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# Knowledge Regarding Prevention of Hepatitis B among Nursing Students, Guwahati, Assam: A Descriptive Study

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**Abstract:** ***Introduction****: Hepatitis B is a virus that causes serious inflammation of the liver. Chronic Hepatitis B can cause liver cell damage which can lead to cirrhosis and cancer. There is no specific and effective therapy against this dreadful disease; hence prevention of the disease through education and vaccination remains the only methods of choice for its control and eradication.* ***Objectives****: The study is to assess the level of knowledge regarding prevention of Hepatitis B among the GNM Nursing students and to find the association between the levels of attitude with selected demographic variables.* ***Methods****: Non-experimental/quantitative research approach and descriptive research design was adopted in the study. A total 100 GNM Nursing students are selected from Pratiksha School of Nursing, Guwahati, by using Purposive sampling technique. Structured knowledge questionnaire was used to assess the level of knowledge.* ***Result****: The study results show that majority i.e. 63% had good knowledge followed by 22% of average knowledge regarding the prevention of Hep-B. The finding also reveals that the mean score is 11.68±2.78, there was no any association of knowledge and value of age, sex, previous knowledge, types of family & residence. But, it shows the association of knowledge with the qualification among the GNM Nursing students.*

**Keywords:** Knowledge, Hepatitis-B, nursing students, Prevention

## 1. Introduction

Hepatitis- B liver infection is the major health problem all over the world. According to the most recent World Health Organization estimate, 2 **b**illion people worldwide have serologic evidence **of** present Hepatitis B virus infection, **and** 360 million are chronically infected **&** at risk for Hepatitis-B virus related liver disease. Several studies from India have reported a hepatitis B prevalence rate of 3% to 6%. India still harbors approximately 30 million Hepatitis B virus carriers[1].

Hepatitis-B is the most variable among DNA viruses mostly, because of its unique life cycle. The acute Hepatitis-B virus (HBV) infection may be mild, self-limiting or it can cause fatal fulminant or sub fulminant hepatic failure in a small percentage of infected persons. It is one of the major killer diseases of mankind through the chronic sequelae it produces. Viral hepatitis including hepatitis B infection has been targeted for elimination by 2030, as per provided by Sustainable Development Goal 3 and the Global Health Sector Strategy on viral hepatitis 2016–2021. Globally, hepatitis B infection affects about a 3$^{rd}$ of the world's population and causes 1.34 million mortalities annually, placed the 7$^{th}$ leading cause of mortality worldwide[3].

Hepatitis B virus has many routs of transmission such as sharing needles, utensils, body piercings and tattoos, during delivery when the baby comes in contact with the mother's body fluids in the birth canal, organ transplants, occupational exposure among health care workers, unprotected sexual contact, vertical transmission, intravenous drug use or through blood products and contamination during medical procedures. The virus is transmitted through contact with the blood or other body fluids of an infected one. Hence, prevention of the disease through education and vaccination remains the only methods of choice for its control and eradication[2].

## 2. Literature Survey

In 2021, a cross-sectional study was conducted on knowledge, attitude and practice of Hepatitis-B infection prevention among nursing students in the upper west region of Ghana. An online cross-sectional survey was conducted in November 2020, stratified random sampling technique adopted to select total 402 nursing students from 2 nursing colleges in the Upper West Region Ghana. STATA version 13 was used for analysis, KAP of HBI prevention with maximum scores of 18 for knowledge and 8 each for attitude and practice. A logistic regression model was used to assess the factors associated with the practice of HBI prevention in the study. The finding shows that students had moderate median scores for knowledge (12.00; IQR = 10–13) and attitude (6.00; IQR = 5.00–7.00) but a poor median score (5.00; IQR = 4.00–6.00) for the practice of HBI prevention[7].

In 2015, a cross-sectional study was conducted to assess the knowledge and practice regarding Hepatitis B among nursing students attending tertiary care hospital in Agartala city. The sample was selected by using convenience sampling technique and the data was collected by pre tested structured questionnaire from 300 students attending the Agartala government Medical college and Govinda Ballabh Pant Hospital; Tripura Medical College and Dr. BR Ambedkar Memorial Teaching Hospital; and Indira Gandhi Memorial Hospital (a state referral hospital), located at Agartala city. The finding reveals that the participants with good knowledge (92.1%) had adopted safety measures against the hepatitis B infection (p=0.653) and had good

practice regarding safety measures against the hepatitis B infection (p=0.653)[4].

**Objectives**

a) To assess the knowledge regarding prevention of Hepatitis B among nursing students.
b) To find the association between levels of knowledge regarding prevention of Hepatitis B with selected demographic variables.

## 3. Methods/Approach

In the present study, considering the objectives the researcher adopted Non-experimental/quantitative research approach and descriptive research design. The study was conducted in Pratiksha School of Nursing, Guwahati, Assam, India, with the target population among the GNM Nursing students. Total 100 samples was selected using purposive sampling technique.

**Description of the tools:**

The tools used for the study consists of two section.

**Section I: Performa for demographic variables,** which includes the age, gender, qualification, marital status, previous knowledge regarding Hepatitis- B, types of family and clinical exposure.

**Section II: Structured knowledge questionnaire to assess the level of knowledge among nursing students**: This section consists of 18 multiple choice items which are based on the knowledge of nursing students regarding prevention of Hepatitis-B. Each correct answer was awarded a score of one and every wrong was awarded zero score. Thus, the minimum score was 0 and maximum score was 18 and knowledge score were divided in four categories, very good, Good, Average, poor on structured knowledge questionnaire. Technique for data collection was paper and pencil.

## 4. Results

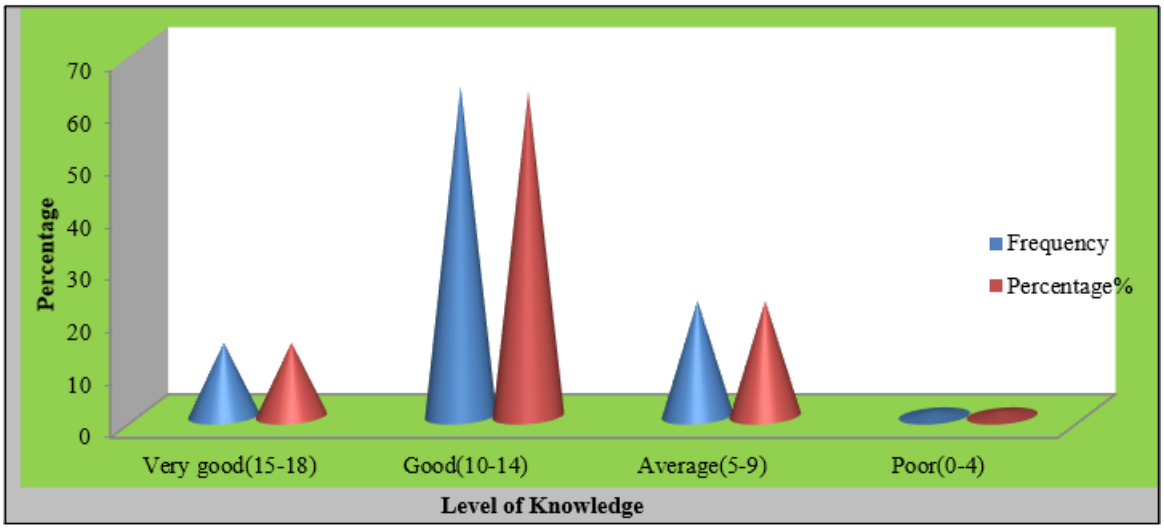


**Figure 1:** Percentage distribution of the respondents according to their level of knowledge (n=100)

**Table i:** Frequency and percentage distribution of nursing students according to their level of knowledge (n=100)

| Level of Knowledge | Frequency | Percentage% | Range | Mean and SD | Mean% | Median |
|---|---|---|---|---|---|---|
| Very good (15-18) | 14 | 14 | 4-17 | 11.68±2.78 | 64.89 | 12 |
| Good (10-14) | 63 | 62 | | | | |
| Average (5-9) | 22 | 22 | | | | |
| Poor (0-4) | 1 | 1 | | | | |

**Table (i):** shows that majority of nursing students had good knowledge (63%) followed by average knowledge (22%) regarding Prevention of hepatitis B. The overall mean and standard deviation of knowledge level was 11.68±2.78 respectively.

**Table (ii):** Association between levels of knowledge regarding prevention of Hepatitis B among nursing students with selected demographic variables. (n=100)

| S. No. | Sample Characteristics | Knowledge Score | | | | df | Chi Square |
|---|---|---|---|---|---|---|---|
| | | Very Good | Good | Average | Poor | | |
| 1 | Age in year | | | | | | |
| 1.1 | 15-20 | 10 | 43 | 15 | 01 | 3 | $1.550^{NS}$ |
| 1.2 | 21-25 | 04 | 20 | 07 | 00 | | |
| 2 | Gender | | | | | | |
| 2.1 | Male | 00 | 02 | 01 | 00 | 3 | $0.651^{NS}$ |
| 2.2 | Female | 14 | 61 | 21 | 01 | | |
| 3 | Qualification | | | | | | |
| 3.1 | GNM 1st | 12 | 55 | 19 | 01 | 6 | 52.03* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3.2 | GNM 2nd | 00 | 01 | 01 | 00 | | |
| 3.3 | GNM 3rd | 02 | 07 | 02 | 00 | | |
| 4 | Marital status | | | | | | |
| 4.1 | Married | 01 | 06 | 02 | 01 | 3 | $2.197^{NS}$ |
| 4.2 | Unmarried | 13 | 57 | 20 | 00 | | |
| 5 | Previous knowledge | | | | | | |
| 5.1 | Conference | 02 | 07 | 02 | 00 | 12 | $8.911^{NS}$ |
| 5.2 | Seminar | 03 | 12 | 04 | 00 | | |
| 5.3 | Not attended | 06 | 26 | 09 | 01 | | |
| 5.4 | Others | 02 | 10 | 04 | 00 | | |
| 6 | Clinical Exposure | | | | | | |
| 6.1 | Yes | 09 | 30 | 10 | 00 | 30 | $20.43^{NS}$ |
| 6.2 | No | 00 | 00 | 00 | 00 | | |

*S=Significant, $\chi^2$ =Chi square, df = degree of freedom
Significant ($p \leq 0.05$); Not significant ($p>0.05$)

**Table (ii):** Shows that the computed chi square value showing relationship between level of knowledge score & selected demographic variables. It presented in the value age, gender, qualification, marital status, previous knowledge, clinical exposure was found to be statistically not significant but chi value of qualification shows association of knowledge regarding prevention of Hepatitis B among nursing students with these selected variables.

## 5. Discussion

The present study aimed to assess the knowledge regarding prevention of Hepatitis-B among nursing students.

The present study was supported by the study conducted by Mahore R, Mahore SK, Mahore N, Awasthi R in 2015, to assess knowledge and awareness about the Hepatitis B&C among nursing college students of central India. The result reveals that most of the Nursing students (95%) were good knowledge of Hepatitis B/HCV[5].

Another study was supported the present study, that was conducted by the Reang T, Chakraborty T, Sarker M, Tripura A in 2015 on the knowledge and practice regarding Hepatitis B among nursing students attending tertiary care hospitals in Agartala. Here,the result shows that overall mean knowledge score was 16.2 (SD±3.209) (p=0.000) and have good knowledge[4].

In another study, conducted by Nalli SK, Sinha T, Arora G, Khan QH in 2017, assess knowledge attitude and practice related to hepatitis B infection among nursing students of government nursing college, Jagdalpur, Bastar, Chhattisgarh, reveals the result that only 18.9% of the 1st year students are vaccinated. Knowledge regarding hep b was found out to be significantly ($p<0.05$) low among all nursing batches[7].

In the present study, the mean knowledge score of nursing students was 64.89% and the median was 12% and the mean and SD was 11.68±2.78 of nursing students had good knowledge (10-14).

Frequency and percentage distribution of nursing students in terms of level of knowledge score on structured knowledge questionnaire and it shows that 63% had good knowledge regarding prevention of Hepatitis-B.

## 6. Conclusion

Based on the study finding, it shows that majority of the nursing students have good knowledge regarding prevention of Hepatitis B.

## 7. Future Scope

Based on the finding of the study following recommendations are offered for future research

- A study can be conducted on large population.
- A study can be conducted by proving the proper teaching module or booklet.
- A similar study can be conducted among the health care workers.

## 8. Delimitations

- The study is non-experimental/quantitative research
- The study is descriptive design.
- The population was targeted only GNM Nursing students.

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