

Hepatitis B Disease and Vaccination: Awareness and Practice among Health Care Givers in a Medical College of Bhubaneswar, Odisha, India

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Abstract

Hepatitis B infection is a public health problem in this country, so much so that the vaccination has been made mandatory for infants. However in case of adults there is no such government policy, even in case of health care givers, who are known to be at a much higher risk. The study is a rapid assessment done to do asses among the health care givers like fresh young doctors, nurses and lab technicians to find out their knowledge about the disease and also about their practice of complete vaccination. The study revealed that even in this tertiary level health care facility, 13.1% of the study participants were not vaccinated and yet involved in handling of infected products. This hints a further exploration regarding the callousness of the health administrators towards this incurable yet preventable disease.

Aims & Objectives: To assess the knowledge and practice regarding Hepatitis B disease and vaccination among care givers in a tertiary hospital. To find out any association between the level of knowledge and practice if any

Keywords Hepatitis B; Disease information; Hepatitis B vaccination; Health care givers

Introduction

To tide with the problems of very high Infant and Child Mortality Rates in the India, the immunization schedule against six infectious diseases (Tuberculosis, Polio, Diphtheria, Tetanus, Pertussis and Measles) have been reinforced in the country under the National Programme agenda. The results have helped reach a common consensus among public health managers that disease prevention is the most cost-effective option to protect and promote health of populations and immunization is the key to achieve the same. Immunization against Hepatitis B has been added lately to the list since the year 2002.

However, till date there is no programme to promote vaccinations in case of adults. Given the changing epidemiologic situation with re-emerging of diseases and shift of the age of disease onset in target population, it is becoming more and more imperative to give specific immunizations to adults too.

Based on the prevalence of Hepatitis B surface antigen (HBsAg), countries are classified as having high (where >8% of the population is HBsAg positive), intermediate (2–7%) or low (<2%) HBV endemicity. The areas of intermediate endemicity (2–7%) include South Asia, Eastern and Southern Europe, Russia and Central and South America.

While South Asia including India has been grouped as countries with intermediate endemicity, the sheer enormity of the population of the region accounts for a large chunk of the entire pool of HBV carriers

of the world (1,2). India has over 40 million HBV carriers and accounts for 10–15% of the entire pool of HBV carriers of the world (3).

Spread of HBV infection in many South Asian countries is attributed to unsafe blood supply, reuse of contaminated syringes, and lack of maternal screening to prevent perinatal transmission and delay in the introduction of hepatitis B vaccine (4,5).

This emphasizes largely the risk that health care providers carry in contracting the infection because of their nature of work. Healthcare workers have a high risk of occupational exposure to many blood-borne diseases including HIV, Hepatitis B, and Hepatitis C viral infections. Of these, Hepatitis B is infact the most transmissible infection, but fortunately also the only one that is preventable by vaccination.

In developing countries, Hepatitis B vaccination coverage among healthcare workers is very low for various reasons, including awareness, risk assessment, and low priority given by the health managements of both government and private hospitals. Among healthcare workers seroprevalence is two to four times higher than that of the general population (6).

Thus the current study was planned among the health care workers in a tertiary care hospital to assess the knowledge and vaccination against Hepatitis B among them

Materials & Methods

A cross sectional study was planned in the Tertiary care level medical college in Bhubaneswar city of state of Odisha-Kalinga Institute of Medical Sciences. The study population considered was- Current Interns batch (2015) and para medical staff of tertiary care

medical college (interns, nursing staff, lab technicians and others care givers) irrespective of gender, after due informed consent

Considering a Prevalence=10%; error of 5%, 95% CI , statistically adequate sample was taken to be 144; after due informed consent 145 were included in the study wherein Interns were 65; nursing were 40 and Lab Technicians were 40. The only exclusion criteria were those who were not willing to participate in the study.

In line with the objectives, knowledge and practice of Hepatitis B was assessed using a self-administered predesigned pretested questionnaire wherein sections are developed containing to find out:

SOCIAL DEMOGRAPHY - Age, sex, number of children, number of years in service

KNOWLEDGE OF HBV – type of infection, presentation, route of transmission, ways of transmission, vaccination

PRACTICE – number of doses of vaccination has taken, any needle prick injury, gloves uses, ways of needle disposable. The results were collected and analysed using SPSS 21 version.

Results

Table 1 shows that most of the participants were interns who in the Indian scenario are fresh pass outs from the medical professional curriculum and have to do a compulsory internship program to practice clinical skills and also fresh recruits among the other category of health professionals who together made up 51% of the sample, Mean age of the participants was 27.3 years with SD 6.47; maximum age being 46 years and minimum 21years.

Parameters	Frequency (n=145)	percentage
Type of health worker		
Intern	65	44.8
Nursing	40	27.6
Lab technician	40	27.6
Gender		
Male	80	55.2
female	65	44.8
Years in service		
NA*	74	51.0
<1 year	5	3.4
1-3 years	20	13.8
>3years	46	31.7

Table 1: Sample characteristics

Figure 1 show graphically that among the fresh recruits males were more common than females while females were more among those who have worked more than one year (which was among the nurses). Also it was seen that the fresh recruits were mostly unmarried and so were the ones who were working since less than one year.

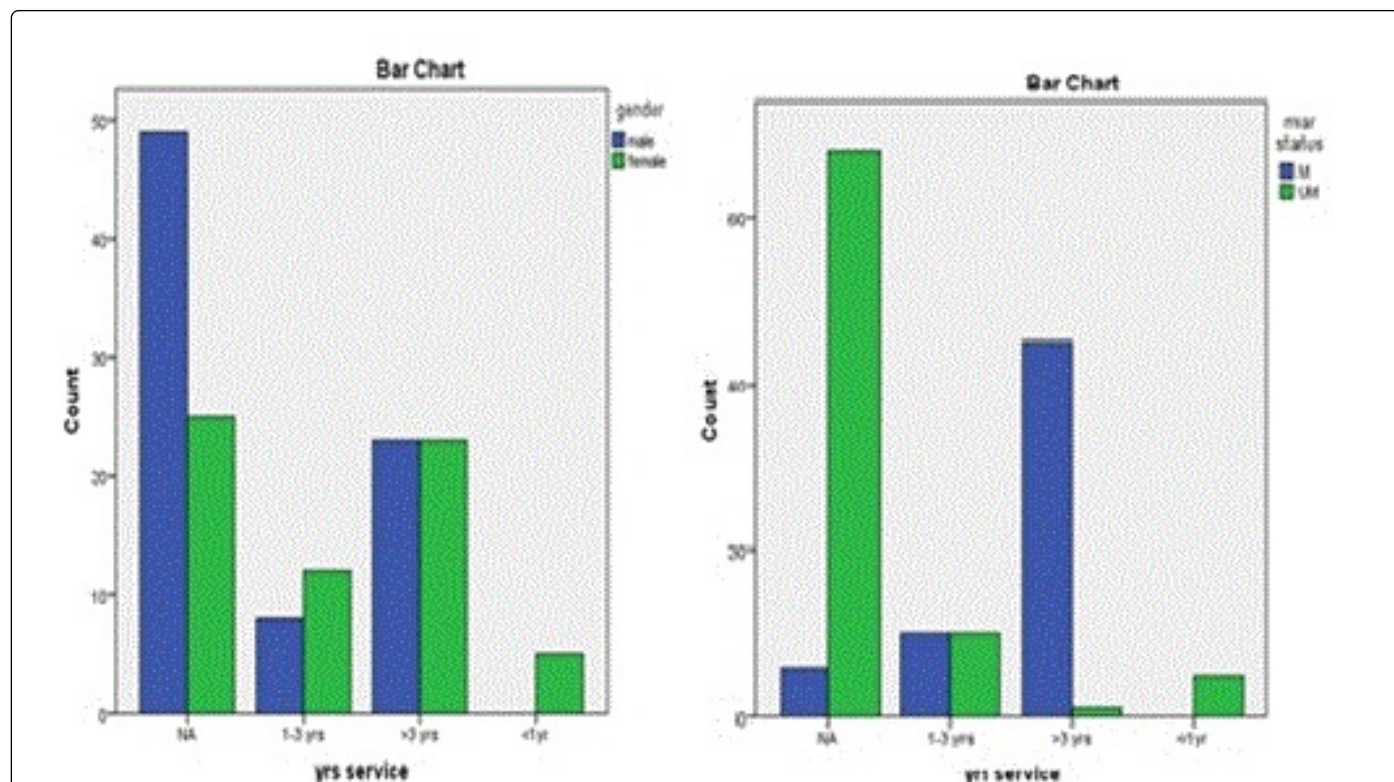


Figure 1: Gender wise and marital status of health workers.

Table 2 shows that only 84.1% of the participants knew that disease agent is a virus, 68.3% could say that jaundice is the commonest presenting symptom and 79.3% could say the right mode of transmission was blood borne.

Parameters	Frequency	percentage
Causative agent		
Bacteria	18	12.4
Viral	122	84.1
fungal	5	3.4
Presenting symptoms		
fever	19	13.1
Pain abdomen	22	15.2
Jaundice	99	68.3
diarrhoea	5	3.4
Transmission (blood borne)		
Incurable	115	79.3

Table 2: Knowledge and Practice of Hepatitis B disease and vaccination.

86.9% of the sample had received vaccination and could say that it was to be taken in 3 doses at intervals of 0, 1, 6 months. Out of the nearly 13% who had not taken or could not say regarding vaccination status, 83% were nursing personnel. The knowledge regarding the disease was also seen to be poorest among nursing personnel especially who were new recruits or working since 1-3 years and difference was $p < 0.01$, significant. Married persons and those with children were seen to know about the vaccines better than unmarried ($p < 0.5$). Hand washing and proper disposal of syringes was better among nursing i.e. 89%; followed by LT i.e. 82% and worst among interns i.e. only 58.9%.

Conclusion and Discussion

This study largely brings out the lack of prioritization of Hepatitis B vaccination and even the disease information among the health care providers in the state. This clearly suggests strong advocacy and awareness at the Hospital administration level, in view of the incurable nature of the disease. The study can be used as a dipstick method to know the callousness of our health system towards a significant public health problem. This also indirectly hints the lack of concern and emphasis for vaccination among adults in our country, even if it is an incurable yet preventable occupational hazard. In India we lack a policy for adult vaccination and it is a question of awareness and affordability to seek vaccination. This study brings out this serious concern that 13.1% of these care givers had not been vaccinated and thus are running the high risk of contracting the disease and thus also become sources of transmission; while the annual proportion of

healthcare workers exposed to blood-borne pathogens was 5.9% for HBV, corresponding to about 66,000 HBV infections in healthcare workers worldwide (7).

Similar findings were reported from developing countries like Pakistan, Nepal and other South East Asian countries (1). Infant Viral hepatitis as an occupational hazard of medical and paramedical personnel first received major attention in American medical literature in 1949, with the report by Leibowitz et al., on a case of serum hepatitis in a blood-bank worker (8).

According to the WHO estimates, it varies from 18% in Africa to 77% in Australia and New Zealand (9). In United States, 75% of the HCWs at risk had received three or more doses of hepatitis B vaccine (10). Similarly, in Sweden, the number of HCWs who have received at least one dose is 79%, but only 40% were reported to be fully vaccinated (23). In Japan, vaccination coverage was found to be 48.2% in dental workers (18). In one study done in a tertiary care hospital, in Delhi, 55.4% were reportedly vaccinated against Hepatitis B.

Thus this study brings out strongly that as an unvaccinated cohort, the adults are at higher risk to Hepatitis B infection if engaged as a health provider. The situation is grim globally and thus a universal mandate should be agreed upon to immunize health care workers as soon as they choose this profession.

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