(International Print/Online Journal)

SJIF IMPACT FACTOR: 5.565
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume 5, Issue 2, Page No: 829-835
March-April 2022

IJMSCR

Study Of Awareness Of Hbsag Among Dental Students, Auxiliaries And Faculty Members

[1] DR. Sangeeta Patil, [2] Dr Priya Joshi
[1] Lecturer, [2] Prof & HOD
Deparment of OP

***Corresponding Author:**
DR. Sangeeta Patil
Deparment of OP

Type of Publication: Original Research Paper
Conflicts of Interest: Nil

Abstract:
Viral hepatitis is an infection caused by any of the five distinct viruses: hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), hepatitis D virus (HDV) and hepatitis E virus (HEV).Hepatitis B is a major public health problem worldwide. At least one million people die from hepatitis in the world yearly, about 2 billion patients are suffering from hepatitis B and there are more than 350 million carriers in the world This study was conducted in the Department of Oral Pathology and Microbiology of the institution. The study group comprised of total 318 subjects, including under graduate students (N=174), interns (N=27), post graduate students (N=50), dental auxiliaries (N=16) and faculty members (N=51) of the institution.
Evaluation of knowledge and awareness of Hepatitis B among dental students, auxiliaries and faculty members done by questionnaire, a questionnaire containing 20 questions were distributed to 318 subjects and they were personally interviewed. The respondents were scored on the basis of correct answers and graded.
Faculty had most knowledge of HBV and it was the greatest among all the study groups. Post graduate students had highest awareness regarding the disease. First year BDS students and auxiliaries had poor knowledge and awareness of HBV infection. The faculty, post graduate students, interns and students studying in third and final BDS had better knowledge and awareness probably due to their exposure to clinical setting an effective nationwide vaccination programme on the lines of the Pulse polio programme if instituted would result in a better prophylaxis being extended to not only the dental professionals but also the auxiliaries.

Keywords: Viral hepatitis, virus, hepatitis B, HBsAg.

Introduction:

Viral hepatitis is an infection caused by any of the five distinct viruses: hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), hepatitis D virus (HDV) and hepatitis E virus (HEV). All these viruses can produce an acute illness characterized by nausea, malaise, abdominal pain, and jaundice. Although many of these acute infections are asymptomatic or cause only mild disease, many persons infected with HBV or HCV are unaware that they are infected. Both viruses can also produce chronic infections that often remain clinically silent for decades but has increasing risk for liver diseases and hepatocellular carcinoma[1].

Hepatitis B is a major public health problem worldwide. At least one million people die from hepatitis in the world yearly, about 2 billion patients are suffering from hepatitis B and there are more than 350 million carriers in the world. Hepatitis B prevalence is highest in sub-Saharan Africa and East Asia, where between 5–10% of the adult population is chronically infected. High rates of chronic infections are also found in the Amazon and the southern parts of eastern and central Europe. In the

Middle East and the Indian subcontinent, an estimated 2–5% of the general population is chronically infected. Less than 1% of the population in Western Europe and North America is chronically infected[2]. About 75% of carriers are found in Asia and India with prevalence rate of 2-8%.[3] India is placed in an intermediate HBV endemicity zone and India with 50 million cases is also the second largest global pool of chronic HBV infections. Among health care workers, sero-prevalence is two to four times higher than that of the general population[4]. However, the outcome of HBV infection depends on the result of dynamic interaction between the virus, hepatocytes and host response[5].

Transmission of the virus may also occur through the reuse of needles and syringes either in health-care settings or among persons who inject drugs. In addition, infection can occur during medical, surgical and dental procedures, tattooing or through the use of razors and similar objects that are contaminated with infected blood[2]. Most people do not experience any symptoms during the acute infection phase. However, some people have acute illness with symptoms that lasts several weeks, including yellowing of the skin and eyes (jaundice), dark urine, extreme fatigue, nausea, vomiting and abdominal pain. A small subset of persons with acute hepatitis can develop acute liver failure which can lead to death

Materials & Method:

Source of Data

This study was conducted in the Department of Oral Pathology and Microbiology of the institution. The study group comprised of total 318 subjects, including under graduate students (N=174), interns (N=27), post graduate students (N=50), dental auxiliaries (N=16) and faculty members (N=51) of the institution.

1. **Evaluation of knowledge and awareness of Hepatitis B among dental students, auxiliaries and faculty members**

A questionnaire containing 20 questions were distributed to 318 subjects and they were personally interviewed. Anonymity was maintained. Questionnaire consisted of 10 questions regarding personal HBV related history and knowledge (supplement 1 1) and 10 questions regarding awareness about HBV infection, vaccination and barrier methods (supplement 2). The Questionnaire was in a “closed ended” format.

Following scoring and grading criteria was used for evaluation of knowledge and awareness related questions. The respondents were scored on the basis of correct answers and graded according to the criteria given below:

Sr	SCORING CRITERIA	GRADING CRITERIA
1	2-Jan	Poor
2	5-Mar	Below average
3	7-Jun	Average
4	10-Aug	Good

Volume 5, Issue 2; March-April 2022; Page No 829-835

Respondents were provided with information brochure and fact sheet with correct answers (supplement 3) after completion of study.

Observations And Results:

This study was conducted in the Department of Oral Pathology and Microbiology of the institution. The study group comprised of 318 subjects including under graduate students, interns, post graduate students, dental auxiliaries and faculty members of the institution Out of these total 318 subjects,111 (34.9%) subjects were male and 207 (65.1%) subjects were female.

Table No.1
Descriptive Statistics Of Obtained Correct Answers Score

Descriptive Statistics		Correct Answers SCORE			
	N	Minimum	Maximum	**Mean**	**Std. Dev**
knowledge	318	3	10	7.8082	1.35649
awareness	318	1	10	7.5931	1.90145

After assessing the questionnaire it was observed that the minimum score obtained was 3 for HBV knowledge questionnaire and score 1 for awareness questionnaire. Maximum score obtained was 10 for both sections of questionnaire. Mean score was 7.8 and 7.5 respectively (Table 1).

Table No.2
Analysis Of Awareness Assessment Based On Scoring & Grading Criteria

STUDY GROUP	**AWARENESS ASSESSMENT GRADING**							
	POOR		BELOW AVERAGE		AVERAGE N		GOOD	
	N	%	N	%	N	%	N	%
1st YEAR	02	5	20	50	13	32.5	05	12.5

Volume 5, Issue 2; March-April 2022; Page No 829-835

N=40							
2nd YEAR N=43	00	0	07	16.2	16	37.2	20	46.5
3rd YEAR N=44	00	0	03	6.8	09	20.4	32	72.7
4th YEAR N=47	00	0	05	10.6	09	19.1	33	70.2
INTERNS N=27	00	0	01	3.7	07	25.9	19	70.3
POST GRADUATE S N=50	00	0	00	0	07	14	43	86
FACULTIY N=51	00	0	05	9.8	14	27.4	32	62.7
AUXILARIES N=16	04	25	02	12.5	03	18.7	07	43.7

Analysis of Awareness Assessment based on scoring & grading criteria

Among I BDS students (n=40), 2 students (5%) were found to have poor awareness regarding HBV, 20 students (50%) were found to have below average awareness regarding HBV, 13 students (32.5%) had average awareness while 5 (12.5%) students had good awareness about HBV.

Among II BDS students (n=43), 7 students (16.2%) were found to have below average awareness regarding HBV, 16 students (37.2%) had average awareness while 20 (46.5%) students had good awareness about HBV.

Among III BDS students (n=44), 3 students (6.8%) were found to have below average awareness regarding HBV while 9 students (20.4%) had average awareness and 32 students (72.7%) had good awareness about HBV. Among Final BDS students (n=47), 5 (10.6%) students had below average awareness, 9 students (19.1%) had average awareness while 33 (70.2%) students had good knowledge about HBV.

Interns (n=27), 1 intern (3.7%) had below average awareness, 7 (25.9%) had average awareness while 19 (70.4%) interns had good awareness about HBV.

Among post-graduate students (n=50), 7 students (14%) had average awareness while 43 (86%) students had good awareness about HBV.

Auxiliaries (n=16), 4 individuals (25%) had poor awareness, 2 (12.5%) were found to have below average awareness regarding HBV, 3 (18.7%) had average awareness while 7 (43.7%) had good awareness about HBV

Among participating faculty members (n=51), 5 members (9.8%) had below average awareness, 14 (27.4%) had average awareness while 32 (62.7%) had good awareness about HBV (Table2)

Volume 5, Issue 2; March-April 2022; Page No 829-835

Table No.3
Comparison Of Awareness Among Participants:

Group	N	Mean	Std. Dev.	SEM
I BDS	40	5.35	1.762	0.2786
II BDS	43	7.349	1.51	0.2303
III BDS	44	8.091	1.507	0.2272
Final BDS	47	7.936	1.524	0.2223
Intern	27	8.037	1.192	0.2295
Post Graduate	50	8.64	1.045	0.1478
Faculty	51	8	1.833	0.2567
Auxiliaries	16	6.125	3.052	0.7631
Test	**'F' Value**	**'p' Value**	**Statistically Significant**	
ANOVA	**17.47**	**0.000**	**Yes**	

Comparison of Awareness among participants:

Awareness was assessed within study groups and it is evident that post graduates (86%) and faculty (62.7%) had good awareness while 50% 1st year students had below average awareness and 25% auxiliaries had poor awareness. This difference is statistically significant at $p<0.05$ (Chi square test, $p=0.000$) (Table 3).

Awareness score of each study group was also compared using ANOVA test. Mean awareness score of Postgraduate students (8.64±1.045) was highest in all study groups while I BDS students (5.35±1.762) and auxiliaries (6.125±3.052) had low awareness scores. This difference is statistically significant at $p<0.05$. So Postgraduates have more awareness about HBV infections (Table 3)

Discussion:

Hepatitis B is a disease affecting a large population across the world. Dentists and health care providers are at a great risk of exposure to the virus and thereby contraction of the disease. It is imperative for individuals providing health care services to have knowledge regarding the disease, its spread and also awareness regarding the means of prevention of infection. Hence this study was conducted to assess the knowledge and awareness of dental students, auxiliaries and professionals.

The study group comprised of 318 subjects including under graduate students, interns, post graduate students, dental auxiliaries and faculty members of the institution.

A questionnaire of 20 questions was distributed to the participants. The score of the questionnaire was used to assess the knowledge and awareness amongst the study groups.

On statistical analysis of the data it was found that, the overall level of knowledge regarding viral hepatitis and its types among the various study groups is satisfactory. The level of HBV knowledge was good among III BDS students and the interns when compared to other undergraduate students. Amongst the study groups nearly 50% of auxiliaries and I BDS students had no knowledge of other types of Hepatitis. Bhansal M.et al[6] in their study on first year undergraduate dental students from three dental colleges found similar results, that first year undergraduate dental students were lacking in knowledge about Hepatitis. There is no formal school based health education for students in India and this may be considered as one of the important reasons for lower knowledge of Hepatitis B among I BDS students and auxiliaries.

The questionnaire on knowledge about the signs and symptoms of acute and chronic stages of HBV infection found 40% participants lacking knowledge regarding the same. Similar study done by Tripati S.et al[7] to evaluate the degree of awareness and knowledge of HBV in dentist, dental students and dental hygienists found similar results.

Volume 5, Issue 2; March-April 2022; Page No 829-835

The dental curriculum in India is such that, students enter clinical practice only in third year of study. In first two years they are trained in the basic medical sciences. When a student enters the third and final year they are exposed more to the clinical situations and

Complications and hence exhibit improved knowledge when compared to I and II year students. Nagpal B. et al[8] and Reddy S. et al[9] in their studies conclude that the level of awareness about Hepatitis B virus infection was less and many of the dental students and professionals did not receive hepatitis B vaccination. Since the students enter the clinics in the third year of study, proper immunization and education among them can minimize the early transmission of HBV among the dental students. According to our study, the level of knowledge and compliance with infection control measures was poor among the auxiliaries and pre-clinical students. This is in agreement with the study conducted by M. Monika Gayathri et al (2016)[10] who found satisfactory awareness regarding the same among students working in the clinics. Attributable reasons could be inadequate training for infection control measures and carelessness. Most of our students were aware of modes of spread of Hepatitis B infection. This finding is in accordance with the study by Singh and Jain[11].

According to a study by Khan et al[12] most of the medical students were unaware about post exposure prophylaxis [PEP for Hepatitis B] and its importance and our study contradicts the same.

The study highlights the need for implementing separate course in dental curriculum on communicable diseases in the first year of dental school. At the end of our study the students were given a lecture and demonstration on various universal precaution methods which they should follow when treating any patients. The students who were not vaccinated were referred for immediate vaccination schedule

Summary & Conclusion:

Hepatitis B infection poses a serious threat to the world population especially health care service providers due to the increased risk of exposure to infected individuals. It is imperative for dental professionals, students and auxiliaries to understand the modes of transmission and be aware of preventive measures available to avoid cross infection. Hence the study was undertaken to assess the knowledge and awareness of the aforesaid individuals regarding hepatitis.

Faculty had most knowledge of HBV and it was the greatest among all the study groups.

- Post graduate students had highest awareness regarding the disease.
- First year BDS students and auxiliaries had poor knowledge and awareness of HBV infection.
- The faculty, post graduate students, interns and students studying in third and final BDS had better knowledge and awareness probably due to their exposure to clinical setting.
- The students and faculty who were not vaccinated were recommended for immediate vaccination schedule.

It would be prudent to implement a stringent infection control protocol to curb the spread of Hepatitis B. However, it is also vital to ensure that both the dental professionals as well as support staff are well educated with regards to infection control guidelines and preventive measures against transmission of hepatitis B.

An effective nationwide vaccination program on the lines of the Pulse polio program if instituted would result in a better prophylaxis being extended to not only the dental professionals but also the auxiliaries.

Volume 5, Issue 2; March-April 2022; Page No 829-835

References:

1. Sulkowski MS, Ray SC, Thomas DL. Needle stick transmission of hepatitis C. JAMA 2002; 287: 2406 –2413.
2. Barker LF, Shulman NR, Murray R. Transmission of serum hepatitis. JAMA 1970; 276(10): 841-844.
3. Mahboobi N, Agha-Hosseini F, Mahboobi N, Safari S, Lavanchy D, Alavian SM Hepatitis B virus infection in dentistry: a forgotten topic. Journal of Viral Hepatitis 2010; 17:307–316.
4. World Health Organization (2000). Hepatitis B. WHO, Geneva (Fact sheet no. 204).
5. Hadziyannis E. Quantification of HBsAg in serum: characteristics of the assays. OA Hepatology 2013;Apr 01(1):1.
6. Ramkrishnana M, Arthi C, Victor S, Ashokkumar S. Hepatitis B Infection Awareness among Dental Graduate Students: A Cross Sectional Study. International Scholarly Research Notices 2014; 1-6. Hepacard Internet: www.jmitra.co.in
7. Tripati S, Kamala BK, Kiran K. Hepatitis B awareness among the dental professionals, students and dental hygienists in a dental school-An epidemiological study. IJCD 2011; 2(1):45-9.
8. Nagpal B, Hedge U. Knowledge, Attitude and Practises of Hepatitis B among dental students. Int J Med Sci Public Health 2016; 5(6):1-5
9. Reddy RS, Swapna LA, Ramesh T, Pradeep K. Knowledge, attitude and practice on hepatitis B prevention among dental professionals in India. Braz J Oral Sci. 10(4):241-245.
10. M. Monika Gayathri et al. Knowledge, Awareness and Attitude among Dental Students about Hepatitis B Infection al /J. Pharm. Sci. & Res. Vol. 8(3), 2016, 168-170.
11. Singh A, Jain S. Prevention of hepatitis B; knowledge and practices among medical students. Health line. 2011;2(2):8–11.
12. Khan N, Ahmed SM, Khalid MM, Siddiqui SH, Merchant AA. 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.

Volume 5, Issue 2; March-April 2022; Page No 829-835