Original short article

A study of knowledge, attitude and practice of hepatitis-B infection among the laboratory technicians in the civil hospital, Ahmedabad, Gujarat

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ABSTRACT
BACKGROUND: Hepatitis B is highly endemic throughout world. Laboratory technicians are at more risk for it due to blood exposure which is preventable.
OBJECTIVES: (1) To assess the KAP of Hepatitis B among the laboratory technician.
(2) To know their vaccination status.
METHOD: A cross sectional study was conducted in civil hospital. Total 60 laboratory technicians from different departments were enrolled. A pre-tested questionnaire was used to collect information.
RESULT: More than half of laboratory technicians (66.7%) know that hepatitis B is an infectious disease and 88.3% believe that it is spread by infected blood.96.7% know that it affects the liver. 86.7% were wearing gloves and taking precaution while handling the sample.13.3% were exposed to infectious material during their job. Only 35% were fully immunized.
CONCLUSION: Majority of laboratory technician know that hepatitis B is infectious and preventable but knowledge about the disease and protective measures are still needed in laboratory technicians.
KEYWORDS: Hepatitis B infection, Primary liver cancer, Universal work precaution.

INTRODUCTION:

Hepatitis B infection is a major public health problem. About two billion people are affected with hepatitis B worldwide and more than 350 million have chronic, lifelong infection. The virus causes 60-80% of all primary liver cancer, which is one of the top three causes of death due to cancer in SEAR. In India about 45 millions population is hepatitis b infection carrier. While in hospital staff it is 10.87%.[1]

The workers in laboratories in Colleges of Medicine and Teaching hospitals generally are faced with many hazards at work and his/her health and safety may be severely jeopardized if adequate preventive protective measures are not taken. These hazards can be physical, chemical, and blood-borne (cross) infections and even legal actions. The prevention of occupational hazards in laboratories requires a thorough knowledge of the risks and practical measures to be taken.[2] Laboratory and other health care workers should familiarize themselves with "universal precautions", which as defined by Center for Disease Control, as a set of precautions designed to prevent transmission of Human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other blood-borne pathogens when providing first aid or health care. Under universal precautions, blood and certain body fluids of all patients are considered potentially infectious for HIV, HBV and other blood borne pathogens[3] This study was done to identify the gaps in knowledge and would be helpful in planning effective health education campaign for health care staff.

METHODS

This was a cross-sectional interview and hospital-based study. The study was conducted at the civil hospital, Ahmedabad.

The study population included laboratory technicians who were working in the medical service during the time of the study. It was decided to take 50% of them as sample so total 70 laboratory technicians of various departments were interviewed with informed consent. Out of which 60 responded.

A structured anonymous questionnaire containing the demographic data, knowledge about the risk and prevention of HBV, screening status for hepatitis B, HBV vaccination status and Universal work precaution were interviewed, after taking informed consent. Data collection was done from 1st august to 31st august 2010. Confidentiality of all data collected was ensured. Selection of the workers was random from different departments.

The data collected were then processed and analyzed using epi_info 3.5. software package. Our study had its limitations that it relied on information given by participants.

RESULTS

Majority of the laboratory technicians (75%) were from the age group 20-35 years and 70% of them were female.42% of the study population were married.66.7% had duration of job <10 years(Table-I)

Majority of the laboratory technicians had knowledge regarding hepatitis B and related to vaccine.(Table-II)

TABLE I: DEMOGRAPHIC PROFILE OF LABORATORY TECHNICIANS

Demographic variable	Frequency	Percentage
Age(years)		
20-35	45	75%
36-50	13	21.6%
50-60	2	3.4%
Sex		
Male	18	30%
Female	42	70%
Marital Status		
Married	42	70%
Unmarried	18	30%
Duration of job (Years)		
<10	40	66.7%
10-20	7	11.6%
20-30	6	11.1%
30+	7	11.6%

TABLE II : KNOWLEDGE ASSESSMENT OF LABORATORY TECHNICIANS

Knowledge regarding hepatitis B	Frequency	%
Hepatitis B is an infectious disease	40	66.7
How Hepatitis B spreads	53	88.3
Affects Liver	58	96.7
Knowledge of symptoms	52	86.7
Hepatitis B test is must before surgery	51	85
Hepatitis B vaccine is available	59	98
Knowledge of vaccination schedule	50	83.3
Government is giving free of cost	40	66.7
Ever exposed to infectious material	8	13.3
PEP available	52	86.7
Knowledge of outcome	53	88.3
Knowledge of their Hepatitis B status	5	8.3
Knowledge of Universal work precautions	53	88.3

PEP: Post exposure prophylaxis

All laboratory technicians were screened for Hepatitis B, while only 35% of the study population were totally immunized against Hepatitis B at the time of study. All the laboratory technicians were using disposable needle and syringe and put on apron while working, while all of the universal work precautions taken by only 86.7% of the laboratory technicians. (Table-III)

TABLE III: UNIVERSAL WORK PRECAUTIONS AMONGST LABORATORY TECHNICIANS

Work precautions	Frequency	%
Screened when selected as laboratory technician	60	100
Complete immunisation	21	35
Using gloves	52	86.7
Washing hands	54	90
Using disposable needle and syringe	60	100
Made use of First aid boxes	54	90
Experienced torn gloves	5	8.3
Put on masks	52	86.7
Put on laboratory Apron	60	100
Dispose of used needles and syringes in special containers	53	88.3
Dispose Laboratory waste in special containers	49	81.6
Take shower immediately after laboratory work over	60	100
Eat at laboratory	32	53.3
Precaution all above	52	86.7

DISCUSSION

The major findings of this study provide some interesting insights into the question of preventing the transmission of pathogens (HIV, hepatitis virus etc.) through preventive measures used by laboratory technicians in hospitals. Despite their relatively high level of education, and the advanced level of knowledge about the modes of transmission of the pathogens, there were great disparities among technicians in attitudes and practices.

On the one hand, protection techniques such as regular hand washing or use of barrier protection including gloves of the proper quality and protective body clothing were used to various extents to prevent skin and mucous membrane contamination with blood or body fluids. This is good laboratory practice reducing exposure from prolonged or extensive contamination of skin with infectious fluids[4,5]

But on the other hand, 10% of the laboratory technicians did not wash their hands

after the removal of the gloves, Furthermore, 36.6% of them are not immunized against HBV. These lacunae need to be corrected if these workers are to be protected from been infected.

Disposal of used needles and syringes in special containers were not practiced by about 10% of the laboratory technicians and other laboratory waste was not thrown in proper containers by about 18% of them. Awareness should be raised about this problem, stressing the importance of developing and following guidelines for correct handling of laboratory wastes, particularly contaminated waste. Medical waste could be classified into general refuse, special medical waste and potentially infectious categories and processed accordingly.

All laboratory technicians were screened for Hepatitis B, Only 35% of the study population was totally immunized against Hepatitis B at the time of study. The reason for the same was not known. It should be mandatory for all of them to take vaccine.

The attitude and practice of the laboratory health workers towards universal Precaution call for a lot of concern as 53.3% of them ate in the laboratory and this is comparable with 41.0% rate observed amongst laboratory scientists in Ibadan, Nigeria[6.]

In our study, it was evident that such a comprehensive approach was not clear in the minds of most laboratory staff. Therefore, the concept, use and effectiveness of universal precautions need to be clearly presented to all technicians.

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Health is a wavering notion, if not directly in medical terms, then in social terms. Health is by no means solely a medical notion, but predominantly a societal one. Restoring to health again means in reality bringing the sick man to that kind of health which is respectively acknowledged in each respective society, and which was in fact first formed in that society itself.
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