

Knowledge, Attitude and Practice Study on Hepatitis B among Medical versus Nursing Undergraduate Students

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Submitted for Publication: 09-05-2022
Accepted for Publication 29-10-2022

How to Cite: Sagheer U, Imam HSH, Sohail Q, Din M. Knowledge, Attitude and Practice Study on Hepatitis B among Medical versus Nursing Undergraduate Students of Aziz Fatima Medical and Dental College Faisalabad. APMC 2023;17(3):311-315. DOI: 10.29054/APMC/2023.1396

ABSTRACT

Background: One of the crucial illnesses of mankind is Hepatitis B virus (HBV). It is common infection with no seasonal distribution. Hepatitis B can attacks liver and causes acute and chronic disorders. It is generally transmitted from mother to child during stages of birth and delivery, further via contact with blood or alternative body fluids. It can be fatal if it isn't treated. **Objective:** To compare the knowledge, attitude and practice study of hepatitis B virus infection among medical and nursing undergraduate students. **Study Design:** Cross sectional study. **Settings:** Aziz Fatima Medical and Dental College, Faisalabad Pakistan. **Duration:** August 2020 to March 2021. **Methods:** After meeting the inclusion criteria 510 students were enrolled. All the data was entered and analyzed on SPSS version 24. **Results:** Students participated in this study was 510. 153 (30%) were males and 357 (70%) were females students. The mean age was 21.48 ± 1.652 years. 26 (5%) participants belonged to upper socioeconomic status (SES), 447(95%) belonged to middle whereas 7 belonged to lower SES. MBBS 4th year students have more than 60% knowledge as compared to 1st, 2nd and 3rd year MBBS undergraduate students. Whereas in nursing BSN 4th year have more than 60% knowledge than other nursing students. **Conclusion:** In our study, both medical and nursing undergraduate students had adequate knowledge, good attitude and practice (>60%).

Keywords: Hepatitis B virus, Knowledge, Attitude, Practice.

INTRODUCTION

One of the crucial illnesses of mankind is Hepatitis B virus (HBV).¹ It is a common infection with no seasonal distribution.² Hepatitis B can attacks the liver and causes acute and chronic disorder. It is most generally transmitted from mother to child during stages of birth and delivery, further by contact with blood or alternative body fluids.³ It can be fatal if it isn't treated.⁴

More than two billion individuals are affected with HBV globally, and 257 million humans are chronic carriers of HBV.⁵ 6,86,0000 human beings die annually due to acute or chronic liver sickness and liver cancer.⁶ However, this number vary from country to country.⁷ The global prevalence of hepatitis B surface antigen positive population is 3.9%.⁸ BBV is 50 to 100 times more infectious than HIV.⁹

It is mainly transmitted by accidental use of contaminated needles or blood products.⁹ It is counted amongst the most prevalent diseases in Pakistan. According to the

World Health Organization (WHO), about four million people have already been exposed to HBV.¹⁰ The province wise prevalence of Hepatitis B in Pakistan is 9.3% in Baluchistan, 2.4% in Punjab, 2.3% in Sindh, and the lowest (2%) in KPK.¹¹

Health care workers, especially physicians and medical students are always in direct contact with patients and are vulnerable to the acquisition of these infectious diseases. They are involved in blood transfusion, injections and surgical operations during their practices.¹²

Health care workers (HCWs) are at high risk of HBV infection in the health care settings. The prevalence rate of HBV in HCWs is about 2-10 times higher than the general populations in the world.¹³ Reports from Pakistan indicate that only 40% of health care workers have received complete HBV immunization.¹⁴ These HCWs are mostly unaware of their potential exposures to contaminated sources. Even when exposures are

recognized, HCWs often do not seek post-exposure prophylactic management.¹¹

Prevalence of HBV in medical students has been reportable as high as 5%.¹⁵ Medical students are high-risk group due to lack of screening and post vaccination screening programs.¹⁶

Prevention is only key against hepatitis B, having proper knowledge, attitude and practice are important for the prevention of this disease. In Pakistan, KAP of nurses regarding hepatitis B is not much known. To increase knowledge, attitude and practice among nurses in Pakistan continuous efforts have been made by different means, but there is not much progress yet.¹⁷

METHODS

An analytical Cross-sectional study was conducted at Aziz Fatima Medical and Dental College, Faisalabad from August 2020 to March 2021. This study consisted of 510 undergraduate medical and nursing students. Semi-structured questionnaire was used for obtaining pertinent data about demographic properties of medical and nursing students. Knowledge, attitude and practice of hepatitis B infection were found out by questionnaire. Respondents with greater than or equal to 60% score was considered for adequate knowledge, positive attitude and good practice.¹⁹ The data was entered and analyzed utilizing the (SPSS) version 24.0. Demographic properties of the respondents of the study were expressed in frequency and percentage. Mean \pm standard deviation was used due to skewness of the information. The Pearson Chi-square test was used to determine significant relation between knowledge, attitude and practice of medical and nursing students. A probability value of ≤ 0.05 was considered statistically significant.

RESULTS

Students participated in this study was 510. 255 undergraduate MBBS and 255 nursing students each. Out of these 510, 153 were males and 357 were female's students. 372 belonged to age group of 17-22 years while 138 were between age group of 23 to 27 years. The mean age was 21.48 ± 1.652 years. 26 participants belonged to upper socioeconomic status (SES), 447 belonged to middle whereas 7 belonged to lower SES.

Table 1: Descriptive statistics of age in years

Age (years)	
Mean	21.48
S. D	1.652
Range	10
Minimum	17
Maximum	27

Table 2: Study participants knowledge on Hepatitis B

Variable	Medical students (n=255)	Nursing students (n=255)	Total N=510	P-value	
Knowledge of Hepatitis B					
Yes	251(98.4%)	253(99.2%)	504(98.8%)	.547	
No	3(1.1%)	2(0.78%)	59(0.98%)		
Do not Know	1(0.5%)	0	1(0.22%)		
Total	255(100%)	255(100%)	510(100%)		
Causative agents of Hepatitis B					
Virus	247(96.8%)	250(98%)	497(97.4%)	.399	
Bacteria	8(3.2%)	5(2%)	13(2.54%)		
Total	255(100%)	255(100%)	510(100%)		
Spread of Hepatitis B					
Blood transfusion	139(54.5%)	184(72.1%)	323(63.3%)	0.000	
Needle stick injury	36(14.1%)	17(6.66%)	53(10.3%)		
Unsterilized surgical instruments	58(22.7%)	20(7.8%)	78(15.2%)		
Tattooing	1(0.39%)	0	1(0.19%)		
Unsafe sex	14(5.4%)	9(3.52%)	23(4.50%)		
Air pollution	0	3(1.17%)	3(0.58%)		
By drinking contaminated water	7(2.7%)	22(8.62%)	29(5.68%)		
Total	255(100%)	255(100%)	510(100%)		
Symptoms of Hepatitis B					
Yes	223(87.4%)	237(92.9%)	460(90.2%)		.111
No	24(9.41%)	14(5.49%)	38(7.45%)		
Do not know	8(3.13%)	4(1.56%)	12(2.35%)		
Total	255(100%)	255(100%)	510(100%)		
Chronic hepatitis B leads to					
Cirrhosis of liver	159(62.3%)	196(76.8%)	355(69.6%)	.001	
CA Liver	21(8.23%)	22(8.62%)	43(8.43%)		
DLD	43(16.8%)	25(9.80%)	68(13.3%)		
Death	30(11.7%)	11(4.31%)	41(8.03%)		
Gall Stones	2(0.78%)	1(0.39%)	3(0.58%)		
Total	255(100%)	255(100%)	510(100%)		
Preventable factors of Hepatitis B					
PPE	53(20.7%)	69(27.0%)	122(4.31%)	.000	
Vaccines	119(46.6%)	146(57.2%)	265(51.9%)		
Nutritional Supplements	5(1.96%)	0	5(0.98%)		
Safe sex	14(5.49%)	4(1.56%)	18(1.56%)		
Safe blood transfusion	64(25.09%)	36(14.1%)	100(19.6%)		
Total	255(100%)	255(100%)	510(100%)		
Vaccine available for Hepatitis B					
Yes	240(94.1%)	233(91.3%)	473(92.7%)	.022	
No	5(1.96%)	12(4.7%)	17(3.33%)		
don't know	10(3.9%)	5(4.0%)	15(2.94%)		
Total	255(100%)	255(100%)	510(100%)		
Duration of Protection					
2 Years	25(9.80%)	44(17.2%)	69(13.5%)	.002	
4 Years	15(5.88%)	21(8.23%)	36(7.05%)		
10 Years	65(25.4%)	44(17.2%)	109(21.3%)		
15 Years	35(13.7%)	18(7.05%)	53(10.3%)		
Life long	115(45.0%)	128(50.0%)	243(47.6%)		
Total	255(100%)	255(100%)	510(100%)		
Safely administered with other vaccine					
Yes	158(61.9%)	109(42.7%)	267(52.3%)	.000	
No	15(5.88%)	90(35.2%)	105(20.5%)		
do not know	83(32.5%)	55(21.5%)	138(27.0%)		
Total	255(100%)	255(100%)	510(100%)		

Table 3: Study participants attitude on different aspects of hepatitis B

Variable	Medical students (n=255)	Nursing students (n=255)	Total	P-value
Colleague acceptance with Hepatitis B				
Yes	186(72.9%)	139(54.5%)	325(63.7%)	.000
No	43(16.8%)	103(40.3%)	146(28.6%)	
do not know	26(10.1%)	13(5.09%)	39(7.64%)	
Total	255(100%)	255(100%)	510(100%)	
Sharing of food with Hepatitis B Patients				
Yes	155(60.7%)	102(40.0%)	257(50.3%)	.000
No	79(5.88%)	148(58.0%)	227(44.5%)	
do not know	21(8.23%)	5(2.0%)	26(5.09%)	
Total	255(100%)	255(100%)	510(100%)	
Hepatitis B chronic infection is stigma				
Yes	146(57.2%)	92(36.0%)	238(46.6%)	.000
No	56(21.9%)	107(41.9%)	163(31.9%)	
Don't know	53(20.7%)	56(21.9%)	109(21.3%)	
Total	255(100%)	255(100%)	510(100%)	
Fear for Hepatitis B patient caring				
Yes	64(25.1%)	109(42.7%)	173(33.9%)	.000
No	168(65.8%)	142(55.6%)	310(60.7%)	
Don't know	23(9.01%)	4(1.56%)	27(5.29%)	
Total	255(100%)	255(100%)	510(100%)	
Uncomfortable by Shaking hands with Hepatitis B patients				
Yes	61(23.9%)	99(38.8%)	160(31.3%)	.000
No	174(68.2%)	155(60.7%)	329(64.5%)	
Don't know	20(7.84%)	1(0.39%)	21(4.11%)	
Total	255(100%)	255(100%)	510(100%)	
Hepatitis B infected doctors/ nurses allow to continue work				
Yes	114(56.4%)	120(47.1%)	234(45.8%)	.000
No	106(41.5%)	128(50.1%)	234(45.8%)	
Don't know	35(13.7%)	7(2.74%)	42(8.23%)	
Total	255(100%)	255(100%)	510(100%)	
Refuse to treatment				
Yes	33(12.9%)	46(18.0%)	79(15.5%)	.000
No	142(55.6%)	203(79.6%)	345(67.6%)	
Don't know	80(31.3%)	6(2.35%)	86(16.9%)	
Total	255(100%)	255(100%)	510(100%)	
Hepatitis B vaccine safe and effective				
Yes	219(85.8%)	234(91.7%)	453(88.8%)	.000
No	6(2.35%)	19(7.45%)	25(4.90%)	
Don't know	30(11.7%)	2(0.78%)	32(6.27%)	
Total	255(100%)	255(100%)	510(100%)	
Hepatitis B patient allow to work				
Yes	197(77.2%)	197(77.2%)	394(77.2%)	.000
No	31(12.1%)	51(20.0%)	82(16.1%)	
Don't know	27(10.6%)	7(2.74%)	34(6.66%)	
Total	255(100%)	255(100%)	510(100%)	
Isolation of Hepatitis B patient				
Yes	31(12.1%)	76(29.8%)	107(20.9%)	.000
No	144(56.4%)	170(66.6%)	314(61.5%)	
Don't know	80(31.3%)	9(3.52%)	89(17.5%)	
Total	255(100%)	255(100%)	510(100%)	
Hospitalized for full duration of treatment				
Yes	124(48.6%)	168(65.8%)	292(57.2%)	.000

No	53(20.7%)	81(31.7%)	134(26.2%)	
Don't know	78(30.5%)	6(2.35%)	84(16.4%)	
Total	255(100%)	255(100%)	510(100%)	
Hep C patients vaccinated for hepatitis B				
Yes	98(38.4%)	120(47.1%)	218(42.7%)	.000
No	71(27.8%)	100(39.2%)	171(33.5%)	
Don't know	86(33.7%)	35(13.7%)	121(23.7%)	
Total	255(100%)	255(100%)	510(100%)	
Vaccination of new born				
Yes	207(81.1%)	196(76.8%)	403(79.0%)	.003
No	10(3.92%)	30(11.7%)	40(7.84%)	
Don't know	38(14.9%)	29(11.4%)	67(13.1%)	
Total	255(100%)	255(100%)	510(100%)	
Screening for Hep B				
Yes	169(66.2%)	118(46.2%)	287(56.2%)	.000
No	75(29.4%)	136(53.3%)	211(41.4%)	
Don't know	11(4.31%)	1(0.39%)	12(2.35%)	
Total	255(100%)	255(100%)	510(100%)	

Table 4: Study participants practices on different aspects of hepatitis B

Variable	Medical students (n=255)	Nursing students (n=255)	Total	P-value
Vaccinated against Hepatitis B				
Yes	226(88.6%)	126(49.4%)	352(69.0%)	.000
No	16(6.27%)	117(45.9%)	133(26.1%)	
Don't know	13(5.09%)	12(4.70%)	25(4.90%)	
Total	255(100%)	255(100%)	510(100%)	
Usage of new syringe				
Yes	241(94.5%)	245(96.1%)	486(95.3%)	.041
No	7(2.74%)	9(3.9%)	16(3.13%)	
Don't know	7(2.74%)	0	7(1.37%)	
Total	255(100%)	255(100%)	510(100%)	
Hep b screening before blood transfusion				
Yes	241(94.5%)	236(92.5%)	477(93.5%)	.257
No	7(2.74%)	14(5.49%)	21(4.11%)	
Don't know	7(2.74%)	5(1.96%)	12(2.35%)	
Total	255(100%)	255(100%)	510(100%)	
Participation in health education program				
Yes	193(75.5%)	111(43.5%)	304(59.6%)	.000
No	54(21.2%)	143(56.1%)	197(38.6%)	
Don't know	8(3.13%)	1(0.4%)	9(1.76%)	
Total	255(100%)	255(100%)	510(100%)	
Awareness among family members				
Yes	241(94.5%)	223(87.4%)	464(90.9%)	.000
No	7(2.74%)	32(12.5%)	39(7.64%)	
Don't know	7(2.74%)	0	7(1.37%)	
Total	255(100%)	255(100%)	510(100%)	
Vaccinated against Hep B(if not vaccinated)				
Yes	241(94.5%)	229(89.8%)	470(92.1%)	.003
No	7(2.74%)	23(9.01%)	30(5.88%)	
Don't know	7(2.74%)	2(0.78%)	9(1.76%)	
Total	255(100%)	255(100%)	510(100%)	

DISCUSSION

This present analytical cross-sectional study was conducted in Aziz Fatima Medical and Dental College,

Faisalabad to compare knowledge of Hepatitis B virus infection among medical versus nursing undergraduate students.

In present study, most of the medical and nursing participants showed adequate level of knowledge (>60%) about infection. In contrast to this finding, another study conducted at Uttarakhand (India) where 55% medical and 38% nursing students were correctly aware about disease.¹⁸ However these results are similar to a study conducted in Karachi where 68.1% medical and 31.9% non-medical students showed adequate knowledge about hepatitis B virus infection.¹⁵

In this study, 96.8% medical and 98% nursing students believed that disease is caused by virus which is similar to a study conducted in Chennai (India).¹⁹ Re-grading spread of hepatitis B both medical and nursing students had adequate knowledge (>60%) while some students exposed their lack of knowledge by mentioning air pollution and by drinking contaminated water. Whereas knowledge about disease transmission were much below expected levels in study conducted in India.¹⁸

In this study, majority of medical and nursing students knew about complication of chronic hepatitis B with $P=0.001$ which is similar to a study conducted in Sudan.¹⁹ 94.1% medical and 91.3% nursing students believed that vaccine is available for hepatitis B which is similar to study where 98.6% medical students were agreed about this information.²⁰

Both medical and nursing students were also knew preventable factors of Hepatitis B with $P = .000$. which is identical to study conducted at Rajasthan which found that 85% students knew about preventable factors.²¹ More than 94% of medical and 91% of nursing students knew availability of hepatitis b vaccine ($P= 0.022$) which is identical to study conducted at Chennai, their results revealed that 82% students knew about availability of vaccine. In contrast to this, only 49% knew availability of vaccine.²¹

In addition, only 25% medical and 17% nursing student's aware about correct vaccination protection. More than 60% of medical students identified that vaccine can be administered with other vaccine as compared to 42% of nursing undergraduate candidates.

More than 50% of medical students showed positive attitude towards allowance of hepatitis b positive doctors and nurses to continue their jobs as compared to nursing students 47.1% ($P=0.000$), which is comparable to study which showed 93% agreed on this.²² High proportion of medical and nursing students showed positive attitude that vaccine is safe and effective ($P=.000$), similar with 85% of students believed that it is safe and effective.²² Equal proportion of medical and nursing undergraduate

students were agreed that hepatitis b patients should allowed to work ($P =0.000$), similar to studies where 93.5% and 70% of students agreed on this as well.^{21, 22}

88.6% medical and 49.4% nursing students were vaccinated against virus which is identical to study in which 99.3% medical and 37.3% nonmedical students had completed their hepatitis B vaccination.²⁰ In contrast to this a prospective interventional study carried out in Gujarat which revealed that 46.4% were vaccinated against hepatitis B.²¹

Both medical and nursing undergraduate students were reported of using new syringe and hepatitis B screening before blood transfusion ($P= 0.041$ and 0.257 respectively). Visibly a high proportion of medical students participated in health education program than nursing students ($P=0.000$). Which is similar to a study in which 79.5% will do screening of blood before transfusion, and 50.5% had participated in the health education program.²²

Both medical and nursing undergraduate students were showing good practice for awareness and vaccination ($P= 0.000$ and 0.003 respectively). In contrast to this only 52% of the students had done screening for hepatitis B infection.²²

CONCLUSION

Both medical and nursing undergraduate students had adequate knowledge, attitude and practice (>60%) about hepatitis B virus infection.

LIMITATIONS

Non-random selection and limited sample size were the limitations of this research study. The results of this study cannot be generalized as it was a single centered study.

SUGGESTIONS / RECOMMENDATIONS

A policy should be making in every institutional level that Hepatitis B vaccination is mandatory for all undergoing undergraduate medical and nursing students.

Media campaigns and awareness activities will be beneficial.

Appropriate screening is needed.

CONFLICT OF INTEREST / DISCLOSURE

Nil.

ACKNOWLEDGEMENTS

Nil.

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