Original Article

Knowledge and Practices Regarding Hepatitis B and its Vaccination among Medical students of Nishtar Medical College Multan

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ABSTRACT

Objective: To determine the level of knowledge, and practices regarding HBV transmission and vaccination among students of the first year and final year class in Nishtar Medical Multan.

Study Design: Cross-sectional descriptive study

Place and Duration of Study: This study was conducted at the Department of Community Medicine, Nishtar Medical College Multan 15 February to 25 March 2017

Materials and Methods: A semi-structured questionnaire was used to collect the data. SPSS version 21 (Statistical package for social sciences) was used to analyze the data. Chi-square test of significance was applied to see the association between the groups.

Results: The present study was conducted among 160 students, among the respondents 43.1% were male, and 56.9% were female. Mean age: 20.49 SD± 1.9. The mean knowledge score of 1st Year and Final Year respondents was 1.45 SD ± 0.29 and 1.26 SD ± 0.02 respectively so the knowledge of final year student was better than first-year students. Only 50% respondents were vaccinated and only 43(26.9%) of them had received the three recommended doses. P= (0.06)

Conclusion: The overall knowledge of Hepatitis B virus was good among the study participants. But their practices were not reasonable and significant.

Key Words: Hepatitis B, HBV vaccine, Medical students, Multan

Citation of article: Malik AY, Iram A, Hameed A. Knowledge and Practices Regarding Hepatitis B and its Vaccination among Medical students of Nishtar Medical College Multan. Med Forum 2017;28(6):69-73.

INTRODUCTION

Hepatitis B is a serious blood-borne infection. It is estimated that about one-third of world population is infected with HBV.[1, 2] WHO reported in 2009 that about 2 billion persons all over the world are being infected by HBV. [3] HBV is second to tobacco as well-known cancer-causing agent and is responsible for 75 to 90% of liver cancer worldwide.[4] The danger of Hepatitis B infection is 2-10 times greater in health-care workers than in general population.[5,6] People with chronic infection are known as carriers and are a big source of HBV transmission.[7] Hepatitis B infection is highly contagious and it can be conveyed during blood transfusion, vertically from mother to child, during unprotected sexual intercourse, needle-stick injuries, sharing equipment in a barber shop and beauty salon, ear piercing, acupuncture, dialysis.[11]

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Received: April 20, 2017; Accepted: May 10, 2017

Doctors, nurses, and medical students are highly vulnerable to get needle-prick injuries. The danger of accidental exposure among trainees may be higher due to lack of experience, work overload, hurries and fatigue.[12, 13] Most of the Studies showed that there is a solid gap between knowledge among medical students and risk of job-related exposure to HBV infection.

The purpose of our study was to determine the level of knowledge and practice towards HBV infection and vaccination among medical students of Nishtar Medical College Multan. We also made a comparison between levels of awareness of students of class first year to students of class final year

MATERIALS AND METHODS

One hundred and sixty students (80 students of 1st year and 80 students of final year) of Nishtar Medical College Multan were involved in the study. A semi-structured questionnaire proforma was used to collect the data. One male and one female doctor approached the students of 1st year in dissection hall conveniently, after taking the consent of the teachers. The questionnaire was distributed among the students of free batches one after the other and they were given 15 to 20 minutes to fill in the response to all the questions. While the students of the final year were approached conveniently outside the auditorium and made request to fill the proforma.

Variables and measurements: The questionnaire contained demographic details, knowledge level and the practices of respondents regarding hepatitis B virus vaccination. We calculated the mean proportion of the correct answers and made two groups with good and poor knowledge. If the mean proportion was equal and greater than 75% then they were considered as having "good" knowledge while "poor" if less than 75%. Respondents were considered "adequately vaccinated" if they have received three doses of vaccine and "inadequately vaccinated" if got less than three doses.

Data Analysis: Data was coded, entered and analyzed by using SPSS (Statistical Package for Social Sciences) version21.Data was summarized by using Descriptive statistics like frequencies and proportions. Two sample T- test was applied to compare the variables and chi - square test was applied to see the association among variables.

RESULTS

Among the respondents 43.1% were male, 56.9% were female. Mean age: 20.49 SD± 1.9. About 76.9% respondents were living in urban areas while 23.1% belong to rural areas. Table1

Table No.1: Socio-demographic Profiles of the Participants

Variables		Number (n)	Percentages (%)
Age group (yrs.)	17-21	93	58%
	22-26	67	41.8%
Sex	Male	69	43.1%
	Female	91	56.9%
Year of study	1st Year	80	50%
	2nd Year	80	50%
Residence	Urban	123	76.9%
	Rural	37	23.1%
Mean age: 20.49 SD± 1.9			

Overall knowledge level of the final year respondents was better than the respondents of 1st year Table 2.

The general attitude of respondents about vaccination was positive as 81.3% respondents fully agreed with the importance of vaccination for the protection of public health. Respondents believed that hepatitis B vaccine is safe and effective. The majority of 1st-year students who were not vaccinated because they thought that they were not at risk of getting hepatitis B. (Table 2).

Comparison and Association of Knowledge with selected socio-demographic variable, by using independent two samples T-test and chi-square.

The mean knowledge score of 1st Year and Final Year respondents was 1.45 SD ± 0.29 and 1.26 SD ± .021 respectively so the knowledge of final year student was better than first-year students. This was statistically significant. The comparison about mean knowledge score of male respondents & female respondents was 1.41 SD ± 0.28 and 1.32 SD ± 0.26 respectively.

Table No.2: Overall knowledge level of the final year respondents

Variables		Frequ-ency (n)	% age
Hepatitis B virus causes liver cancer?	Yes	127	79.4
	No	21	13.1
	Not Sure	12	7.5
Hepatitis B Virus Carriers can Transmit Infection?	Yes	138	86.3
	No	13	8.1
	Not Sure	9	5.6
Can Hepatitis B virus spread by casual contacts, such as handshaking, sharing clothes and utensils?	Yes	27	16.9
	No	119	74.4
	Not Sure	14	8.8
Hepatitis B virus spread by open wound/contact?	Yes	116	72.5
	No	32	20.0
	Not Sure	12	7.5
Does Hepatitis B virus spread by unsterilized syringes/needles?	Yes	149	93.1
	No	6	3.8
	Not Sure	5	3.1
Does Hepatitis B virus spread by unsafe sex?	Yes	131	81.9
	No	16	10.0
	Not Sure	13	8.1
Has Hepatitis B virus post exposure prophylaxis?	Yes	74	46.3
	No	23	14.4
	Not Sure	63	39.4
Can Hepatitis B virus be cured/treated?	Yes	118	73.8
	No	20	12.5
	Not Sure	22	13.8
Can Hepatitis B virus be transmitted during childbirth?	Yes	121	75.6
	No	23	14.4
	Not Sure	16	10.0
Can the vaccine prevent hepatitis B?	Yes	138	86.3
	No	13	8.1
	Not Sure	9	5.6
Do you think hepatitis B virus has laboratory test?	Yes	132	82.5
	No	8	5.0
	Not Sure	20	12.5
Can Vaccination be important for the protection of public health?	Yes	130	81.3
	No	29	18.1
	Not Sure	1	0.6
	No	36	22.5
	Not Sure	4	2.5
Have you ever screened for hepatitis B virus?	Yes	81	50.6
	No	79	49.4
Have you been vaccinated against hepatitis B virus?	Yes	80	50.0
	No	80	50.0
If yes, report number of doses?	1	24	15.0
	2	6	3.8
	3	43	26.9
	4	2	1.3
	5	2	1.3
If no, please specify why?	Lack of Time	44	27.5
	Fear of Side Effects	6	3.8
	Not a risk	30	18.8
Is Hepatitis B vaccine safe and effective?	Yes	135	84.4
	No	2	1.3
	Not Sure	23	14.4

This was statistically not significant. P= (0.38) As far as comparison with the address is concerned, mean knowledge score of urban and rural respondents was 1.34 SD ± 0.24 and 1.41 SD ± 0.3 respectively which was statistically significant. P= (0.03) Table 3

Table No.3: Mean knowledge score of urban and rural respondents

Year of Study	N	Mean	Std. Deviation	P value
1st Year	80	1.4542	0.29970	0.05
Final year	80	1.2658	0.21499	
Gender of Respondent				
Male	69	1.4106	0.28523	0.38
Female	91	1.3216	0.26506	
Resident of Respondent				
Urban	123	1.3423	0.24481	0.03
Rural	37	1.4189	0.36084	

Year of Study	Hepatitis B Virus Causes Liver Cancer			P Value
	Yes	No	Not Sure	
1st Year	52 (65.0%)	16 (20.0%)	12 (15.0%)	0.00
Final Year	75 (93.8%)	5 (6.3%)	0 (0.0%)	
Year of Study	**Hepatitis B Virus Carriers can Transmit Infection**			
	Yes	**No**	**Not Sure**	
1st Year	67 (83.8%)	5 (6.3%)	8 (10.0%)	0.04
Final Year	71 (88.8%)	8 (10.0%)	1 (1.3%)	
Year of Study	**Hepatitis B virus spread by casual contacts, such as handshaking, sharing clothes and utensils?**			
	Yes	**No**	**Not Sure**	
1st Year	19 (23.8%)	51 (63.8%)	10 (12.5%)	0.00
Final Year	8 (10.0%)	68 (85.0%)	4 (5.0%)	
Year of Study	**Hepatitis B virus spread by unsterilized syringes/needles?**			
	Yes	**No**	**Not Sure**	
1st Year	70 (87.5%)	5 (6.3%)	5 (6.3%)	0.01
Final Year	79 (98.8%)	1 (1.3%)	0 (0.0%)	
Year of Study	**Hepatitis B virus spread by unsafe sex?**			
	Yes	**No**	**Not Sure**	
1st Year	63 (78.8%)	12 (15.0%)	5 (6.3%)	0.087
Final Year	68 (85.0%)	4 (5.0%)	8 (10.0%)	
Year of Study	**Has Hepatitis B virus post exposure prophylaxis?**			
	Yes	**No**	**Not Sure**	
1st Year	21 (26.2%)	14 (17.5%)	45 (56.3%)	0.00
Final Year	53 (66.3%)	9 (11.3%)	18 (22.5%)	

Year of Study	Can Vaccine prevent Hepatitis B?			
	Yes	No	Not Sure	
1st Year	62 (77.5%)	12 (15.0%)	6 (7.5%)	0.00
Final Year	76 (95.0%)	1 (1.3%)	3 (3.8%)	
Year of Study	**Do you think hepatitis B virus has laboratory test?**			
	Yes	**No**	**Not Sure**	
1st Year	56 (70.0%)	8 (10.0%)	16 (20.0%)	0.00
Final Year	76 (95.0%)	0 (0.0%)	4 (5.0%)	
Year of Study	**Have you ever screened for hepatitis B virus?**			
	Yes	**No**		
1st Year	19 (23.8%)	61 (76.3%)		0.00
Final Year	62 (77.5%)	18 (22.5%)		
Year of Study	**Is Hepatitis B vaccine safe and effective?**			
	Yes	**No**	**Not Sure**	
1st Year	62 (77.5%)	1 (1.3%)	17 (21.3%)	0.04
Final Year	73 (91.3%)	1 (1.3%)	6 (7.5%)	

There was a strong association between different knowledge related variables with year of study. Table 3

DISCUSSION

Infection with HBV is not only preventable and treatable but also has post-exposure prophylaxis.[11-12] Medical students are at risk of acquisition of infection and should take precautions while dealing with patients[13, 14] because previous studies have reported that during heath professional training there is high occupational risk of getting HBV infection[15] the current study was done to evaluate knowledge, attitude and practice toward hepatitis B among medical students of 1st year and final year. Results showed that they had deficiencies in their knowledge and poor practice towards hepatitis B virus and it's Vaccination. A study was done among students of medicine and health sciences in Northwest Ethiopia, most of the variables were same in both studies although the knowledge level of most of our respondents about modes of transmission and prevention was good inconsistent with that study but our respondents knowledge about post-exposure prophylaxis was low 46.3%(26.3% of 1st year and 66.3% of final year) while in their survey it was (67.1%). Our practice towards HBV was better as among our respondents 50.6%(23.8% of 1st year and 77.5% of final year) were screened and 50% (36.3% of 1st year and 63.8% of final year) were vaccinated and among those who vaccinated 57.1% (33.3% of 1st year and 76% of final year) were fully vaccinated while in that study only 9.3% were screened,4.9% were

vaccinated and 2% were fully vaccinated.[1]A study was done in Cameroon among medical students which showed their knowledge level regarding modes of transmission was also good, inconsistency with our study but among their respondents only 36.9% were aware about the safety of vaccine while 84.4% (77.5% of 1st year and 91.3% of final year)of our respondents were aware of its safety and less number of their respondents were adequately vaccinated only 30.6%.[16] To optimize the level of prevention among medical students, scientific knowledge regarding modes of transmission of hepatitis B virus is of great importance[17, 18] A previous study from Karachi showed that their clinical students had better knowledge than pre-clinical ones similarly in our study final year students had better knowledge than 1st year respondents.[19] A study which was carried out among medical students of Karachi which showed better results as 79% of their students were vaccinated against hepatitis B and 70.6% of them were fully vaccinated.[20] and their knowledge level was satisfactory. A previous study among medical students of Iraq showed that 22% of their preclinical while 68% of their clinical students were vaccinated against HBV[21]this study shows similar results to our study, as in our settings final year students have more exposure to the patients and have better knowledge and awareness about the disease than 1st year students, so this might be the reason that more respondents of final year were vaccinated and among those who were not vaccinated from final year main reason was lack of time(86.2%) while among non-vaccinated 1st year students main reason was they believe that they were not at risk(51%) other reason was fear of side effects (11.8%). The commonest reason of not being vaccinated against HBV is lack of awareness[22]

CONCLUSION

The overall knowledge of Hepatitis B virus was good among the study participants. But their practices were not reasonable and significant. So, consistent training and awareness seminar about Hepatitis B desired to be carried out. Further studies are directed involving all kind and ranks of health care professionals.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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