

## Awareness and Vaccination Status on Hepatitis B among First Year Medical Students

\*Sadanandam Pulluri<sup>1</sup>, Anil Moluguri<sup>2</sup>, Rajamouli J<sup>3</sup>, Aswan Gaddala<sup>4</sup>

Department of Community Medicine, Chalmeda Anand Rao Institute of Medical Sciences

Telangana, India

Correspondence author: Dr. Sadanandam Pulluri

### Abstract

**Introduction:** Hepatitis B infection is a potentially life-threatening liver infection caused by the Hepatitis B virus (HBV). In 2015, Hepatitis B infection resulted in 8, 87,000 deaths in the world. Percutaneous exposure to infectious diseases is commonly reported among health care providers. The present aim of the study is to evaluate awareness and vaccination status on hepatitis B among first year medical students.

**Material and Methods:** A cross-sectional study was done from November to December 2016, among first year MBBS students taken admission in the academic year 2016-2017. All the first year MBBS students who were present in the community medicine theory class on the day of data collection were included in the study. Data was collected by a pre-structured questionnaire and analysed with MS excel 2007.

**Results:** A total sample of 147 was taken, of which females are (86)59%, males are (61) 41% and mean age of the sample is 18 years. 87% of the students know the causative agent of Hepatitis B infection. Organ involvement is known by 93% of students. Regarding route of transmission, students answered as parenteral 65% (96), sexual 68% (100), MSM 65% (96) and tattooing 54% (79). Knowledge on route of administration of vaccine is oral 7% (11), intradermal 44% (64), subcutaneous 19% (28) and intramuscular 30% (44). Vaccination status is found to be very low 42%.

**Conclusion:** Awareness regarding various aspects of Hepatitis B infection is inadequate. Vaccination status is very poor. All the students who are not vaccinated must be vaccinated before their clinical exposure.

**Keywords:** Hepatitis B infection, Vaccination, MBBS

Date of Submission: 27-09-2017

Date of acceptance: 10-10-2017

### I. Introduction:

Hepatitis B is a potentially life-threatening liver infection caused by hepatitis B virus (HBV). It is a major global health problem. It can cause chronic infection and puts people at high risk of death from cirrhosis and liver cancer. An estimated 257 million people are living with hepatitis B virus infection. In 2015, hepatitis B resulted in 8,87, 000 deaths, mostly from complications. Hepatitis B is an important occupational hazard for health workers<sup>1</sup>. However, it can be prevented by currently available safe and effective vaccine. Hepatitis B vaccine was introduced in India in the year 2008<sup>2</sup>. In fact HBV infection is more dangerous compare to HIV infection vis-à-vis occupational exposure is due to the fact that its transmission rate after percutaneous exposure to blood is much higher (about 50%) than that of HIV<sup>3</sup>. The present aim of the study is to find out the vaccination status among first year students and their awareness and vaccination status.

### II. Material and Methods

A cross sectional study was carried from November 2016 to December 2016, among all the first year students who have attended community medicine theory class and who have given consent for the study were included. Pre-designed and pre- tested questionnaire was given to 147 students .All the questions were answered and data was entered in Microsoft excel 2007 and analyzed.

### III. Results

A total of 147 students participated in the study. The mean age of the students is 18 years; females were 59% (86) and males 41% (61).

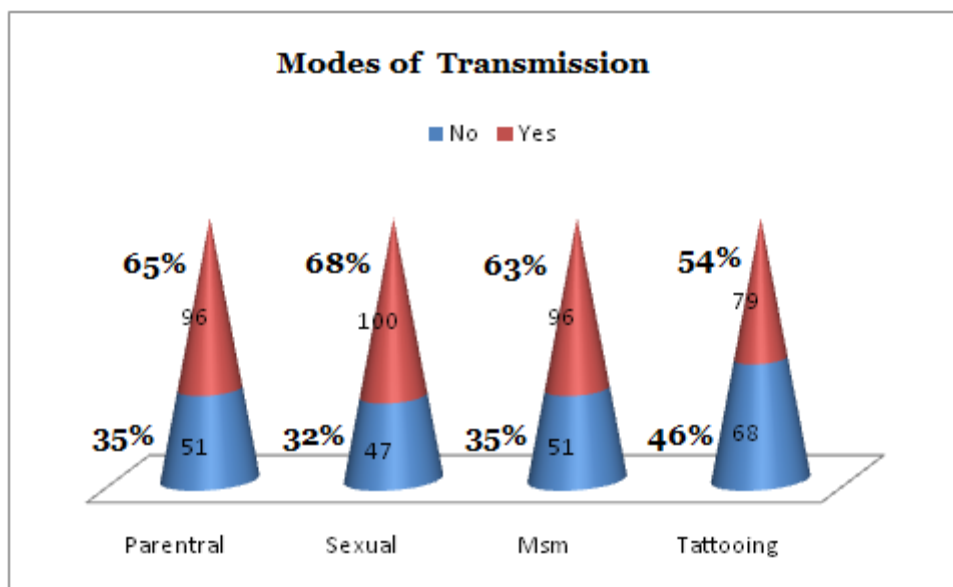
#### Distribution of study subjects

Gender	Frequency	Percentage
Female	86	59
Male	61	41
Total	147	100%

Students from rural background are 20% (29) and 80 % (115) are from urban area . Out of 147 students, (128) 87% students are aware that Hepatitis is caused by Hepatitis B virus, but still there is lack of knowledge in (19) 13% students about causative organism.

**Knowledge about Hepatitis B disease**

Variable	Frequency	Percentage
People at risk	86	59%
Organ affected (Liver)	136	93%
Causative organism	128	87%



Regarding modes of transmission, an average of 63% of the sample are aware about different types of transmission; whereas 37% of the students are not aware.

Total of (136) 93% students are aware about involvement of the organ, i.e. liver.

Out of 147 students, only (70) 48% of the students are vaccinated, and the rest (77) 52% students are not vaccinated, and those who are vaccinated are completely vaccinated.

In my study 29% (20) of the students from rural and 71 % ( 50) from urban area are vaccinated and there is an association between residence and vaccination status, Where P = 0.010

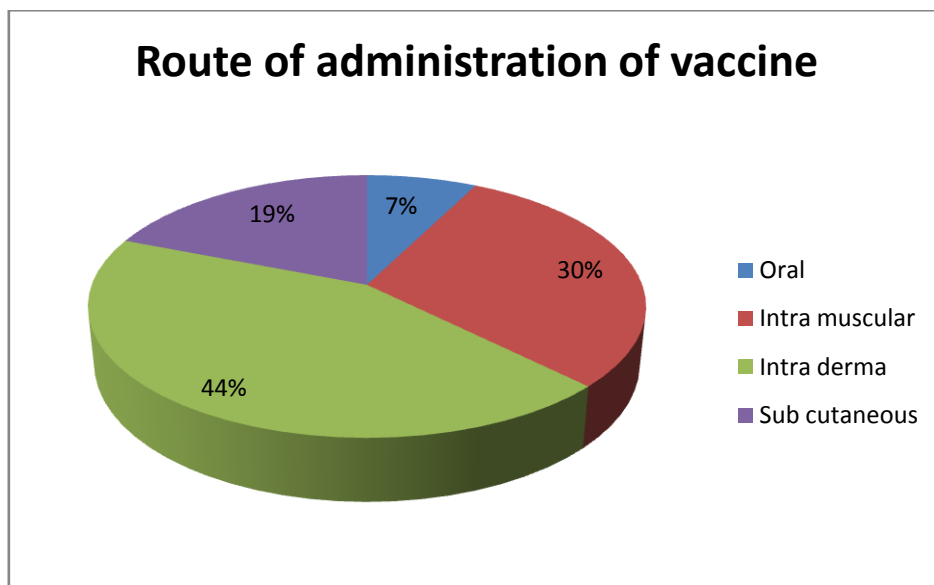
Residence	Vaccination status		
	Yes	No	Total
Rural	20	9	29
Urban	50	68	118
Total	70	77	147

Awareness regarding the organ involvement is quite high i.e., 93% (136) of students are aware of the organ involvement, whereas 7% (11) students are not aware about the organ involvement. Causative organism is known to 87% (128) students, whereas 13% of the students are not exactly aware about causative organism.

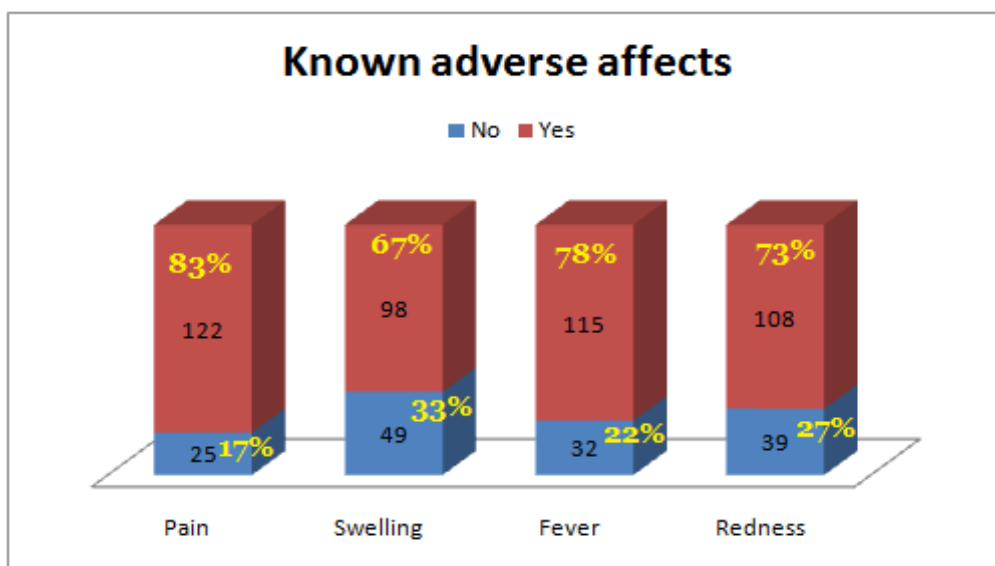
Needle prick injuries are important occupational health hazards, 59% (86) students are aware that people at risk, such as doctors, nurses and lab technicians are more prone for needle prick injuries, whereas 41% (61) are not aware of who are at risk for Hepatitis B infection.

**Awareness about route of administration of vaccine**

Route	Frequency	Percentage
Oral	11	7%
Intra muscular	44	30%
Intra dermal	64	44%
Sub cutaneous	28	19%
Total	147	100%



An overall, 75% of the students are aware about adverse affects. 83% (122) of the students answered pain as adverse affect, swelling 67%(98), Fever 78%(115) and redness 73% (108).



#### IV. Discussion

In my study most of the students are aware about the mode of transmission, but still few students lack the awareness about the disease and its complications, and it shows that vaccination status is high in urban students compared to rural student's i.e.,  $P < 0.05$ . Similar study done by Giri MR et al, showed a better vaccination status which is 51%<sup>4</sup> compared to 48% in my study. A similar study done by Anjali Sing and Shikha Jain among medical students shows 63% were vaccinated<sup>5</sup>. Another study done by Nazir Ibrahim and Amir Idris among first year MBBS shows a very low vaccination status of 21.88%<sup>6</sup> and study by Singh et al among medical students very high vaccine status of 80%<sup>7</sup>. Paul P and Arumugam B conducted a study at kakinada where vaccination status among medical students is 57%<sup>8</sup>. Lahore Medical & Dental college, Pakistan, the vaccination status against hep-B was 66%<sup>9</sup>.

#### Results of related studies

Studys	Vaccination status
My study	48% with complete vaccination
Giri MR et al	51% with 15.17% incomplete vaccination
Anjali Singh & Shikha Jain	63%
Nazir Ibrahim & Amir Idris	21.88%
Singh et al	80%
Paul P and Arumugam B	57%
Lahore Medical & Dental College Pakistan	66%

## **V. Conclusion**

There is lack of knowledge among first year MBBS students regarding various aspects of Hepatitis B infection and its professional hazards. Very few students are vaccinated, and most of the students need to be vaccinated as early as possible before their clinical exposure. Hepatitis B vaccine was introduced in India in the year 2008. This was one of the important reasons for the very low vaccination status, but since needle prick injuries and occupational hazards are very common in hospitals. All the first year students need to be vaccinated.

## **References**

- [1]. <http://www.who.int/mediacentre/factsheets/fs204/en/>
- [2]. Lahariya C, Subramanya B P, Sosler S. An assessment of hepatitis B vaccine introduction in India: Lessons for roll out and scale up of new vaccines in immunization programs. *Indian J Public Health* 2013;57:8-14
- [3]. Center for Disease Control and prevention, Summary of Notifiable disease, United States, Morbi Mortal wkyly Report. 1997;45:74-9.
- [4]. Giri MR, Panda JK, Sahoo AK. Hepatitis B awareness and vaccination status among first year medical students. *Int J Community Med Public Health* 2016;3:530-2.
- [5]. Singh A, Jain S. Prevention of hepatitis B-Knowledge and practice among MBBS students. *Indian Medical Gazette*. 2012;52-6.
- [6]. 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.
- [7]. Singh SP, Mishra GC, Mittal AK. Hepatitis B vaccination among Medical College students: Results of a survey. *Indian J Gastroentrol*. 2000;19:33-4.
- [8]. Paul P, Arumugam B. Knowledge and awareness regarding hepatitis B infection among medical and dental students: a comparative cross sectional study. *Int J Res Med Sci*. 2015;3:2352-6.
- [9]. Hepatitis B prophylaxis practice among medical students:An overview. Available at <http://www.hepatitisbannual.org>.

\*Sadanandam Pulluri. "Awareness and Vaccination Status on Hepatitis B among First Year Medical Students." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)* 16.10 (2017): 90-93