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KNOWLEDGE OF HEPATITIS B VIRUS AND ATTITUDE TOWARDS HEPATITIS B VACCINATION AMONG HEALTH PROFESSIONAL OF A TERTIARY CARE HOSPITAL OF NORTH INDIA.

Dr. Rakesh K Koul[1], Dr. Rayies A Hella[2], Dr. Mohsin Manzoor[3], Dr. M. Ismail[4], Dr. Sheikh Mohd Saleem[5]

[1]Associate Professor, Department of Medicine, Government Medical College and Associated SMHS Hospital, Srinagar

[2]Medical Officer, Department of Health and Medical Education, Govt. of J&K

[3]Senior Resident, Department of Medicine, Government Medical College and Associated SMHS Hospital, Srinagar

[4]Associate Professor, Department of Medicine, Government Medical College and Associated SMHS Hospital, Srinagar

[5]Demonstrator, Department of Community Medicine, Government Medical College, Srinagar

Conflicts of Interest: Nil

ABSTRACT:

Background: Hepatitis B is caused by the Hepatitis B virus and is a major global health burden affecting 10% of the world population. Health care professionals are at increased risk of acquiring hepatitis B infection due to occupational exposure and its prevalence is 2 to 4 fold higher than that of the general population. The objectives of the study were to assess the knowledge about Hepatitis B virus and attitude towards vaccination among health care workers in a tertiary care hospital**. Methods:** An institutional cross-sectional prospective study was done in SMHS hospital Srinagar. A self-administered questionnaire was used to collect the data. The questionnaire contained information about the socio-demographic characteristics, knowledge toward transmission and prevention methods of hepatitis B. The information was collected from 200 health care workers including medical and paramedical staff of the hospital. **Results:** This cross-sectional study was conducted in SMHS hospital over a period of 2 months .200 health care workers were taken for the study. Knowledge regarding disease and transmission was fairly good. The majority of the study participants 93.4% of doctors and 68% of paramedics believe that their job puts them at risk of HBV infection. Regarding vaccination status, 66% of medical and 33% of paramedical staff were vaccinated, the most common reason for noncompliance being ignorance of the importance of vaccination. **Conclusion:** Health care workers continue to be at risk of occupational HBV infection. Regular health education highlighting the occupational risk of HBV, accessibility of vaccine and mandatory vaccination of health care workers is recommended to prevent Hepatitis B infection.

Keywords: Hepatitis B virus, Health care workers, Transmission, Vaccination.

Introduction

Hepatitis B is caused by infection with the hepatitis B virus (HBV) and is a major global health issue affecting about 10% of the world population (1). There are more than 350 million HBV carriers in the world (2). The infection usually affects the liver and is the most common cause of chronic hepatitis, liver cirrhosis and hepatocellular carcinoma (3). In India, the prevalence of hepatitis B infection is between 2-10% as reported by a recent study (4). Hepatitis B is transmitted from one infected individual to another by blood and blood products, mother to

Corresponding author: Dr. Sheikh Mohd Saleem

child, unprotected sexual intercourse, sharing barber shop and beauty salon equipment (5).

The main risk factor to contact HBV infection for health care providers in direct contact with infectious material, especially HBV-infected blood or via a needle stick injury with HBV contaminated body fluids. In particular, the recapping of hollow-bore needles appears to increase the risk of needle stick injuries (6). The knowledge regarding the hepatitis B virus and safety precautions is required to minimize the acquired infections among health care workers. They should have complete knowledge of hepatitis B infections, the importance of its vaccination and practice simple protective measures while dealing with such patients (7). A vaccine against hepatitis B has been available since 1982 with the efficacy of 85-90% in preventing infection, development of chronic disease and liver cancer (7). The disease status of Hepatitis B also changed from a vertical type of transmission to a horizontal type route making the population less susceptible to the infection. This change in the disease epidemiology may be attributed to awareness about the risk factors among the high risk or general population in particular. If we look back to our state, there is limited literature available regarding knowledge and awareness of hepatitis B infection and vaccination among health care professions. We carried out this study with the aim to assess the knowledge regarding Hepatitis B virus and attitude towards Hepatitis B vaccination among health care professionals of a tertiary care hospital of North India.

MATERIAL AND METHODS:

Study Design & Setting: The study was a cross-sectional study which was carried out at one of the tertiary care hospitals of Kashmir Valley, in North India. ***Study Period & Study Unit:*** The study was conducted for a period of 2 months from November 2018-December 2018 among health care professionals of a tertiary care hospital. ***Sample Size:*** Arbitrarily we included 25% of the total staff strength of the tertiary care hospital including doctors and paramedical staff. ***Inclusion Criteria:*** Those with a service period of 2 years or more were included in the study. ***Exclusion Criteria*:** Questionnaires with Incomplete information were excluded from the analysis. ***Questionnaire:*** We used a self-administered pretested questionnaire which contained questions on socio-demographic information, questions regarding knowledge about Hepatitis B and attitude towards its vaccination. ***Procedure:*** All the staff members were identified and line listed and 25% of them were selected randomly using a random number table. About 225 questionnaires were distributed among the staff irrespective of their designation after explaining the objectives of the study and verbal consent. They were asked to return the questionnaire in a weeks' time. After one week, only 183 questionnaires were returned back. Those who did not return were asked to submit a week later. Again after a weeks' time, we could only get 20 more questionnaires. Others declined to submit the questionnaires back. On analysis of questionnaires, incomplete information was found in 3 questionnaires which were excluded from the study. So a total of 200 questionnaires were analyzed for this study. Flow chart of the procedure (Figure1)

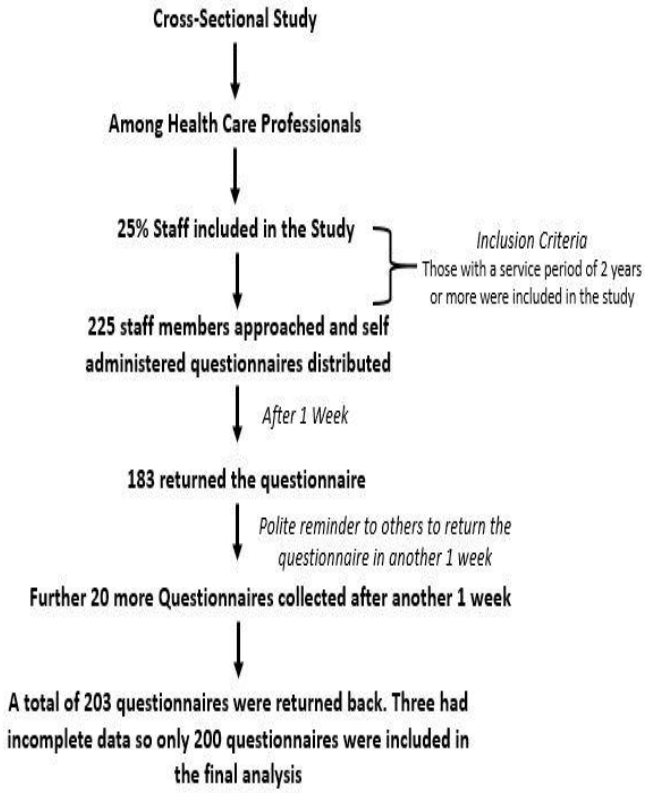

Figure 1: Flow diagram of the study procedure

RESULTS

A total of 200 questionnaires were analyzed and inferences are drawn. Among 200 participants, 92 were doctors and 108 were paramedical staff. The age of participants ranged from 24-58 years with mean age of 26 ± 4 years. Majority of the participants belonged to Upper Middle (II) socioeconomic class as per modified Kuppuswamy scale 2018 update (8). (Table 1)

Knowledge Regarding Disease: All doctors 92 (100%) who participated in the study had adequate knowledge about the Hepatitis B Virus & disease while only 104 (96%) out of 108 paramedical staff had adequate knowledge about Hepatitis B Virus & disease. (Table 1)

Knowledge Regarding Transmission: All among doctors who participated in our study had the knowledge and mentioned all modes of transmission of Hepatitis B Virus correctly while such was not the case with paramedical staff. Only 93% responded blood transfusion as a cause, 87% responded sexual route as a cause, 74% & 71% responded needles and syringes and vertical transmission as a cause of hepatitis B transmission respectively. (Table 1)

Source of Infection: 93.47% of doctors and 68% of paramedical staff members considered themselves at risk of getting the disease.70% of doctors and 49% of paramedical staff reported having previous exposure to either needle stick injuries or contact with blood or body fluid splashes. (Table 1)

Vaccination Status: The vaccination status of doctors was satisfactory with 61 (66%) of them vaccinated. Among the vaccinated, 41(67%) had taken 3 doses while 20(33%) had taken either one or two doses. The vaccination status among the paramedical staff was poor, only 34(33.33%) of the paramedical staff was vaccinated. Among them, 17(50%) has taken 3 doses whereas 17(50%) had taken either one or two doses. (Table 1)

Reason for Not Taking Vaccination: 31(34%) of doctors had not taken vaccination when asked about the reason, 82% had ignored vaccination in spite of awareness whereas 18% had non-availability of vaccine. Among the paramedical staff, 68(63%) of the paramedical staff was not vaccinated. Reason for non-compliance being ignorance in 70%, non-availability of vaccine 14% and lack of awareness 16%. (Table 1)

Table 1: Pattern of responses by health care professionals regarding Hepatitis B disease and Vaccination

Variable	Doctors n (%)	Paramedical Staff n (%)
Know About Hepatitis B	92 (100)	104(96)
Diagnostic Tests are available	92 (100)	100(92.5)
Vaccine is available	92 (100)	96(88.8)
Healthcare professionals are at higher risk	86 (93.4)	74(68.5)
Use of safe blood and blood products	92 (100)	100(93)
Avoid sharing of needles	92 (100)	80(74)
Avoid Multiple sexual partners	92 (100)	94(87)
Vertical transmission	92 (100)	77(71)
Fully Vaccinated	41(44.5)	17(15.7)
Partially Vaccinated	20(21.7)	17(15.7)
Not Vaccinated	31(33.6)	74(68.5)
Ignorance	89(82)	18(17)
Non Availability	16(18)	15(14)
Lack of awareness	-	17(16)

DISCUSSION

This cross-sectional study was conducted with an aim to evaluate knowledge regarding hepatitis B virus and attitude towards Hepatitis B vaccination among health care professionals working in different disciplines of a tertiary care hospital of north India. A total of 203 questionnaires were returned by the health care professionals among which 3 were found to have inadequate information so were excluded from the study analysis. The participants of the study were having a mean age of 26 ± 4 years and most of them belonged to upper middle socioeconomic status.

Among the 200 participants, 92 were doctors and 108 were paramedical staff who were chosen randomly for the study. All doctors 92 (100%) who participated in the study had adequate knowledge about the Hepatitis B Virus & disease while only 104 (96%) out of 108 paramedical staff had adequate knowledge about Hepatitis B Virus & disease. These results are in accordance with studies published previously (9, 10). This may be due to the fact that doctors being academically more sound and in regular touch with the subject and that too in a teaching hospital helps to improve their basic knowledge regarding Hepatitis B Virus.

Our study revealed that 100% of doctors had good knowledge regarding transmission of Hepatitis B virus whereas 87% of paramedical staff had knowledge regarding sexual route, 74% needle pricks, 93% blood, and blood products and 71% vertical transmission. Avjod Mighlani (11) in his study found 100% awareness in doctors regarding the transmission of disease whereas 82% nurses and 80% lab technicians had knowledge regarding hepatitis B transmission.70% of doctors and 49 % of paramedical staff reported being exposed to either needle stick injuries, blood or body fluid splashes. Chandra S et al (12) in their study found (50%) of study participants were exposed to risky conditions for HBV infection including needle stick injuries and body/blood splashes. In the present study, 45% of the medical staff was fully vaccinated, 21% partially vaccinated and 34% not vaccinated at all. Among paramedical staff, only 17% were fully vaccinated, 17% partially vaccinated and 66.66% not vaccinated at all. The various reasons for not getting vaccinated were ignorance (82%, 70%), followed by non-availability (18%, 12%) and lack of awareness. S Kumar et al (13) in their study found 46.2% of health care workers were fully vaccinated, 12% partially vaccinated and 41% not vaccinated. Similarly, S Hussain et al (14) in their study had complete immunization rate of 57.6%, partial 18.5% and not vaccinated 24% respectively.

The study recommends regular health education programmes of health care workers on occupational risk of HBV and mandatory vaccination of health care workers in prevention of HBV infection. Medical colleges should have occupational health departments that take responsibility for HBV testing, vaccination, response monitoring and providing post-exposure prophylaxis.

CONCLUSION:

Health care workers working in a tertiary care hospital. They have a good knowledge on HBV transmission, progress and its vaccination. Our study highlights low and delayed vaccine compliance in health care workers leading to continued occupational risk of hepatitis B virus. Attitude, knowledge of HBV infection and accessibility of HBV vaccine were important factors in low and delayed vaccination in health care workers.

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Ethical Issues: The study has no ethical issues related to animal and human experimental

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