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KNOWLEDGE, ATTITUDE AND PRACTICE OF HEPATITIS-B VACCINATION AMONG THE MEDICAL FACULTY OF A TEACHING HOSPITAL, AURANGABAD

General Medicine

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ABSTRACT

Infection with hepatitis B virus can cause both acute and chronic liver disease. The virus can be transmitted through contact with blood or other body fluids of an infected person. All over the world, approximately 257 million people have been infected with hepatitis B virus (HBV). In 2015, hepatitis B resulted in 887000 deaths, mostly from HBV – related cirrhosis or Hepatocellular Carcinoma. In present study we assess the Knowledge, Attitude and Practice of Hepatitis B Vaccination among the medical faculty of MGM Medical College and Hospital, Aurangabad, Maharashtra. The present cross sectional Observational study among the medical faculty of MGM Medical College, Aurangabad, India. The study was conducted during 1st Jan 2018 to 31st Oct. 2018. In the present study 160 medical faculties were enrolled. A pre-structured questionnaire was developed consisting of the participant's socio-demographic characteristics, vaccination status, barriers for immunization and basic awareness regarding HBV transmission. Out of 160 participants, 86 (53.7%) were males and 74 (46.2%) were females. Maximum participants were from age group of 31-40 years (45.6%).134 (83.7%) participants had been vaccinated against HBV. Out of total 160 participants, 92 (57.5%) had good awareness score of Hepatitis B vaccination and only 3 (1.9%) participants had poor awareness. The continued efforts are needed to increase awareness and vaccination coverage among medical professionals. The importance of doing anti Hbs titre after complete vaccination needs to be imposed upon the medical professionals for protection against accidental needle stick injuries.

KEYWORDS

Hepatitis-B, vaccine, cirrhosis, Hepatocellular Carcinoma, Anti HBS titre

INTRODUCTION

Infection with hepatitis B virus can cause both acute and chronic liver disease. The virus can be transmitted through contact with blood or other body fluids of an infected person. All over the world, approximately 257 million people have been infected with hepatitis B virus (HBV). In 2015, hepatitis B resulted in 887000 deaths, mostly from HBV – related cirrhosis or Hepatocellular Carcinoma [1].

Transmission of the virus through accidental inoculation of minute amount of blood or fluid during medical, surgical and dental procedures has been a common route for HBV transmission. Health Care personnel (HCP) like doctors, nurses, lab technicians are at high risk for HBV infection. WHO statistics states that around 5.9% of HCP are exposed to blood borne HBV infection yearly. Among them around 66000 HCP developed infection worldwide. 40-60% of HBV infection in HCW in developing countries like India are due to percutaneous occupational exposure (2). Hepatitis B can be prevented by safe and effective vaccination. The vaccine is 95% effective in preventing acute and chronic infection due to hepatitis B (3). Despite being highly vulnerable to HBV infection, hospital personnel across India have insufficient knowledge regarding HBV transmission and prevention. Indian statistics suggest that 16-60% of HCP have received complete Hepatitis B vaccination (4).

This study was planned to assess the knowledge of transmission and prevention of HBV infection and hepatitis B vaccination status among medical faculty at a tertiary care hospital and medical college in western India.

The aim of the study is to assess the Knowledge, Attitude and Practice of Hepatitis B Vaccination among the medical faculty of MGM Medical College and Hospital, Aurangabad, Maharashtra.

The objectives of the study include :

1) To assess the awareness regarding Hepatitis B transmission and its prevention among the medical faculty at a teaching hospital.
2) To analyse the reasons behind non-vaccination among the medical faculty.
3) To know awareness about the significance of Anti Hbs Titre among the medical faculty.

MATERIALS & METHODS

The research design selected for this study is cross sectional Observational study conducted among the medical faculty of MGM Medical College, Aurangabad, India. The study was conducted during 1st Jan 2018 to 31st Oct. 2018. The population for this study includes all medical faculties of MGM Medical College & Hospital, Aurangabad City, [MS], India. In the present study 160 medical faculties were enrolled.

Approval for the study was obtained from the Institutional Ethical Committee of MGM Medical College and Hospital, Aurangabad.

The subjects were fully informed about the design, aim and objectives of the study. A written informed consent was taken from each participant and anonymity of the participants was maintained throughout the study. A pre-structured questionnaire was developed consisting of the participant's socio-demographic characteristics, vaccination status, barriers for immunization and basic awareness regarding HBV transmission.

The collected data was compiled in MS-Excel Sheet. For analysis of this data SPSS version 22nd was used. Qualitative data was represented in form of frequency & percentages.

RESULTS

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS:

Particulars		No. of participants	Percentage
Age-Group	≤30 years	12	7.50%
	31—40 years	73	45.6%
	41—50 years	48	30.0%
	51—60 years	16	10.0%
	>60 years	12	7.50%
Gender	Male	86	53.7%
	Female	74	46.2%
Clinical	Clinical	131	81.9%
	Non-clinical	29	18.1%
Professional Experience	≤ 5 years	36	22.5%
	6-15 years	67	41.9%
	16-25 years	34	21.2%
	>25 years	23	14.4%

Out of 160 Health Professionals included in the study, 86 (53.7%) were males, 74 (46.2%) were females. Maximum participants were from age group of 31-40 years (45.6%). About 57(35%) participants had more than 15 years of experience in their respective field. Out of the study participants, 131 (81.9%) were stratified as clinicians who have direct contact with patients on a day-to-day practice and 29 (18.1%) as non-clinicians.

TABLE 2: VACCINATION STATUS

Particulars		No.	Percentage
Your hepatitis B status	Positive	00	00%
	Negative	160	100%
Vaccinated against Hep B Virus	YES	134	83.7%
	NO	26	16.3%
If vaccinated approximate years of vaccination [n=134]	≤1 year	14	10.4%
	2—5 years	53	39.6%
	≥6years	67	50.0%
No of doses [n=134]	One	01	0.8%
	Two	13	9.7%
	Three	120	89.5%
Not vaccinated specify why [n=26]	Lack of time	07	26.9%
	Inertia	03	11.5%
	Not at risk	08	30.8%
	Fear of side effect	01	3.8%
	Other	07	26.9%
Taken Booster dose [n=134]	YES	26	19.4%
	NO	108	80.6%
Aware of our Anti HBS Titre [n=134]	YES	07	5.2%
	NO	127	94.8%
Mention titre of Anti HBS [n=07]	Protected	04	57.14%
	Non protected	03	42.86%

All participants (100%) reported that their HBsAg status was negative. 134 (83.7%) participants had been vaccinated against HBV. 120 (89.5%) of them had been fully vaccinated while remaining 14 (10.5%) were partially vaccinated. 67 (50%) participants were vaccinated more than 6 years ago. Out of 134 participants 26(19.4%) had taken a booster dose of Hep B vaccine.

BARRIERS AGAINST IMMUNIZATION:

It has been found that 89.5% participants were vaccinated completely against the Hepatitis B either by self or by the hospital. About 16.3% (26) were aware about vaccination against HBV but did not take any preliminary dose because of lack of time (26.9%) or inertia (11.5%) or feeling of not at risk (30.8%) or fear of side effects (3.8%) or others (26.9%) like negligence, lack of compliance, lack of motivation.

TABLE 3: AWARENESS SCORE:

Awareness score	No. of participants	Percentage
Poor (≤10)	03	1.9%
Average (11-15)	65	40.6%
Good (>15)	92	57.5%
Total	160	100%

Out of total 160 participants, 92 (57.5%) had good (>15) awareness score of Hepatitis B vaccination and only 3 (1.9%) participants had poor awareness.

Most of the participants were aware about contagious nature of hepatitis B (92 %) and about the risk of transmission through needle stick injury (97%) and through iatrogenic procedures like colonoscopy, endoscopy tools (74%).

Around 61 % of the participants were aware about the need for pre-exposure prophylaxis with vaccine, whereas need for post-exposure prophylaxis was appreciated by 95 % of medical faculty.

Around 45 % participants nurtured the misconception that Hepatitis B vaccination is contra-indicated in immunocompromised patients, pregnant women and newborn children.

81.88 % medical faculty felt the need for booster dose of vaccine. 43% felt that the vaccine induced immunity lasted for 15 years.

The awareness regarding need for anti HbS titre after vaccination was quite low – 54.37 %

63.75 % of faculty had awareness about the need for pharmacological treatment after needle stick exposure to Hepatitis B, but the exact nature of treatment was correctly known by only 5 out of 160 participants.

SIGNIFICANCE OF ANTI HBS TITRE:

Out of 134 participants who had taken booster dose after primary vaccination, only 7 participants were aware of testing their Anti Hbs titre and a mere 4 (57.14%) of them were found protected against Hepatitis B. 90% of the candidates were unaware of the fact that there is a need of a booster dose if Anti Hbs titre <10 IU\L.

TABLE 4: PERCENTAGE OF CORRECT AWARENESS SCORE OF HEPATITIS B VACCINATION STATUS:

1	Hep B is more contagious than HIV ?	148 [92.5%]
2	Hep B infected person may be asymptomatic for long time	149 [93.1%]
3	Every person exposed to Hep B will develop chronic hepatitis	119 [74.37%]
4	One can get Hep B through needle stick injury	156[97.5%]
5	Hep B vaccine can be given as pst exposure prophylaxis	152 [95 %]
6	Hep B vaccine is contraindicated in immune compromised patients	94 [58.75 %]
7	pregnant women should not receive vaccination against Hep B	90 [56.25%]
8	New born children should not receive vaccine against Hep B	96 [60.1%]
9	Hep B vaccine should be given to health care workers as a part of work place safety	98 [61.25%]
10	Is there any need for booster dose of Hep B vaccine after 5 years of first dose	29 [18.12 %]
11	Is there any need for anati- Hbstitre after full dose of vaccination	87 [54.87 %]
12	Full dose of Hep B vaccine protects against Hep B virus for atleast 15 years	69 [43.12 %]
13	Hepatitis B can be transmitted through colonoscopy ,endoscopyetc tools	119 [74.37%]
14	Hep B can lead to cirrhosis	153 [95.6 %]
15	Hep B is associated with increased risk of liver cancer	149 [93.1 %]
16	Are you aware of pharmacologic treatment after needle stick exposure to hep B positive patients	102 [63.75 %]

DISCUSSION

Hepatitis B has not only been a disease of global importance but also a well-documented occupational hazard for health-care professionals. In this study, awareness of Hepatitis B transmission and prevention by vaccination has been studied. Similar results were obtained in a study conducted at PIMS Hospital, Jalandhar and also in a study conducted among nursing college students of Central India [5,6]. This indicates that the goal of creating awareness regarding HBV Vaccination is reaching its pinnacle. However, mere words are yet to be put in action!.

A significant association was found between age of the participant and the vaccination status. It was observed that younger medical professionals have more awareness and more vaccination coverage than those who are above 40 years. This could be due to the knowledge gained recently during their study period and an active spirit to participate in awareness campaigns and hospital activities. Contrastingly, a multi-centered study conducted among medical, nursing and paramedical students in Greece and in Ethopia suggested that Medical professionals above 40 years age had more awareness as compared to younger candidates [7,8].

In our study we noted that 75 % (120) of the total participants were completely immunized, whereas 8.75 % partially immunized. 26 participants (16.25%) had not received vaccination. In a similar study conducted at Government Medical College and Hospital in Nainital, they reported that 48% of the participants were completely immunized, whereas 22% were immunized and 30% had not received any vaccine [9]. Similar results were found in study conducted in Iranian doctors [10].

The most common reason for not taking vaccine, in our study was found to be perception among the faculty of not being at the risk of infection (30.8%) followed by lack of time (26.9%), inertia (11.5%)

whereas 3.8 % participants had fear of side effects. Being busy was the common reason for non- vaccination (32.8%) in a study conducted in Ethiopia [11]. Insensitivity and inertia were common reason for non vaccination in a study conducted in Iranian doctors [10]. In our study, majority of medical faculty (95%) were aware that Hepatitis B is more contagious than HIV, transmitted by needle stick injury, and leads to cirrhosis and liver cancer. This finding was similar to a study carried out by Avjot Mighlani et al [12].

This study also revealed that Clinical Vs Non-clinical staff and duration of Professional experience played a significant role in determining the awareness status. Significantly higher awareness regarding vaccination was observed among clinical staff rather than non-clinical staff. It can be concluded that having contact with patients on a regular basis encourages the medical professional to be vaccinated against Hepatitis B. Similar results were obtained in a study conducted among Health Care Workers in a Tertiary Care Centre in Ethiopia [11]. We found that 95 % of the participants were aware that Hepatitis B vaccine can be given for pre-exposure prophylaxis, whereas only 61.25 % were aware that vaccine also had a role in post exposure prophylaxis.

A surprising fact observed was that 42% of the medical faculty believed that hepatitis B vaccination was contraindicated in immune-compromised person and 43.75% felt that pregnancy was an absolute contraindication.

Our study revealed that 81.88% participants felt the need for booster dose of vaccine after 5 years but only 16% of the participants had actually taken a booster dose.

It was appalling to know that the need of doing anti HbS titre after vaccination was not appreciated by medical faculty. Only 87 (54.37%) knew the significance of doing anti HbS titre after vaccination. But only 7 (5.2%) out of 134 participants were aware about their anti Hbs titre. Among them only 4 participants are protected as their titre of anti Hbs was more then 10 IU/l . In contrast to this, a study conducted in Cameroon, 36% participants had Anti Hbs titre more than 10IU/l [13]. Awareness regarding the need for pharmacological treatment after needle stick injury was present in around 63.75%, though the exact nature of treatment could be correctly told by only 3 members (1.8%) of the faculty.

LIMITATION & RECOMMENDATION:

Lack of documental evidence regarding HbsAg vaccination status is a major limitation of the study. Candidates have given responses on their basis of their recall capacity. Further research can be done with a bigger sample size and overcoming the above limitations.

CONCLUSION:

Hepatitis B is an endemic and a leading cause of morbidity and mortality in the Indian subcontinent. Creating awareness and practicing 100% vaccination among health care professionals should be our primary goal before marching into the civilian population.

The finding of this study suggested that continued efforts are needed to increase awareness and vaccination coverage among medical professionals. The importance of doing anti Hbs titre after complete vaccination needs to be imposed upon the medical professionals for protection against accidental needle stick injuries.

Educational programs and campaigns can create awareness but strict adherence to the vaccination schedule is possible only if it is made mandatory in Medical colleges and Hospital with no costs. A responsible initiative by us can not only bring about a difference in our institution but can create a global impact eventually and can make our world a better place to live in!

So Know It, Confront It and Make A Difference!

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