



STUDY OF KNOWLEDGE ATTITUDE AND PRACTICES OF PREVENTION OF HEPATITIS-B INFECTION AMONGST INTERNS & PARA-MEDICAL STAFF OF MEDICAL COLLEGE IN BIHAR.

Medical Science

Dr. Vikash Kumar	Assistant Professor, Department of Community Medicine, Vardhman Institute of Medical Sciences, Pawapuri.
Dr. Nisha Singh*	Tutor Department of Microbiology, Nalanda Medical College and Hospital, Patna. *Corresponding Author
Dr Hira Lal Mahto	Professor & Head, Department of Microbiology, Nalanda Medical College and Hospital, Patna.
Dr. Suman Kumar	Associate Professor, Department of Community Medicine, Vardhman Institute of Medical Sciences, Pawapuri.

ABSTRACT

Background: Hepatitis B is a infectious diseases with estimated burden of about two billions of the world population have contracted the infection, of them there are 350 million people have chronic infection. Hepatitis B disease may lead to state of chronic carrier, liver cirrhosis and failure or Hepatocellular carcinoma.

Aim: To assess the knowledge, attitude and practices regarding hepatitis B infection amongst medical interns and paramedical staff.

Material & Method: This was a cross-sectional study which involved 100 Medical intern and 100 paramedical staff; data collection was performed by using a suitable self-administered, close-ended questionnaire.

Results: In this study it was found that medical intern had better knowledge about hepatitis B infection compared to the paramedical staff. More than 50% of the paramedical staff didn't know about the correct mode of Hepatitis B transmission. Practices towards Hepatitis B vaccination was seen significantly higher amongst interns doctors as 93% Intern Doctor had taken hepatitis B vaccine as compared to only 69% from paramedical staff had taken this vaccine. Only 56 % of paramedical staff had strictly followed universal precautions which was statistically significant in medical and paramedical staff.

Conclusion: This study highlights the KAP gap amongst different categories of healthcare personnel regarding hepatitis B infection. it was found that the paramedical staff that was at the lowest strata in terms of both knowledge and practices was therefore at highest risk of hepatitis B infection.

KEYWORDS

Hepatitis B, Knowledge, Attitude, Practice, Interns, Resident doctors, Paramedical staff

INTRODUCTION:

Hepatitis is an inflammatory disease of the liver which is caused by the hepatitis B virus (HBV). Currently Hepatitis B is a global problem, with an estimate of 66% of the world population living in areas where there are high levels of infection.¹ There are more than 2 billion people Worldwide, having evidence of recent or past HBV infection and 350 million peoples are chronic carriers. In South East Asian Region, there are estimated 80 million HBV carriers (about 6% of the total population).² India has the intermediate endemicity of hepatitis B, with hepatitis B surface antigen prevalence between 2% -10% among the population studied. The number of carriers in India has been estimated to be over 40 million.³ Hepatitis B and C virus infections have become a serious problem of public health and a major cause of morbidity and mortality, particularly in developing countries.

Hepatitis B is a vaccine-preventable disease. Hepatitis B vaccine is the first anticancer vaccine which has outstanding record of safety and effectiveness and 95% effective in preventing children and adults from developing chronic infection.⁴

Hepatitis B infections are common due to lack in the proper sterilization technique of instruments or due to the improper hospital waste management as 10 to 20% health care waste is regarded hazardous and it may create variety of health risks.⁵ Medical students and other health care worker being part of the health care delivery system are easily exposed to them. Doctors and paramedics can easily get infected with the highly infectious hepatitis B virus in hospital and clinic settings with consequent morbidity and mortality.

Knowledge regarding the hepatitis B virus and safety precautions measures is needed to minimize the health care associated acquired infections among health personnel. They should have complete knowledge of hepatitis B infections, prevention, transmission & importance of vaccinations and practice of simple hygienic measures apart from that of specific protective measures. Therefore this study was conducted to assess the knowledge, attitude, and practices regarding hepatitis B amongst medical and paramedical health personnel

MATERIAL & METHODS:

A cross-sectional study was conducted amongst interns and paramedical staff of medical college & Hospital in Bihar during a period from 1st of August 2020 to 30th September of 2020. The total of 200 participants of which there were 100 Interns & 100 paramedical staff were participated in the study. Randomly selected nurses who were consented to participate were given questionnaires, while in case of Intern all of them were included in this study.

Data collection was carried out using a pre validated, self-administered, close-ended structured questionnaire to assess the KAP regarding HBV infection and vaccination. It contained questions regarding knowledge of transmission of hepatitis B infection, prevention and vaccination. Attitude of participants were assessed by asking suitable questions and using an appropriate score. Practices of Hepatitis B infection prevention & control were revealed by appropriate questions. Data was entered and analyzed in SPSS and was presented in form of simple tables. Proper statistical test were applied to find out the association.

RESULTS:

Hepatitis B virus (HBV) infection is a well-recognized occupational health hazard and it is preventable by vaccination. This study included Interns and paramedical staff of Medical College & Hospital. A total of 200 participants were included in the study. The participants were equally distributed among paramedical staff and interns.

The analysis of data collected shown in Table 1 indicates that out of 100 interns more than 96% had correct knowledge regarding transmission of Hepatitis B while awareness about the same was poor among paramedical staff. Knowledge about sharing of needles (45%), unprotected sex (51%) and vertical transmission was found (41%) and the difference of their knowledge was statistically significant ($p < 0.05$). Table 2 describes the responses of the participants about prevention of hepatitis B. knowledge about the availability of vaccine is same in both the groups (100%), but knowledge about vaccination schedule and universal precaution is very less (40%) among the paramedical staff. Chi square value is 15.315. It is clear from this analysis that there is significant difference ($p < 0.05$) between knowledge regarding prevention of Hepatitis B among interns and paramedical staff.

Table 3 showing Attitude towards Hepatitis B infection & vaccination was assessed by asking five questions. Each question was labeled with agree or disagree attitude; the respondents were allowed to choose to only one response. All intern doctors agreed with the compulsory vaccination and reporting each case of needle stick injury while among paramedical staff only 87% agreed with compulsory vaccination and 77% agreed with reporting needle stick injury. Among Interns 91% agreed with the following universal precautions and 94% of them agree with the following proper biomedical waste management is necessary while among paramedical staff perception was low 68% & 74% respectively and the difference between them was found to be statistically significant. (Chi square value is 15.376, $p < 0.05$).

Table 4 showing agreement of study participant regarding practices towards Hepatitis B infection, it was found that 93% of intern had taken complete course of vaccine but only 69% of paramedical staff had completed complete course of vaccination, only 21% of paramedical staff had been screened for Hep- B infection in last 3 years. only 56% of paramedical staff follow strict universal precautions Chi square value is 36.69 ($p = 0.001$) & it is highly significant. This suggests there was significant difference between the practice towards hepatitis B disease transmission among interns, and paramedical staff.

Table 1: Showing knowledge of transmission of hepatitis

	interns N(%)	Paramedical staff N(%)	Statistical value
Blood transfusion	98	83	$\chi^2 = 11.217$ $p \text{ value} = 0.015$
Sharing Needles	97	45	
Unprotected sex	96	51	
Vertical transmission	96	41	

Table 2: Showing knowledge regarding prevention of hepatitis B.

	Interns N(%)	Paramedical staff N(%)	Statistical value
HBV is preventable disease	100	89	$\chi^2 = 15.315$ $p \text{ value} = 0.212$
Hepatitis B vaccine is available	100	100	
Post exposure prophylaxis is available	83	81	
Knowledge of vaccination schedule	88	40	
Knowledge about universal precaution	84	40	

Table 3: Showing regarding attitude towards Hepatitis B infection.

	Interns N(%)	Paramedical staff N(%)	Statistic al value
Vaccination should be compulsory.	100	87	$\chi^2 = 15.376$ $p \text{ value} = 0.013$
Reporting every case of needle stick injury	100	77	
Always careful, don't need Hep B vaccine	13	14	
Universal precaution should be followed by all health worker	91	68	
Proper BMW practices is necessary	94	74	

Table 4: Showing agreement of participants regarding practices towards Hepatitis-B infection.

	Interns N(%)	Paramedical staff N(%)	Statistic al value
Have you taken hepatitis B vaccine.	93	69	$\chi^2 = 36.69$ $p \text{ value} = 0.001$
Have you screened for hepatitis B vaccine in last 3 years	41	21	
Wear gloves mask and apron while doing work	65	70	
Discard of used needles immediately	91	79	
Strictly follow universal precautions	79	56	

DISCUSSION:

HBV infection is caused by DNA virus which has incubation period ranges from 21-135 days.⁵ Hepatitis B virus (HBV) infection is one of the most common occupational risk hazard for Physicians especially in developing countries where a carrier rate is about 4%. it has been observed from Global data that HBV infection kills about 1.1 million people every year.⁶

The results of the present study showed some interesting facts regarding KAP GAP (knowledge attitude and practices) of healthcare workers regarding some cardinal aspects of hepatitis B infection & transmission. The results of this study revealed that the medical staff had higher percentage of optimistic responses toward the questions concerning the knowledge about Hepatitis-B infection, transmission and prevention, this can be explained by the fact that medical staff had more training years in the college and the continuous medical education, therefore they had vast knowledge compared to the paramedical worker, this result is in agreement with in earlier studies both globally as well as in Indian context.⁷⁻¹²

The analysis of data it was observed that the regarding knowledge of prevention of Hepatitis- B, Intern doctors had correct and better knowledge then the paramedical staff this can also be described by the same reason mentioned above, this was in concurrence with other studies, Kesieme et al.^{13,14}

Medical staff in this study had good knowledge and good attitude toward the vaccination against hepatitis B, this was similar with Patricia study.¹⁵ It is important to note that other than medical staff, majority of paramedical staff were not been screened for hepatitis B in the last three years and many of them even didn't know about their serological status. This is very serious matter & that should must be kept in mind by higher officials, as these healthcare personnel's are more or less dealing with the patient through various interventions in their daily life and may serve as a source of infection. It was found that majority had knowledge about hepatitis B vaccine, but it was still a matter of great concern that all were not been immunized for the same, this result was also been similar in other concurrent studies, in a study from Pakistan it was found that the rate of vaccination is between 45%-86% in different Pakistani hospitals.¹⁶ The reason behind not being vaccinated against hepatitis B infection; majority of paramedical staff specified that they were very much cautious and alert while handling the patients and their samples to acquire the infection while other worker didn't felt the same as need. Setia et al study in his study suggested that the gap in knowledge of risk belief is really worried and dangerous among all levels of health workers because of their high chances of exposure to blood and other body fluids which is contagious of hepatitis B.¹⁷

The knowledge and practice of universal precautions was reported to be quite inadequate amongst the healthcare workers. This is evident from various studies globally where, in spite of indications, non-adherence to barrier precautions raises the exposure risk of blood and body fluids, either poor level of compliance or sub optimal adherence has been reported widely.^{17,18} Study revealed that although almost all of health care personnel believed that proper biomedical waste management Practices are the important determinant for prevention of hepatitis B infection, but in contrast to that in most of the health care settings, the practice of the same was found comparatively suboptimal. In contradiction to a study conducted by Korla et al, practice of wearing gloves, mask and apron was quite less among health workers while dealing with the patients or handling any specimen containing blood or body fluids.¹⁰

Improper implementation and inadequate routine monitoring by senior health official as well casual work culture of healthcare workers are the important reason for such practices regardless of the knowledge level.

CONCLUSION:

This study clearly highlights the dissimilarities in Knowledge and practices gap amongst different strata of healthcare personnel regarding Hepatitis B infection and its prevention. The most distressing situation was observed for paramedical staff who were amongst the lowest strata in terms knowledge and practice were concerned and therefore was at higher risk of Hepatitis B infection compared to higher strata. This study also revealed the inadequate, suboptimal and non-satisfactory behavior for universal precaution as well as preventive approaches amongst healthcare workers of lower

strata groups. Therefore it was concluded that there should must be provision of regular orientation training, workshop and sensitization programme to upgrade the satisfactory knowledge will help to create awareness regarding HBV infection can only bring about a positive attitude, thereby leading to good practices. Apart from sensitization their should be periodic screening and proper immunization of all levels of healthcare personnel should be made mandatory.

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