

Hepatitis B Awareness Among Medical Students and Their Vaccination Status

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How to cite: Rasheed R. Hepatitis B awareness among medical students and their vaccination status. J Lahore Med Dent Coll. 2024; 1 (1): 28-31

DOI: <https://doi.org/10.70384/jlmdc.v1i01.27>

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Abstract

Background: Hepatitis B infection is one of the most prevalent health issues globally. Health workers are more vulnerable to this infection because they come in contact with blood and other body fluids.

Objective: The present study was aimed to assess Hepatitis B awareness and vaccination status among medical students.

Methods: It was a descriptive cross-sectional study conducted by department of Community Medicine, Lahore Medical & Dental College. The duration of study was three months. A Structured questionnaire was used for data collection. It was divided in three sections. The first part was related to background information, second part consisted of knowledge about Hepatitis B virus (HBV) infection and third part consisted of questions regarding vaccination status.

Results: Among the respondents 50% were males and 50% females. According to 85% of the students, blood transfusion is a risk factor for contracting HBV. Jaundice, a symptom of hepatitis B, was reported by 77% of the students. 76% agreed that HBV infection can lead to cirrhosis, while 57% mentioned liver cancer as a possible outcome. A majority of respondents (97%) agreed that hepatitis B is preventable, and 92% of students stated that vaccination can protect against the infection. Regarding vaccination status, 53% of students were vaccinated, with 79% of them being fully vaccinated.

Conclusion: Medical students were well aware about hepatitis B infection. As health professionals are vulnerable to develop hepatitis B infection, every medical college should make policies regarding HBV screening as well as vaccination of medical students and medical faculty.

Key words: Hepatitis B awareness, Vaccination status, Medical students.

Introduction

Hepatitis B infection is one of the most prevalent health issues globally. This infection leads to liver cirrhosis and liver cancer. World Health Organization reported annually 600,000 peoples infected with HB virus which ultimately, proved fatal.¹

The main modes of transmission hepatitis B infection are intravenous drug use, sexual intercourse, vertical

transmission from mother to child and contact with infected blood and body fluids.^{2,3} According to a survey, health care worker especially (96%) doctors were more prone to have hepatitis B infection while general population was less likely to contract such infection.⁴ The most common source of transmitting hepatitis B infection in health worker is via needle stick injury; the ratio of these cases is 66,000 per annum.⁵

In medical setting health workers are more vulnerable to this infection because they come in contact with blood and other body fluids.^{6,7} To save health professionals from this dangerous infection WHO recommended professionals working in medical setting should be vacci-

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Submission Date: 18-04-2024
Acceptance Date: 13-06-2024

nated against hepatitis B.⁸ Fortunately, hepatitis B vaccine is 95% effective and can prevent from the chronic consequences of this disease.⁹

Vaccinated individuals are less likely to get these infections while unvaccinated are 30% more at risk of transmission of this infection.¹⁰ Medical students during their clinical course work deal with patients, blood, injections and surgical instruments, being inexperienced they are at a higher risk to acquire blood borne infections like hepatitis so they must have knowledge about the precautionary methods to prevent such kind of infections.¹¹

Medical students must have knowledge regarding hepatitis B infection because they have to work in hospital setting and deal with all kind of patients. So, it is very important to educate medical students about the harmful effects of this infection and also importance of Hepatitis B vaccination. The present study aimed to assess the Hepatitis B awareness and vaccination status among medical students.

Methods

A descriptive cross sectional study was conducted in Lahore Medical and Dental College (LMDC), Lahore. The study was approved by the Institutional Review Board of Lahore Medical & Dental College. Duration of study was three months from May to July 2022. The data was collected after getting verbal consent from students. The Study population was fourth year MBBS class. The participants of study were 138 fourth year MBBS students. A Convenient sampling method was used.

A structured questionnaire was used to collect data from respondents. There were 3 sections of the questionnaire. The first part included background variables like gender (male or female), Pre-medical qualification (FSc, A levels or American Board) and occupation of mother and father (Doctor or non-Doctor). The second section consisted of questions relating to Hepatitis B awareness and the last part was related to the vaccination status of the respondents.

Data was entered, cleaned and analyzed using Statistical Package for Social Sciences (SPSS), version 20. Data was presented as tables. Frequencies and percentages were calculated.

Results

Among 138 study participants 50% were male, pre-entry qualification of 82% were FSc and 17 % was A-

Table I: Background information of fourth year MBBS students (n= 138)

Background Information		n	%
Gender	Male	69	50.0
	Female	69	50.0
Pre-Entry Qualification	F.Sc	114	82.6
	A-Level	23	16.7
	American Board	1	0.7
Fathers' occupation	Doctor	24	17.4
	Non-Doctor	114	82.6
Mothers' occupation	Doctor	12	8.7
	Non-Doctor	126	91.3

Level (Table I). Fathers of 17% of students and mothers of 9% were doctors.

As documented in Table II, around 70% of the medical students were aware Of hepatitis B infection, 96% knew that it was caused by a virus. The findings showed that 54% students perceived health professionals as more vulnerable group of having Hepatitis B infection, 69% believe people with multiple sex partners and 59% reported illicit drug users were high risk groups. Majority of students (85%) blamed blood transfusion as the main risk factor. The methods of spreading this infection were quoted by the study respondents as blood transfusion by 86%, use of contaminated needles by 58% and unprotected sex by 50%. Regarding main symptoms of Hepatitis B 51% mentioned loss of appe-

Table II: Students' awareness about hepatitis B

Awareness about Hepatitis B		n	%
Type of disease	Non Communicable	42	30.4
	Infectious	96	69.6
Causative agent	Bacteria	6	4.3
	Virus	132	95.7
High risk group	Health professionals	75	54.3
	Having multiple sex partners	95	68.8
	Homosexuals	44	31.9
	Illicit drug users	81	58.7
	Barbers	43	31.2
Risk factors	Smoking	7	5.1
	Alcohol abuse	20	14.5
	Piercing & Tattoos	57	41.3
	Blood transfusion	118	85.5
	Dental visits	43	31.2
	Consuming contaminated food	17	12.3
	Drinking contaminated water	25	18.1

Mode of infection spread	Transfusion of blood	119	86.2
	Un protected sex	69	50.0
	Vertical transmission from mother to her baby	51	37.0
	Use of contaminated needles	80	58.0
Signs & Symptoms	Fever	64	46.4
	Loss of appetite	71	51.4
	Nausea	52	37.7
	Vomiting	51	37.0
	Jaundice	104	24.6
Complications	Hepatitis	26	18.8
	Cirrhosis	105	76.1
	Liver cancer	79	57.2
	Kidney disease	26	2.2
Preventable disease	Yes	134	97.1
	No	4	2.9
Preventable by vaccination	Yes	127	92.0
	No	11	8.0

tite, 46% mentioned fever, 37% reported nausea and vomiting. 76% reported liver cirrhosis and 57% reported liver cancer as main complications. 92% medical students perceived that vaccination is a great protection against HB infection.

Table III shows that around 53% respondents were

Table III: Vaccination status of the respondents (n=138)

Awareness about Hepatitis B		N	%
Hepatitis B vaccination done	Yes	72	52.9
	No	66	47.1
Fully vaccinated receiving doses at 0, 4 & 16 weeks (N = 72)	Yes	57	79.2
	No	15	20.8
Reasons for not being vaccinated against Hepatitis B (N = 66)	Lack of motivation	4	6.1
	Not needed	5	7.6
	Never thought of vaccination	49	74.2
	Fear of injection	1	1.5
	No response	7	10.6

vaccinated, out of these, 79% were fully vaccinated. The main reason given for not being vaccinated by study participants was that they never considered it important. Around 11% of students did not respond to this question (Table III).

Discussion

This present study showed awareness level of medical

students regarding hepatitis B infection. The findings of present study showed that 96% students reported virus is causative agent of hepatitis B infection, similar finding were also reported by 94.% respondents in another study.¹² Medical students perceived the most vulnerable groups for Hepatitis B infection to be health professionals (54%), other studies also showed that majority of their respondents agreed that health professionals were at great risk.¹³ The findings of other studies corroborated with present study that hepatitis B infection is transmitted through body fluid and infected blood.¹⁴⁻¹⁶

In present study 85% of the respondents considered blamed blood transfusion as the main risk factor of spreading hepatitis B infection. In another study 97% participants also claim blood donation as a mode of transmission.⁹ In agreements with the present study the other studies also highlighted that unsafe sex with multiple partner can transmit Hepatitis B virus.¹⁷ The main symptoms of Hepatitis B mentioned by students were loss of appetite (51%), fever (46%), nausea and vomiting (37%). In other studies participants reported different symptoms such as: fever (42%), loss of appetite (25.7%) and nausea and vomiting: (28%).¹⁸ Liver cirrhosis (76%) and liver cancer (57%) disease were reported as result of hepatitis B infection. In another study 83.1% students reported that Liver cirrhosis is symptom of hepatitis B and liver cancer was reported by (69%) while other studies also showed similar results.^{19,20}

Majority of respondents (98%) agreed that hepatitis B is preventable and vaccination can protect from this disease (92%). In current study, 53% of students were vaccinated but the vaccination status of students of another study was less (40%) than the present study.²¹

A study related to vaccination status represent half of the students were vaccinated which was also less than the present study.²² More awareness must be generated among medical students and the general population about vaccination against Hepatitis B in vulnerable groups. It should be made compulsory for all students entering medical colleges to get fully vaccinated against Hepatitis B. As the current study was conducted only in 4th year MBBS class of a medical college, therefore it lacks generalizability.

Conclusion

Medical students had good knowledge about hepatitis B infection but their vaccination status was not satisfactory.

Conflict of Interest:

None

Funding Source:

None

Ethical Consideration: The study was approved by the ethical review board. Informed written consent was obtained from the participants, and the confidentiality of their data was clearly explained.

Acknowledgement

The authors would like to thank all students who had participated in the study and the institution for supporting the study.

Authors Contribution

All the authors contributed equally in accordance with ICMJE guidelines and are accountable for the integrity of the study.

RR: Conception of idea & design, acquisition, analysis & interpretation of data, drafting the article, critical review, final approval of the manuscript

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