

Original Research Article


# Assessment of knowledge, attitude and practice about Hepatitis B among medical students in an urban area of Kanchipuram: A cross sectional study

Abhinav Agarwal<sup>1\*</sup>, J.E. Jeffin Shanu<sup>2</sup>, Shankar K<sup>3</sup>

<sup>1</sup>Postgraduate, <sup>2</sup>Postgraduate, <sup>3</sup>Professor

Department of Community Medicine, Meenakshi Medical College and Research Institute, Kanchipuram, Tamil Nadu, India

\*Corresponding author email: [yankyabhi008@gmail.com](mailto:yankyabhi008@gmail.com)

	International Archives of Integrated Medicine, Vol. 5, Issue 4, April, 2018. Copy right © 2018, IAIM, All Rights Reserved. Available online at <a href="http://iaimjournal.com/">http://iaimjournal.com/</a>	
	ISSN: 2394-0026 (P)	ISSN: 2394-0034 (O)
	Received on: 15-03-2018	Accepted on: 22-03-2018
	Source of support: Nil	Conflict of interest: None declared.
<b>How to cite this article:</b> Abhinav Agarwal, J.E. Jeffin Shanu, Shankar K. Assessment of knowledge, attitude and practice about Hepatitis B among medical students in an urban area of Kanchipuram: A cross sectional study. IAIM, 2018; 5(4): 17-22.		

## Abstract

**Background:** Hepatitis B is a global public health problem that causes chronic liver disease and death due to Cirrhosis of liver and Hepatocellular carcinoma. Prevalence of Hepatitis B is increasing in developing countries and there is a paucity of information among medical students regarding its transmission and vaccination. Scientific knowledge regarding the same is necessary for medical students for taking protective measures as Hepatitis B is highly communicable.

**Aim and objectives:** To evaluate Knowledge, Attitude and Practice (KAP) among medical students towards HBV and correlate the level of awareness with the attitude they behold towards the disease, its transmission and prevention and to determine the vaccination status for Hepatitis B among medical students.

**Materials and methods:** Cross sectional study where a total of 200 subjects including House surgeons were interviewed using a validated structured questionnaire

**Results:** A total of 145 (72.5%) students were completely vaccinated with HBV vaccine. Among these, preclinical students were 76 (38 %) and clinical 69 (34.5%) in number. Around 96(48%) students felt they would not get Hepatitis B infection while 26(13%) thought Hepatitis B is self-curable by the body. Students having good knowledge regarding HBV were 86 (43%), good attitude towards HBV were 125 (62.5%) and 145 (72.5%) followed good practice for HBV prevention.

**Conclusion:** This study showed fairly moderate outcomes with important gaps. Lack of vaccination of all the students makes them vulnerable to liver disease. It is mandatory that they be fully vaccinated prior to their entry into professional practice. In spite of having good knowledge, their practice for prevention was not satisfactory.

## Key words

KAP, Hepatitis B, HBV vaccination, Medical student, Transmission.

## Introduction

Hepatitis B is a global public health problem that causes chronic liver disease and death due to Cirrhosis of liver and Hepatocellular carcinoma [1]. Among the health care personnel, HBV is transmitted by prick of infected, contaminated needles and syringes in the skin or through accidental inoculation of the minute quantities of blood during surgical and dental procedures [2]. Medical students being part of the health care delivery system are exposed to the same too . WHO suggested in 1991 that all children should receive the vaccine and 116 countries have added this vaccine to their routine immunization [3]. Despite increasing prevalence of Hepatitis B among developing countries, there is paucity of information on the Knowledge, Attitude and Practice (KAP) among medical students with regards to Hepatitis B regarding its transmission and vaccination [4]. Scientific knowledge regarding Hepatitis B virus (HBV) transmission is essential for medical students to take proper protection during their clinical postings as transmission of HBV is 50 times higher than HIV [5]. Improved HBV related knowledge is imperative for developing an informed environment which can import and support Good Clinical Practices of HBV control [6]. The purpose of this study is therefore to determine knowledge of the HBV vaccine, frequency of vaccination, and understanding of risk factors for HBV infection among medical students attending tertiary care hospitals in Kanchipuram city.

## Materials and methods

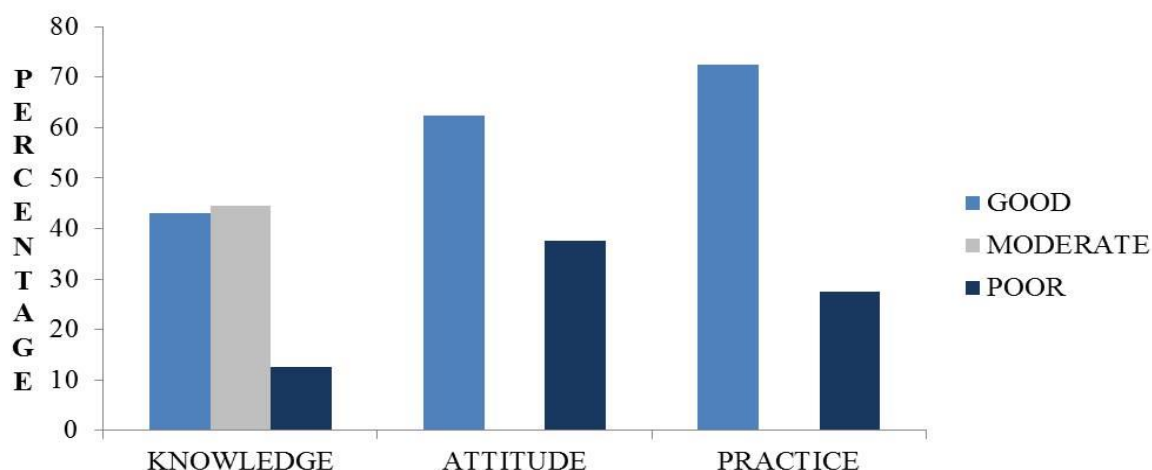
The medical curriculum in Universities across Tamil Nadu spans over a period of five years.

From 2<sup>nd</sup> year onwards, students begin their clinical rotation at majority of the institutions. Therefore a cross-sectional study was conducted amongst 200 students belonging to the 2<sup>nd</sup>, 3<sup>rd</sup> (Part 1) and 4<sup>th</sup> (Part 2) year students and the CRRI's from a Medical College in Kanchipuram, Tamil Nadu, India. Students were selected by Simple Random sampling with equal proportion from all four categories. After getting written informed consent, A pretested structured, validated questionnaire was administered during a 2 week period in October 2017 to collect the Knowledge, Attitudes and Practices of students regarding Hepatitis B. The first questions were related to socio-demographic characteristic; vaccination status and duration of experience in medical field; the second was designed to test participants' knowledge about the basic knowledge, symptoms and signs; risks of acquiring and/or transmitting HBV from/to a patient, treatment, vaccination and precautions for prevention; the third and fourth sections contained questions related to participants' attitudes toward perception of the risk of acquiring HBV infection and practice of precaution respectively. Data was entered and analysed using SPSS version-18. Pearson Chi Square was used to find the association and a p value of  $\leq 0.05$  was regarded to be statistically significant.

## Results

This study revealed the Knowledge of students regarding transmission of Hepatitis-B was good in 86(43%) of students while the corresponding numbers for Good attitude and practice were 125 and 145 respectively (**Figure – 1**).

**Figure - 1:** Knowledge, Attitude and Practice of Students with regards to transmission and prevention of Hepatitis-B infection.



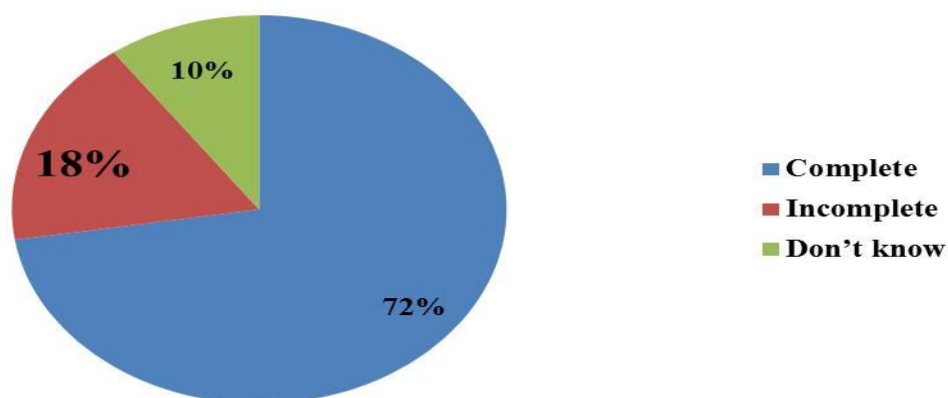
**Table - 1:** Knowledge, Attitude and Practice of Students with regards to transmission and prevention of Hepatitis-B infection across years of the course.

Variable		2 <sup>nd</sup> Year		3 <sup>rd</sup> Year		4 <sup>th</sup> Year		CRRI		Chi -square
		No	%	No	%	No	%	No	%	
Knowledge	Good	20	40%	21	42%	23	46%	22	44%	$X^2 = 0.327$ $P > 0.05$
	Moderate	24	48%	22	44%	17	34%	26	52%	
	Poor	6	12%	7	14%	10	20%	2	4%	
Attitude	Good	30	60%	32	64%	29	58%	34	68%	$X^2 = .021$ $P > 0.05$
	Poor	20	40%	18	36%	21	42%	16	32%	
Practice	Good	39	78%	38	76%	35	70%	33	66%	$X^2 = 2.031$ $P > 0.05$
	Poor	11	22%	12	24%	15	30%	17	34%	

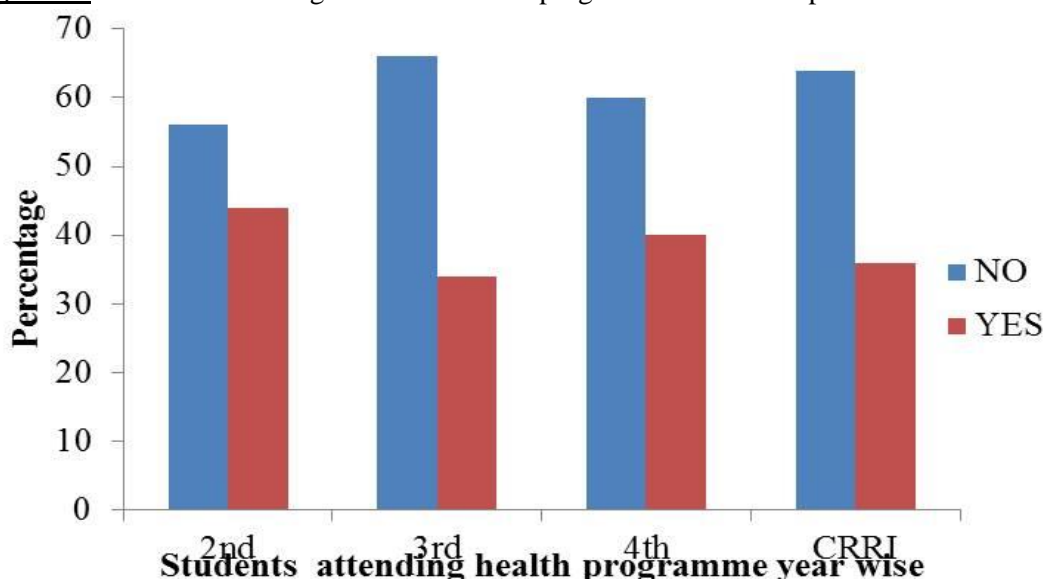
#### Scoring chart details

	Total No of Question	Good	Moderate	Poor
Knowledge	18	>15	11- 15	<4
Attitude	6	4 -6	-	<4
Practice	6	4- 6	-	<4

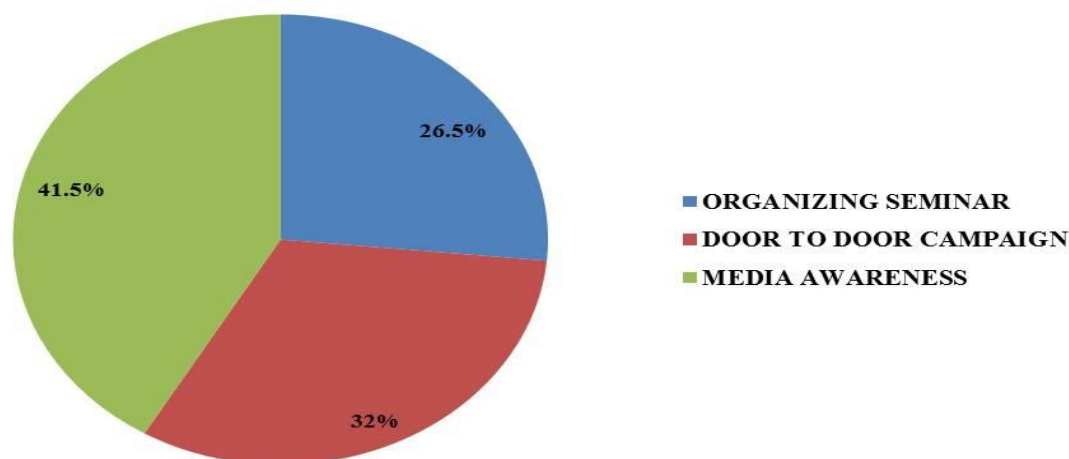
**Figure - 2:** Hepatitis-B Virus (HBV) Vaccination status among Students.



**Figure - 3:** Students attending Health education programs related to Hepatitis B.



**Figure - 4:** Techniques advocated by Students for spreading awareness about Hepatitis B among the general population.



Good knowledge levels were higher among the Final Year students and CRRIs, which is to be expected as they had accumulated the same over the duration of the course ( $X^2 = 0.327, P > 0.05$ ). Practice of Universal precautions against transmission of Hepatitis-B however showed a falling trend ( $X^2 = 2.031, P > 0.05$ ) as the years progressed as shown in **Table - 1** which is worrying as it is at this point of time their contact with the patients is likely to increase.

A total of 145(72%) students were completely vaccinated with the HBV vaccine among whom

Preclinical students were 76 (52 %) and Clinical 69 (48%) in number as shown in **Figure - 2**.

Creating awareness about the disease especially with regards to its clinical features, modes of spread, when and where to seek appropriate care and most importantly how to prevent the same are very important. In this regards, attending Educational programs, CMEs, Conferences etc. with regards to Hepatitis-B play a key role in the career of medical students. **Figure - 3** below, however shows a decline in the percentage of students attending such programs as they

progress into the later years of the medical curriculum with almost 64% CRRIs missing such programs as opposed to only 44% of 2<sup>nd</sup> Year students. This may be due to the tight working schedule of the former but nevertheless needs to be overcome.

Creating awareness about the disease in the society is the key to disease prevention in the general population as it acts as a primary prevention against the disease. Students were asked about what they thought would be the most effective way of spreading information about Hepatitis-B prevention in the society and their responses are shown in **Figure - 4**. While 83(41%) felt creating awareness via Mass media was the best way to go about it, another 64(32%) felt organizing door to door campaigns would yield better results.

## **Discussion**

Hepatitis B is a major health problem globally casting an enormous burden on the health care system. Exposure to blood-borne pathogens such as Hepatitis-B, Hepatitis-C and HIV infections remain a significant occupational hazard to Health care workers, especially in developing countries where this infection has high prevalence.

Knowledge regarding Hepatitis B virus and mode of spread was good among 43% of the students in this study while the figures for other similar Indian studies varied between 59% in a study carried out in Jaipur by Baig VN, Gupta PK, et al. [7] to as high as 87% in the study done by Anjali Singh, Shikha Jain in Ahmedabad [2]. This highlighted the need for the students be taught the same in a more comprehensive manner. The fact that knowledge levels were higher among the Final Year students and CRRIs, was to be expected as they had accumulated the same over the duration of the course. This study also showed nearly 72% of the students had taken protective measures against the spread of HBV infection by HBV vaccination as opposed to only 57% vaccination in the study

by Velvizhi G et al in Tirunelveli, Tamil Nadu [8] while Reang T, Chakraborty T [9] put the same as high as 85% among the Interns interviewed as part of their study.

During the course of the study many misconceptions regarding Hepatitis B was noted among the students especially with regards to its spread which included its likely spread by sharing food with patients, consuming foods prepared by Hepatitis-B infected individuals etc. It was reinforced that the disease shall spread only through blood and blood products and was not food borne. Awareness was raised among medical students to keep updating their clinical knowledge on the subject by attending CME, Conferences etc. and also educating the general public regarding the same through mass media and door to door campaigns [10].

## **Conclusion**

This study showed fairly moderate outcomes with important gaps to be addressed. Lack of vaccination among the students makes them vulnerable to Hepatitis-B infection. In spite of having good knowledge, their practice for prevention was not satisfactory. Our data demonstrated that trainees in health profession are at a very high risk of contracting HBV infection during their training owing to low Hepatitis-B vaccine uptake rate and high rate of accidental exposure to blood. Thus, we recommend that all students in the health care profession should be vaccinated prior to their entry into professional practices.

## **Acknowledgement**

We thank to the participants without whom this study would not have been possible.

## **References**

1. Park J.E., Park K - Text Book of Preventive and Social Medicine, 19<sup>th</sup> Edition, M.S. Banarsidas Bhanot, Jabalpur, 2007, 267.
2. Singh A, Jain S. Prevention of Hepatitis B-Knowledge and Practices Among

- Medical Students. Indian Medical Gazette, February 2012; 52-56.
3. World Health Organization (2011) Hepatitis B. Fact sheet no: 204. Available: <http://www.who.int/mediacentre/factsheets/fs204/en> Accessed 2015 July 06
  4. Siraj F, Fareed P, Mahajan N. Assessment of knowledge attitude and practice towards hepatitis B among health care workers in a tertiary care hospital. Int J Reprod Contracept Obstet & Gynecol., 2016; 5: 58-61.
  5. Nazeer Khan, Sheikh Munir Ahmed, Muhammad Masood Khalid, Sarah Hasan Siddiqui, Ayesha Altaf Merchant. 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. JPMA, 2010.
  6. Setia S, Gambhir RS, Kapoor V, Jindal G, Garg S, Setia S. Attitudes and awareness regarding Hepatitis B and Hepatitis C amongst health-care workers of a tertiary Hospital in India. Ann Med Health Sci Res., 2013; 3: 551-8.
  7. Baig VN, Gupta PK, Sharma AK, Swarnkar M. Assessment of Knowledge, Attitude and Practice about Hepatitis B among Clinicians & Medical Students: A Cross Sectional Study. Ntl J of Community Med., 2015; 6(3): 415-422.
  8. Velvzhi, G., K. Senthil, G. Sucilathangam, Revathy C. 2016. Knowledge and Attitude of Medical Students towards Hepatitis B Infection. Int. J. Curr. Microbiol. App. Sci., 2016; 5(6): 570-576.
  9. Reang T, Chakraborty T, Sarker M, Tripura A. A study of knowledge and practice regarding Hepatitis B among nursing students attending tertiary care hospitals in Agartala city. Int J Res Med Sci., 2015; 3: 1641.
  10. Taneja N, Biswal M. Rapid Assessment of Hepatitis B Vaccine Introduction in India. Proposal for INS support: India-GAVI Alliance. 2004. Aug 1st-6th, Last accessed on 2013 Sep 10. [www.gavialliance.org/country/india/documents](http://www.gavialliance.org/country/india/documents)