



## Awareness and vaccination status of Hepatitis B infection in Hospital Nursing staff in two tertiary care hospitals in India

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### ABSTRACT

Hepatitis B is a potent occupational health hazard. The risk of acquiring hepatitis B virus (HBV) infection through exposure to blood or its products is highest amongst health care workers (HCWs). The frequency of hepatitis B virus infection is 4-10 times higher in health care workers. Despite potential risks, a proportion of HCWs never get vaccinated. This study aimed to investigate the awareness and vaccination practices of HBV infection in nursing staff in two tertiary care hospitals.

### KEYWORDS

Hepatitis B, Nursing staff, awareness

### Introduction

Hepatitis B is a common infection all over the world. India falls in the intermediate group with seroprevalence ranging between 2-7%(1). The frequency of hepatitis B virus infection is 4-10 times higher in health care workers(2). It is a major occupational hazard and even 0.0001 ml of infected blood can transmit infection. Since nursing staff deal with bulk of work like sample collection and administering injectable medicines, they are at risk of acquiring blood borne pathogens. This study was carried out to identify levels of awareness regarding infectivity, transmission and vaccination of Hepatitis B in nursing staff and also to ascertain vaccination status of nursing staff.

### Materials & Methods

This prospective study was carried out in two tertiary level teaching hospitals, Jagjivanram Hospital, Mumbai and Choithram Hospital, Indore. The study was based on anonymous self-administered questionnaires and the questionnaire was validated by two physician and nursing superintendent.

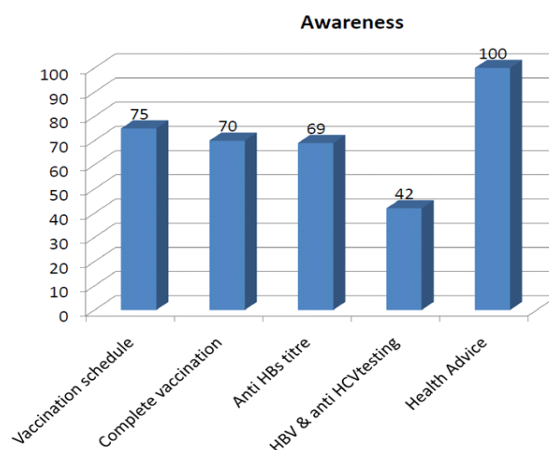
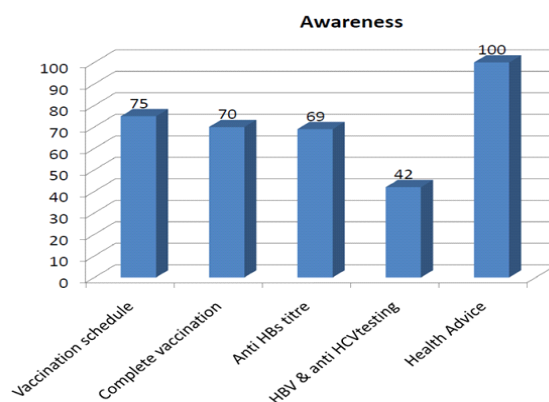
Each questionnaire had 10 multiple choice questions. The respondents were asked to tick the single most correct option. The respondents were asked to answer in 10 minutes and collected data was analyzed.

### Results

Number of forms distributed 140 and number of forms received 114. Response rate 81.42%, 39 questions out of 140 were not answered. 97.5% of the respondents were aware that Hepatitis B is caused by a virus. However, only 54.38% knew that it is more infective than HIV and Hepatitis C. One fourth of the respondents felt that all three were equally infective. Around 47% were aware of all the diseases caused by hepatitis B virus. Only 55.2% nurses knew the methods of transmission correctly with 45% of them believing that hepatitis B is transmitted only by blood and blood products. (Figure 1)

Only 34% of the respondents knew that both vaccine and immunoglobulin have to be administered together to prevent vertical transmission. Nearly all the nurses were aware that patients diagnosed with hepatitis B virus infection should avoid alcohol, use barrier contraceptives, avoid contact with open wounds and their family members should be screened. Three fourths of the respondents correctly knew the vaccination schedule for hepatitis B. Only 70% had received three doses of the vaccine. Two nurses had not received even a single dose and twenty seven had received one or two doses. Thirty five respondents had never heard of anti

HBs titres while forty nine knew that the protective titre for anti HBs is > 10 miu. (Figure 2). Sixty six nurses either had never been tested or did not remember when they were tested.



### Discussion

Studies among healthcare professionals have indicated a prevalence of HBsAg, HCV to be 0-15% and 1-2%(3-6). As far as India is concerned, the prevalence of hepatitis B in HCWs was reported to be 10% in 1992, in one study,(7) and 2.21% in another study done in 1998.(8) More recently, in a tertiary care hospital in Delhi reported that only 1% of healthcare workers were

HBsAg positive.(3) In a study done at Jagjivanram Hospital, the prevalence of hepatitis B in paramedical staff was 1%.The awareness regarding infectivity and diseases caused by hepatitis B was low which has been shown in study done at Delhi(3).

Only three fifths of the respondents knew that both vaccine and immunoglobulin should be administered to prevent vertical transmission. Nearly one quarter of the respondents did not know the correct vaccination schedule for hepatitis. As compared to other study in which , 28% HCWs in India are unvaccinated and 17% are unaware of their vaccination status(9) , in our study 30% nursing staff had not received three doses of the vaccine even though it is available free of cost at these centres. Sixty one percent had never been tested or did not remember when they were last tested.

In a similar study at Dublin (10), Ireland, 82% respondents knew that hepatitis B is more infective than HIV and 83% had received full course of the vaccine This study covers two different tertiary centre and there are very few studies done over the world regarding hepatitis b awareness. However it may not be representative of the awareness in general nursing fraternity, majority of whom work in villages and health care centres. The awareness may be even lower than demonstrated

### Conclusion

Hepatitis B is a potent occupational health hazard. It is a preventable disease with effective vaccination and proper precautionary measures.

The study highlights the need for proper education of health care workers regarding hepatitis B and the need to initiate early vaccination among new entrants in the health care field

### RECOMMENDATIONS

We would like to recommend hepatitis B vaccination of all new entrants in health care field .Regular seminars and CME to promote awareness regarding hepatitis B is the need of the hour.

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