved by the institutional ethical review committee. Instructions and purpose of the study was explained to all them prior to

attempt the questionnaire. A developed questionnaire consisting of 27 closed ended questions to assess the knowledge and attitude about HBV. Informed consent and data were collected on hard copy from each participant. Confidentiality of data was maintained. The survey took an average only 10 to 15 minutes to complete. This questionnaire consists of three components i.e., Demographic Data, Knowledge and Attitude assessing questions. Likert scale-based options like Agree, Disagree and Undecided was used in knowledge and attitude accessing questions.

## RESULTS

Total 100 questionnaires were distributed. 83 participants completed the questionnaire. 47 (56.62%) male students and 36 (43.37%) female students with male to female ratio of 1.3:1 answered the questionnaire. The age of the students was ranged from 20-25 years (mean age: 22

years). 41(49.39%) students were from 3rd year BDS and 42(50.60%) were from 3rd year MBBS.

Table 1: General characteristics of the study participants

Variables		Number of subjects (%)
Gender	Male	47 (56.62%)
	Female	36 (43.37%)
Year of Study	3 <sup>rd</sup> Year BDS	41(49.39%)
	3 <sup>rd</sup> Year MBBS	42(50.60%)

Overall majority of study participants had adequate knowledge on hepatitis B infection and its mode of transmission. Knowledge level regarding hepatitis B infection was better in 3<sup>rd</sup> year 61.5% as compared to 3<sup>rd</sup> year 38.46% class (Table 2).

On the questions regarding the attitude of students towards hepatitis B infected patients, 56% BDS students and 44% MBBS students had given correct answered. 3rd year BDS students had slightly better attitude towards hepatitis B patient care than MBBS.

Table 2: Knowledge of hepatitis B among the study population

Questions	Class	Agree	Disagree	Undecided
Carrier of hepatitis B are at risk of infecting others	3 <sup>rd</sup> yr BDS	90.2	9.8	-----
	3 <sup>rd</sup> yr MBBS	88.1	9.5	2.4
Can hepatitis B spread through casual contact such as holding of hands, sharing of toilet and drinking in the same glass	3 <sup>rd</sup> yr BDS	41.5	56.1	2.4
	3 <sup>rd</sup> yr MBBS	33.3	64.3	2.4
Can hepatitis B spread through contact with open wound	3 <sup>rd</sup> yr BDS	85.4	7.3	7.3
	3 <sup>rd</sup> yr MBBS	76.2	19.0	4.8
Can hepatitis B have transmitted by blood and blood products	3 <sup>rd</sup> yr BDS	80.5	19.5	----
	3 <sup>rd</sup> yr MBBS	83.3	16.7	---
Can hepatitis B have transmitted by un-sterilized syringes, and surgical instruments	3 <sup>rd</sup> yr BDS	82.9	12.2	4.9
	3 <sup>rd</sup> yr MBBS	83.3	16.7	-----
Can hepatitis B have transmitted through saliva	3 <sup>rd</sup> yr BDS	53.7	43.9	2.4
	3 <sup>rd</sup> yr MBBS	54.8	38.1	7.1
Is hepatitis B sexually transmitted disease	3 <sup>rd</sup> yr BDS	48.8	46.3	4.9
	3 <sup>rd</sup> yr MBBS	57.1	38.1	4.8
Can hepatitis B virus cause liver cancer	3 <sup>rd</sup> yr BDS	75.6	24.4	-----
	3 <sup>rd</sup> yr MBBS	73.8	21.4	4.8
Is hepatitis B vaccine available	3 <sup>rd</sup> yr BDS	87.8	9.8	2.4
	3 <sup>rd</sup> yr MBBS	81.0	16.7	2.4
Does hepatitis B vaccine provide protection	3 <sup>rd</sup> yr BDS	90.2	7.3	2.4
	3 <sup>rd</sup> yr MBBS	90.5	7.1	2.4
Do you think hepatitis B virus has laboratory test	3 <sup>rd</sup> yr BDS	92.5	5.0	2.5
	3 <sup>rd</sup> yr MBBS	95.1	4.9	-----
Is hepatitis B curable/preventable	3 <sup>rd</sup> yr BDS	85.0	10.0	5.0
	3 <sup>rd</sup> yr MBBS	81.0	11.9	7.1
Do you think that hepatitis B has post-exposure prophylaxis	3 <sup>rd</sup> yr BDS	67.5	17.5	15.0
	3 <sup>rd</sup> yr MBBS	73.8	11.9	14.3

Table 3: Attitudes to hepatitis B infected patients among the study population

Questions	Class	Agree	Disagree	Undecided
Would you accept hepatitis B patient in the same class as yours	3 <sup>rd</sup> Yr BDS	80.5	17.1	2.4
	3 <sup>rd</sup> Yr MBBS	69.0	26.2	4.8
You don't mind sharing food with hepatitis B patient	3 <sup>rd</sup> Yr BDS	48.8	46.3	4.9
	3 <sup>rd</sup> Yr MBBS	45.2	47.6	7.1
Chronic infection with hepatitis B is shameful	3 <sup>rd</sup> Yr BDS	40.0	57.5	2.5
	3 <sup>rd</sup> Yr MBBS	26.2	71.4	2.4
Shaking hand/hugging hepatitis patient makes you uncomfortable	3 <sup>rd</sup> Yr BDS	43.9	53.7	2.4
	3 <sup>rd</sup> Yr MBBS	21.4	71.4	7.1
Caring for hepatitis patient makes you uncomfortable	3 <sup>rd</sup> Yr BDS	34.1	58.5	2.4
	3 <sup>rd</sup> Yr MBBS	28.6	71.4	--
Hepatitis infected doctors/dentist/nurses should be allowed to work	3 <sup>rd</sup> Yr BDS	39.0	58.5	2.4
	3 <sup>rd</sup> Yr MBBS	47.6	52.4	-
Medical/dental personal should refuse treatment to hepatitis patient	3 <sup>rd</sup> Yr BDS	31.7	58.5	9.8
	3 <sup>rd</sup> Yr MBBS	26.2	69.0	2.5
All patients should be tested or hepatitis infection before they receive health care	3 <sup>rd</sup> Yr BDS	87.8	12.2	--
	3 <sup>rd</sup> Yr MBBS	71.4	23.8	4.8
Following infection control guidelines will protect from being infected with hepatitis infection at work	3 <sup>rd</sup> Yr BDS	85.4	12.2	2.4
	3 <sup>rd</sup> Yr MBBS	81.0	11.9	7.1
In Pakistan hepatitis vaccination must be mandatory for all health care workers	3 <sup>rd</sup> Yr BDS	87.8	4.9	7.3
	3 <sup>rd</sup> Yr MBBS	73.8	9.5	16.7

## DISCUSSION

Over all out of 13 questionnaires about hepatitis B diseases, 3rd year MBBS students had given 8 correct answers, while 5 correct answers were given by 3rd year BDS students. 83.3% MBBS students knew that hepatitis B could transmit through blood and blood products while 80.5 % BDS students answered correctly. Similarly, 57.1% MBBS students knew that hepatitis B virus could transmit sexually, while 48.8% BDS students knew that 64.3% MBBS students were aware that hepatitis B virus could not transmit through casual contact such as holding of shaking hands, sharing toilets and drinking in the same glass, while 56.1 % BDS students knew this. A study conducted in medical and health science students revealed knowledge on transmission of hepatitis B through sexual route at 65.5%, by contaminated needles and syringes at 71.7%, by blood transfusions<sup>13</sup>. Another study found 38% final year BDS students think HBV can cause transmission via casual contact<sup>14</sup>.

Current study reported that medical students had better knowledge of Hepatitis B infection and its prevention aspects than dental students. Another study conducted in Odisha India by Choudhury P also revealed that MBBS students have better knowledge and attitude than BDS students<sup>5</sup>. Another study also concluded dental students had less knowledgeable than medical students<sup>15</sup>. Whereas BDS students' behavior is better than MBBS students. 80.5% of 3rd year BDS students had accepted to stay with hepatitis B patients in the same class, while 69% of 3rd MBBS students only accepted. This shows more positive attitude of 3rd BDS students towards caring of hepatitis B patients. Similarly, 48.8% 3rd BDS students were willing to share food items while 3rd MBBS 45.2% students were accepted. 57.5% BDS students disagree that hepatitis is shameful condition while 71.4% MBBS students disagree with this statement. MBBS students showed positive attitude towards hepatitis B patients. Out of 10 attitude questionnaire's, BDS students had 6 correct answers, while MBBS had 4 correct answers. Another study conducted among medical and dental students of private medical university in Karachi also showed<sup>16</sup> mean attitude score of BDS students were 70.83% while 61.95% MBBS students were observed. The results showed that in general dental graduates has overall higher score level of attitude, behavior and infection control as compared to MBBS students. Although there is not much difference to study of student's attitude in caring hepatitis B patients. Still there is slight better attitude of BDS students, we believe that 3rd year BDS students have more clinical interactions with hepatitis B patients in their more clinical dental department rotations. In contrast a study conducted among dentists revealed only 10.2% were willing and 89.8% were not willing to treat HBV patients<sup>17</sup>. The purpose of this survey was to observe and compare students' attitude, so that further teaching methodology could modify to teach students and be able to serve communicable disease patients in the society. Although there is not much difference comparing knowledge and attitude of 3rd year MBBS and BDS students, there is still need to work on community-based curriculum to give more weightage to

community-based diseases teaching like hepatitis. Further studies and surveys must be conducted to identify the curriculum issues and teaching methodologies to improve our health care teaching to serve community.

## CONCLUSION

3rd year MBBS students have better knowledge of hepatitis B virus mode of action, spread and vaccination than 3rd year BDS students. On the contrary, 3rd year BDS students have better attitude towards caring of hepatitis B patients. Female students have better knowledge and attitude than males overall.

**Conflict of interest:** Authors have no conflict of interest

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