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Research Article

AWARENESS REGARDING HEPATITIS B INFECTION AMONG STUDENTS OF A DENTAL INSTITUTE OF LUCKNOW CITY

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ABSTRACT

Introduction- Hepatitis B virus is the major cause of liver disease and liver cancer. It belongs to a member of the Hepadnaviridae family. It is one of the most common blood borne viral infection. To prevent HBV infection and its complications Hepatitis B vaccine is used. Medical students are more susceptible to HBV infection because of their clinical exposure.

Objective: The study was done to assess the knowledge regarding Hepatitis B virus infection and its various modes of transmission and use of Personnel Protective Barriers among dental students.

Methods: It was a questionnaire study which was conducted by using predesigned and structured questionnaire among all the dental students of Babu Banarasi Das College of Dental Sciences, Lucknow. The students who were present on the day of data collection were included. The data obtained was transferred to excel sheet and analysed using SPSS 18.0 version.

Result: A total of 431 students were examined. 425 students(98.6%) were aware of hepatitis B as a disease. 425 students(98.6%) were aware regarding the transmission of the virus through blood and 281 students(65.2%) were aware regarding the use of Personnel Protective Barriers.

Conclusion: The overall awareness regarding HBV among dental students was found to be satisfactory

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INTRODUCTION

Hepatitis B is one of the dangerous virus infected disease and potentially a life-threatening liver infection which is caused by the hepatitis B virus (HBV). Hepatitis B has become a major global health problem reaching alarming levels. As a result of which, it causes chronic infection and places people at high risk of death from cirrhosis and liver cancer.⁽¹⁾ It is a very hazardous disease with a higher rate of mortality and morbidity. Hepatitis B has various modes of transmission and it most commonly spread from infected mother to child at birth (perinatal transmission), or it can also spread via horizontal transmission (exposure to infected blood), especially from an infected child to an uninfected child during the first 5 years of life. The development of chronic infection is very common in infants infected from their mothers or before the age of 5 years.⁽²⁾

It is not mandatory that a person who is infected with hepatitis B virus (HBV) will experience symptoms. It has two phases i.e. acute and chronic. In the acute phase, children under 5 years of age as well as immune compromised adults rarely have symptoms. So if symptoms do occur, they generally appear in

around 90 days, with a range of 60 to 150 days after initial exposure.

- The symptoms of acute hepatitis B can include:- abdominal pain, especially around the liver, dark urine and/or pale stool, fatigue, fever, joint and/or muscle pain, loss of appetite, nausea, vomiting, yellowing of the skin, whites of the eyes and under the fingernails (jaundice)
- Symptoms of chronic hepatitis B can include those which are seen in acute hepatitis B. They proceed from mild to moderate in intensity and typically come and go.⁽³⁾

Hepatitis B prevalence is highest in the WHO Western Pacific Region and the WHO African Region, where 6.2% and 6.1% respectively of the adult population are infected. In the WHO Eastern Mediterranean Region, the WHO South-East Asia Region and the WHO European Region, an estimated 3.3%, 2.0% and 1.6% of the general population are infected, respectively.⁽⁴⁾

Dental students are at higher risk of getting infected from this deadly disease due to the clinical exposure and the usage of

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metallic sharp instruments in the dental laboratory. The transmission of this virus is through the body fluids, which forms the working environment for dental students. Non adherence to infection control procedures and Personal Protection Barrier further exposes them to Hepatitis B susceptibility. This makes it necessary to understand the knowledge of this population in the pathogenesis and prevention of Hepatitis B. A literature report suggests that no study is conducted in this part of the country. Hence this study was taken to assess awareness regarding Hepatitis B amongst dental students in a college of North India. (5,6)

Aim & objectives

AIM: To assess the awareness regarding Hepatitis B infection among students of a dental institution of Lucknow city.

Objectives-

- To assess the knowledge of 1st year, 2nd year, 3rd year, final year and interns regarding Hepatitis B infection.
- To assess the knowledge of 1st year, 2nd year, 3rd year, final year and interns regarding mode of transmission of Hepatitis B virus infection.
- To assess the knowledge of 1st year, 2nd year, 3rd year, final year and interns regarding use of Personnel Protective Barriers

METHODOLOGY

A questionnaire study was conducted to assess the knowledge regarding Hepatitis B infection in undergraduate dental students which includes I year, II year, III year, IV year and interns.

The study was conducted after obtaining approval from the Institutional Ethical Committee and informed consent of all the participating students was obtained to complete the ethical protocol. A total enumeration of students was the sampling technique (the whole population was the sample of the study).

A predesigned and structured questionnaire was employed for the study purpose. The questionnaire used was adapted from Bhuvan Nagpal et al. (4) (the questionnaire is enclosed as annexure). A 24 variable, questionnaire was used to obtain information on awareness of Hepatitis B as a disease, transmission of Hepatitis B as a virus/viral infections, transmission through blood transfusion or needle stick injury, manifestation of Hepatitis B, known family history, immunization against Hepatitis B, usage of Personnel Protective barrier from prevention of Hepatitis B, treatment for Hepatitis B, awareness of carrier state etc.

All the dental students who were present on the day of study and who consented to participate formed the inclusion criteria for the study.

The study was conducted for a period of 2 months. A single examiner conducted the study. On the day of investigation, the examiner herself handed the questionnaire to each student after reading out all the questions. The questionnaire was distributed in the classrooms. Only those forms which were fully filled were considered for the study. The data so obtained was transferred to excel sheets and analysed using SPSS 18.0 version.

A total of 431 students were investigated for awareness regarding Hepatitis B, its mode of transmission and infection control procedures. The study population consisted of B.D.S 1st year having frequency of 108(25.1%), B.D.S 2nd year having frequency of 83(19.3%), B.D.S 3rd year having frequency of 48(11.1%), Final year B.D.S having frequency of 112(26.0%), Intern having frequency of 80(18.6%), which consist of total 431 respondents(100.0) (Table 1).

Almost all the study subject reported that they were aware of Hepatitis B as a disease, excepting for 5.6% of B.D.S 1st year students who reported that they were unaware about the Hepatitis B as a disease, which is significant at p = 0.001. (Table 2)

Most of the study subjects reported that Hepatitis B virus is transmitted by blood transfusion, excepting for 5.6% of B.D.S 1st year students who did not know that the virus is transmitted by blood transfusion, which is significant at p= 0.001.(Table 3).

Almost all the study subjects reported that needle stick injury transmit the virus, excepting for 27.8% of B.D.S 1st year students and 8.4% of B.D.S 2nd year students said no regarding the same. While 7.1% of B.D.S. final year students who did not know that the needle stick injury transmitted the virus, which is significant at p <0.0001.(Table 4)

65.2% of the study population reported that they are aware of Personnel Protective Barriers, but it was very shocking to see that 34.8% of the study populations were unaware about it, which is significant at p < 0.0001. Although students were using Personnel Protective Barriers i.e. gloves, protective eyewear, and mask but a huge chunk of population didn't know that Personnel Protective Barriers can protect them from hazardous infection (Hepatitis B) [Table 5].

RESULTS

Table 1 showing distribution of the study subjects year wise.

YEAR of study	Frequency	Percent
1 BDS	108	25.1
2 BDS	83	19.3
3 BDS	48	11.1
Final BDS	112	26.0
Intern	80	18.6
Total	431	100.0

Table 2 showing awareness of Hepatitis B as a disease among dental students.

		Q1		Total
		Yes	Don't know	
1 BDS	Count	102	6	108
	% within Year Of Study	94.4%	5.6%	100.0%
2 BDS	Count	83	0	83
	% within Year Of Study	100.0%	0.0%	100.0%
3 BDS	Count	48	0	48
	% within Year Of Study	100.0%	0.0%	100.0%
4 BDS	Count	112	0	112
	% within Year Of Study	100.0%	0.0%	100.0%
Intern	Count	80	0	80
	% within Year Of Study	100.0%	0.0%	100.0%
Total	Count	425	6	431
	% within Year Of Study	98.6%	1.4%	100.0%
Chi square value				18.198
P value				0.001

Table 3 Showing transmission of Hepatitis B by blood transfusion.

		Q2		Total	
		Yes	Don't know		
Year of Study	1	Count	102	6	108
		%	94.4%	5.6%	100.0%
	2	Count	83	0	83
		%	100.0%	0.0%	100.0%
	3	Count	48	0	48
		%	100.0%	0.0%	100.0%
	4	Count	112	0	112
		%	100.0%	0.0%	100.0%
	5	Count	80	0	80
		%	100.0%	0.0%	100.0%
Total	Count	425	6	431	
	%	98.6%	1.4%	100.0%	
Chi square value		18.198			
P value		0.001			

Table 4 showing transmission of virus by a needle stick injury among dental students.

		Q3			Total	
		Yes	No	Don't know		
Year Of Study	1	Count	78	30	0	108
		%	72.2%	27.8%	0.0%	100.0%
	2	Count	76	7	0	83
		%	91.6%	8.4%	0.0%	100.0%
	3	Count	48	0	0	48
		%	100.0%	0.0%	0.0%	100.0%
	4	Count	104	0	8	112
		%	92.9%	0.0%	7.1%	100.0%
	5	Count	80	0	0	80
		%	100.0%	0.0%	0.0%	100.0%
Total	Count	386	37	8	431	
	%	89.6%	8.6%	1.9%	100.0%	
Chi square value		95.091				
P value		<0.0001				

Table 5 Showing awareness of Personnel Protective Barriers among dental students.

		Q4			Total	
		Yes	No	Don't know		
Year Of Study	1	Count	60	24	24	108
		%	55.6%	22.2%	22.2%	100.0%
	2	Count	45	31	7	83
		%	54.2%	37.3%	8.4%	100.0%
	3	Count	24	24	0	48
		%	50.0%	50.0%	0.0%	100.0%
	4	Count	96	16	0	112
		%	85.7%	14.3%	0.0%	100.0%
	5	Count	56	16	8	80
		%	70.0%	20.0%	10.0%	100.0%
Total	Count	281	111	39	431	
	%	65.2%	25.8%	9.0%	100.0%	
Chi square value		70.156				
P value		<0.0001, S				

DISCUSSION

This was a questionnaire study conducted to assess the knowledge regarding hepatitis B infection: its transmission, prevention and treatment in students of a dental college of Lucknow city. Hepatitis B virus afflicts greater than 300 million people globally and is known to be a common risk factor for liver mortality and morbidity⁽²⁾.

Dental students are people who are in constant touch with patients who can be infected also. Mostly the 1st and 2nd year dental students concentrate in pre clinical procedures. Their

exposure to patients begins in the 3rd year in both medical and dental subjects. Irrespective of spending such long clinical hours they are not being taught regarding this infection. There is hence a need to stress on enlightening the dental students regarding preventive measures in their institutional stay. This knowledge will better train the students to follow the same in clinical practice.⁽¹⁾

In the present study 94.4% of the 1st year dental students and 83.1% of 2nd year students were aware of hepatitis B transmission. A similar finding was noted in a study conducted by Bansal M et al who reported that 84.9% of the same had awareness regarding the spread of Hepatitis B virus.⁽⁴⁾

It is encouraging to note that all the 3rd year, final year and interns had knowledge regarding transmission of the disease, which is not similar to the study conducted by N.Swarnalata⁽⁵⁾ where in 72.3%, 85.4%, 88.4% & 87.5% of 1st year, 2nd year, 3rd year and final year nursing students reported with correct answers.⁽⁵⁾

The present study reported that 98.6% of the dental students were aware of Hepatitis B as a disease which is almost similar to the study conducted by Tirupati et al⁽⁷⁾ who reported 86.6% of aware students.

As per our study 82.1% of the study population reported that they got vaccinated against Hepatitis B which is almost similar to a study conducted by Anjali Singh et al (2012)⁽⁸⁾ who reported 63% of students were vaccinated against the disease. In a study conducted by Nazir Ibrahim and Amir Idris it was reported that only 21.88% of 1st year MBBS students were vaccinated against Hepatitis B virus which is contradictory to our study results.⁽⁹⁾

All the dental students should mandatorily get the vaccination done before beginning their course. It should be also made compulsory for the dentists to get Anti-HBS test results before beginning their practices.⁽¹⁾

The dental students are using Personnel Protective Barriers which is mouth mask, gloves and protective eyewear in clinics without knowing the importance of it. So the students should be made aware about Personnel Protective Barriers as they are standard precautions which minimize mucocutaneous exposures.⁽¹⁾

Studies have shown that the risk of exposure for general dentists is about three to four times greater and for non-immunized surgical specialists about six times greater than that of the general population. In the dental world, there are special circumstances and opportunities which can lead to the transmission of such viruses to dental healthcare professionals and to dental clinical students. So, to overcome this there should be regular continuing dental education (CDE) programs and workshops to be held so as to increase their awareness about hazardous diseases.^(1,2)

In endemic areas, where universal vaccination against Hepatitis B is not yet accessible, the spread of this disease continues to affect the residing population. So, it becomes the prime concern to make the vaccination available to all the individuals residing even in the outskirts of the geographic area. The use of vaccination should prevent neonatal transmission and

increasing use of suppressive therapies in order to completely eradicate the disease in another generation.⁽¹⁰⁾

The study is not without limitations. As the study was of questionnaire type the responses obtained can be either an over estimated or an underestimated score owing to the subjective bias. As the study was conducted in a smaller geographical area the study results needs to be assessed with caution when generalizing it to the dental student population. This could be overcome by conducting the study on a larger group and a larger geographical area.

Recommendations

1. Scientific sessions in the forms of CDE programs, seminars and workshop should be conducted on a regular basis regarding this issue in dental institutions
2. The curriculum needs to be re-framed to incorporate the basics of the topic.
3. Vaccination against this virus must be made mandatory for dental students before they begin their course.

CONCLUSION

The study depicted a satisfactory (98.6%) knowledge among dental students of the institution. Though a majority of the students (82.1%) had got themselves vaccinated, the future to curb hepatitis stands in vaccination. Hence students need to be educated and motivated to mandatorily get vaccinated before clinical exposure. Strict policies must be enforced for vaccination and Personnel Protective Barrier practices by the concerned regulatory bodies.

References

1. Mahesh R, Arthi C, Victor S, Kumar A.S. Hepatitis B infection awareness among dental graduate students: A cross sectional study. *International Scholarly Research Notices* 2014;1-6.
2. Pandharbale A.A, Gadgil M.R, Bhoosreddy R.A, Ahire S.B, Kunte R.V, Shinde R.M. An epidemiology study to assess the awareness of Hepatitis B infection in the dental students, college staff, practitioners, and auxiliary staff in city of Maharashtra. *Journal of Indian Association of Public Health Dentistry* 2015;13(2):179-182.
3. Liang J.T. Hepatitis B: The Virus and Disease. *Hepatology* 2009;49(5):1-11
4. Nagpal B., Hegde U. Knowledge, attitude and practices of hepatitis B infection among dental students. *International Journal of Medical Science and PublicHealth* 2016; 5(6):1123- 27.
5. Swarnalatha.N. Knowledge and Awareness about Hepatitis B among Nursing Students of Dhanalakshmi Srinivasan Nursing College, Tamil Nadu. *International Journal of Health Sciences & Research* 2014; 4(4): 9-15
6. Khan N, Ahmed M S, Khalid M M, Siddiqui H S, Merchant A A. Effect of gender and age on the knowledge, attitude and practice regarding hepatitis B and C and vaccination status of hepatitis B among medical students of Karachi, Pakistan. *J Pak Med Assoc* 2010;60(6):450-455.
7. Tripathi S. Hepatitis B awareness among the dental professionals, students and dental hygienists in a dental school- An epidemiological study. *Int J Contemp Dent* 2011;2(1):45-50.
8. Singh A, Jain S. Prevention of hepatitis B - Knowledge and practices among medical students. *Indian Medical Gazette* 2012:52-56
9. Ibrahim N, Idris A. Hepatitis B awareness among MBBS students and their vaccination status at Syrian Private University. Hindawi Publishing Corporation, *Hepatitis Research & Treatment* 2014.
10. Ocama P, Opio K.C, Lee.M W. Hepatitis B virus infection: Current status. *The American Journal of Medicine* 2005; 118.

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