

Research Article

An Exploratory Study to Assess the Knowledge and Attitude Regarding Universal Precautions about Hepatitis B among Staff Nurses in Selected Hospitals, Punjab

Kiranjit Kaur

Department Medical Surgical Nursing, Guru Hargobind College of Nursing, Raikot, Ludhiana, Punjab, India.

ABSTRACT

Background: The knowledge of nursing staff regarding hepatitis B virus (HBV) when their daily activities will be closely related to patients' body fluids plays a vital role in minimizing the risk of acquiring HBV infection. **Objective:** We aimed to assess the knowledge regarding HBV infection among nursing staff. **Materials and Methods:** A descriptive cross-sectional study was conducted using a structured self-administered questionnaire among the nursing staff in Tagore Hospital, Jalandhar. Descriptive statistics was used to analyze the data. **Results:** Most (51%) of staff nurses had good knowledge followed by 44% who had excellent knowledge and few (5%) staff nurses with average knowledge score regarding universal precautions about hepatitis B. No staff nurse had poor knowledge score. All of the (100%) staff nurses had desirable attitude regarding universal precautions about hepatitis B. **Conclusion:** The staff had good knowledge regarding HBV infection and its preventive aspect.

Keywords: Descriptive cross-sectional, Hepatitis B virus, Staff nurses

Address for Correspondence: Kiranjit Kaur, Department Medical Surgical Nursing, Guru Hargobind College of Nursing, Raikot, Ludhiana, India. E-mail: kiranboparai1984@gmail.com

Introduction

Hepatitis is characterized by the inflammation of liver, and in many cases, hepatitis B and C can lead to permanent liver damage including liver cirrhosis or hepatocellular carcinoma and even death.^[1] In Southeast Asian region, there are estimated 80 million hepatitis B virus (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% and 10% among the population studied.^[3] The number of carriers in India has been estimated to be over 40 million.^[3] The true prevalence of hepatitis B in non-tribal populations is 2.4% and in tribal populations is 15.9% as per recent data.^[4] Alarming two studies specifically, looking at professional donors have noted a prevalence of 55.3% and 87.3% for hepatitis C.^[5,6] It has been estimated that 14.4% of hospital workers are infected with HBV.^[7] Physicians, dentists, nurses, laboratory staff, and chairside assistants are at high risk of acquiring infection through the contact with blood (and other body fluids) in the course of their work.^[8] Among the health-care personals, HBV is transmitted by the skin prick with an infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during the surgical and dental procedures. It has been seen in the literature that the highest prevalence of HBV exists in dentists.^[9] HBV can be prevented by strict adherence to standard microbiological practices and techniques and routine use of appropriate barrier precautions to prevent skin and mucous membrane exposure when handling blood and other body

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fluids of all patients in health-care settings and pre-exposure vaccines. Even after many publications about programs and strategies to prevent transmission, HBV infection still remains a major public health issue for mankind.^[10]

It has been recommended that prevention is a safeguard against epidemic of viral hepatitis. By knowing facts, having proper awareness, and attitudes, the menace of this disease can be prevented to a great extent.^[11] As health-care workers (HCWs) remain at a high risk of transmission by skin prick with infected, contaminated needles and syringes or through accidental inoculation of minute quantities of blood during the surgical and dental procedures, it is very important for them to follow proper measures of infection control and prevention. The knowledge regarding hepatitis B and its related safety precautions is essential to minimize the acquired infections in health-care settings among health personnel, especially medical and dental students who are more vulnerable to HBV infection as they remain in direct contact with the infected patients, blood, injections, and surgical instruments during the course of clinical work.^[12,13] Noubiap *et al.* have found a good knowledge of the risk factors for HBV infection and awareness of HBV vaccine among medical students of clinical years in Cameroon.^[14] Similarly, a study among medical students at Syrian Private University revealed the weakness of general knowledge about hepatitis B among junior medical students compared to those in the 5th year.^[15] The literature search did not reveal any study regarding the assessment of knowledge about hepatitis B among preclinical nursing staff in our area. Therefore, this study sought to assess the knowledge and attitude among nursing students in selected hospitals in Punjab.

Methodology

This cross-sectional, descriptive, institutional-based study was conducted among 100 nursing staff Tagore Hospital, Jalandhar. The study participants were fully informed about the design and purpose of the study. Verbal informed consent was obtained from each participant, and anonymity of the participants was maintained throughout the study. Approval for this study was obtained from the Institutional Review Committee.

Inclusion criteria

- Staff nurses of Tagore Hospital, Jalandhar, were included in the study.
- Staff nurses who were willing to participate in the study.
- Staff nurses who were present at the time of study.

Exclusion criteria

- Staff nurses who were not present during the time of data collection.
- Staff nurses who were not interest in the study.

Development and description of tool

The self-structured tool was used in the study to assess the knowledge and attitude among staff nurses regarding universal precautions about hepatitis B. Knowledge questionnaire was prepared after extensive review of literature, expert's opinions, and investigators own experience in the clinical area. The tool was given to 16 experts, and modifications were done according to their opinion. Number of items deleted was 2 in demographic variables, 5 in knowledge questionnaire, and 10 in attitude scale. Ten numbers of items were added in knowledge questionnaire and 10 in attitude scale. Eight numbers of items were modified. The final tool had 30 questions in knowledge questionnaire and 30 statements in attitude scale.

To accomplish the objectives of the study, research tool was constructed in the following sections:

Section A: Demographic data/sample characteristics

This part consists of 7 items for obtaining personal information about respondent such as age, gender, qualification, professional experience, working area, source of information, and course completed institution.

Section B: Knowledge questionnaire

Structured knowledge questionnaire was framed to assess the knowledge of staff nurses regarding universal precautions about hepatitis B. There were 2 subareas such as introduction and universal precautions which consist of 30 items. Each question had 4 options out of which 1 was correct answer.

Section B

A total number of items in this part were 30. Each item carried one (1) mark for correct answer and zero (0) for incorrect answer.

Knowledge score was categorized into 4 levels

Level of knowledge	Score	% age
Excellent	26–30	86–100
Good	21–25	71–85
Average	11–20	36–70
Poor	0–10	0–35

Section C: Attitude scale

This part consisted of 30 statements concerning the attitude of staff nurses regarding universal precautions about hepatitis B requiring the respondents to respond on 3-point Likert scale, i.e., agree, uncertain, and disagree.

Section C

There were 30 positive statements. The responses were quantified by giving score for positive items, i.e., agree (2), uncertain (1), and disagree (0).

Level of attitude	Score	% age
Desirable attitude	≥40	≥40
Undesirable attitude	<40	<40

Ethical considerations

With view to ethical consideration, the researcher discussed the type and purpose of study with senior medical officer and administrator officer of the hospital. Written permission was obtained. Staff nurses also were explained about the purpose of the study, and verbal consent was taken from them. The nurses were assured that the information given by them will be kept confidential and used only for research purpose.

Data collection procedure

The data collection was carried out in the last week of February, 2013. The total group sample consists of 100 staff nurses from Tagore Hospital, Jalandhar. The non-probability convenient sampling technique was used for sample selection. Before the data collection, formal permission was taken from the senior medical officer and nursing superintendent to conduct the study. The researcher introduced herself to the participants and explained the purpose of the study. Verbal consent was taken, and confidentiality was assured to staff nurses. The data were collected in 15 days. The tool was administered personally to collect the data.

Statistical analysis

Analysis of data was done using the descriptive and inferential statistics, i.e., mean, mean percentage, standard deviation, Karl Pearson's correlation coefficient, and analysis of variance, which were used to identify the significant relationship of knowledge and attitude regarding universal precautions about hepatitis B among staff nurses. The level of statistical significance chosen was $p < 0.05$. Statistical analysis was performed using SPSS v21.

Results

Table 1 shows general characteristics of the study population. According to age majority of staff nurses, 87% were in the age group of 21–33 year, followed by 13% who were in age group of 34–46 years. Majorities of staff nurses (72%) were female and 28% were male. According to qualification maximum number of staff nurses, 74% were General Nursing and Midwifery (GNM) and 26% were B.Sc. (N). Based on professional experience, most of the staff nurses (52%) were having <1 year of experience, followed by (41%) 1–5 years and few (7%) were

Table 1: General characteristics

Characteristics	n (%)
Age (Years)	
21–33	87 (87)
34–46	13 (13)
47–58	0 (0)
Gender	
Male	28 (28)
Female	72 (72)
Qualification	
GNM	74 (74)
BSc (N)	26 ((26)
Post-BSc (N)	0 (0)
Experience (Years)	
<1	52 (52)
1–5	41 (41)
6–10	7 (7)
>10	0 (0)
Working area	
Medical ward	35 (35)
Surgical ward	26 (26)
ICU	16 (16)
Emergency	18 (18)
Any other	5 (5)
Source of information	
Mass media	13 (13)
In-service education	21 (21)
Curriculum	28 (28)
Staff development program	38 (38)
Course completed information	
Private	93 (93)
Government	7 (7)

having 6–10-year experience. According to working area, 35% were in medical ward, 26% in surgical ward, 16% in ICU, 18% in emergency, and few (5%) were in other area. Regarding source of information, maximum number of (38%) staff nurses got information through staff development program, 28% from curriculum, 21% from in service education, and 13% from mass media. According to course completed institution, the maximum number of (93%) staff nurses studied in private institution and few (7%) in government institution.

Knowledge among staff nurses regarding universal precautions about hepatitis B

We observed that most (51%) of staff nurses had good knowledge followed by 44% who had excellent knowledge and few (5%) staff nurses with average knowledge score regarding universal precautions about hepatitis B. No staff nurse had poor knowledge score [Figure 1].

Attitude regarding universal precautions about hepatitis B among the staff nurses

We observed that all of the (100%) staff nurses had desirable attitude regarding universal precautions about hepatitis B [Table 2].

Association of mean knowledge score among staff nurses regarding universal precautions about hepatitis B according to age.

Table 3 shows that the relationship value between knowledge score and attitude score was 0.224. It depicts that there was positive relationship between knowledge and attitude of staff nurses regarding universal precautions about hepatitis B.

Discussion

Hepatitis B is a major health problem globally casting an enormous burden on the health-care system and a major source of patient's misery. They are important causes of hepatocellular carcinoma and are likely to remain a serious health problem, resulting in substantial morbidity and mortality for several decades to come. These infections are also an important occupational hazard for HCWs. In general, it is easy to assume that health workers by virtue of their proximity to the health facility should have adequate knowledge about diseases and other health conditions. Therefore, this study has

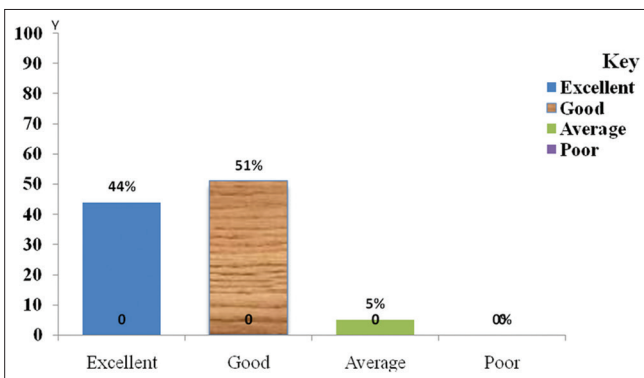


Figure 1: Level of knowledge among staff nurses regarding universal precautions about hepatitis B

Table 2: Frequency and percentage distribution level of attitude regarding universal precautions about hepatitis B among staff nurses

Level of attitude (%)	Attitude score	
	Score (%)	n (%)
Desirable (≥ 40)	≥ 40	100 (100)
Undesirable (< 40)	< 40	-

Table 3: Relationship between the knowledge and attitude of staff nurses regarding universal precautions about hepatitis B

Relationship	Knowledge and attitude score		
	Maximum score	Mean \pm SD	r
Knowledge	30	18.68 \pm 4.72	0.224
Attitude	60	56.97 \pm 4.34	

SD: Standard deviation.

been carried out with a motive to assess the knowledge and attitude regarding the hepatitis B infection.

The knowledge on the preventive aspect of HBV also showed that the participants had a good knowledge on this matter. As the evidence of HBV transmission to and from HCWs is very high, vaccination is the most important way to prevent hepatitis B diseases other than following strict hygiene with all invasive procedures and a considerate lifestyle. A majority of the nursing staff demonstrated a good to excellent level of knowledge of hepatitis B infection. This finding is, however, at variance with another study done in Karachi (Pakistan) where the respondents demonstrated a very low knowledge of hepatitis B infection.^[16] The results were similar but slightly better than another study done on Nigerian HCWs.^[17]

The most potential source of cumulating the information regarding HBV among the participants was found to be staff developmental program followed by curriculum, in-service education, and mass media. Similar study done among nursing students of different colleges in Kathmandu also revealed that radio/television followed by poster/booklets, newspaper, teachers, and friends were the sources of information for the participants.^[18] The availability of resources and place influences the source of information that prominently affects the knowledge on respective matter. These common tools can also be used to fill any gaps in the knowledge and practice of universal precautions among upcoming physicians and surgeons in our and similar settings.

It is the responsibility of the academicians to ensure that their preclinical students have ample knowledge regarding this transmissible disease before they come in contact with patient's blood, other body fluids, and different medical/surgical intervention in clinical years so that occupational risk can be minimized. The vaccination program against HBV should be conducted to cover all the staff before the start of their work.

Conclusion

Overall, good knowledge and attitude revealed by this study among nursing staff regarding hepatitis B can be utilized effectively to motivate the students for vaccination against HBV and adaptation of different safety precautionary measures to reduce the occupational risk in future.

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