

"Awareness of Hepatitis B among Government
High School Students of Dharan before and after
Educational Intervention."

2001

NHRC Library
Accession No... 72
Call No.



Investigators

Khargamaya Gurung
Kunta Gautam

B.Sc. Nursing Final Year Students
Second Batch (1997)

B. P. Koirala Institute of Health Sciences
Dharan, Nepal
2000-2001



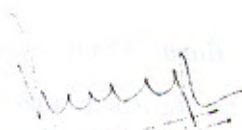
"Awareness of Hepatitis B among Government High School Students of Dharan before and after Educational Intervention."

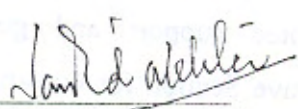
A research study titled: "*Awareness of Hepatitis B among Government High School Students of Dharan before and after Educational Intervention*", has been conducted by K.M. Gurung and K. Gautam in partial fulfillment of the course requirement of the Bachelor of Science in Nursing 4th Year Programme of BPKIHS.

Investigators
Khargamaya Gurung
Kunta Gautam

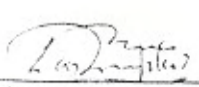
NHRC Library
Accession No. 72
Call No.

Research Guides

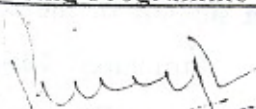

Mrs. Pushpa Parajuli
Department of Nursing
BPKIHS


Dr. Jawaid A. Ansari
Assistant Professor
Department of Medicine
BPKIHS

Overall Supervisor


Prof. Shuva Das Gupta
Professor
BPKIHS

Nursing Programme Co-ordinator


Mrs. Pushpa Parajuli
Head of the Department
BPKIHS

Acknowledgement

There are so many different people who have helped us in various ways in writing this research. Infact it would not have been possible to meet our target without their help and assistance and it may therefore appear invidious to single out any one of them.

Firstly, we would like to offer our special thanks to *Dr. Indira Singh* whose countless efforts have provided the foundation for the study. We also wish to thank those critics who have helped us with constructive suggestions & ideas, without whose contributions this study would be poorer. We warmly acknowledge the encouragement and support of *Professor Shuva Das Gupta*, Department of Nursing. Our words are inadequate to convey our very special thanks and appreciation to *Dr. Jawaid A. Ansari*, Assistant Professor, Department of Medicine and *Mrs. Pushpa Parajuli*, Head of the Department of Nursing for their sustained support & continuous guidance throughout our study.

The unstinted support and guidance of *Mr. Dharni Dhar Baral*, Statistician, Administrative Section for constructing our research design & for the statistical analysis of our research study deserves a very special mention. We are truly indebted to him.

We are also grateful to *Mrs. Gita Thapa*, Library Incharge and all other member of the library staff, the quality of whose assistance has eased our extensive search of literature & references.

We would also like to express our warmest thanks to *Mrs. Parista Rai* And *Mrs. Merina Upadhyay* for helping us to print out the final report of the study.

We cannot overemphasize the importance of and the extensive support of the school teachers for in enabling us to conduct Pre-test, Post- test and Structured Teaching Programme in their schools in the midst of their routine classes. We are also overwhelmed with happiness by the keen interest & response of the school students and

their cooperation and participation. We would be failing in our duty if we do not specially place on record our very special thanks and appreciations to the principals and teachers of the schools for their co-operation in our study.

At last we would like to express our sincere thanks to *Nepal Health Research Council (NHRC)* for providing the grant to conduct this study.

Kunta Gautam
Khargamaya Gurung

Abstract

Introduction:

This study has been conducted to assess the awareness of high school students from the selected Government schools before and after conducting Structured Teaching Programme regarding on Hepatitis B.

Objectives:

- (1) Assessment of awareness of high school students regarding Hepatitis B and identification of the need for intervention.
- (2) Providing knowledge regarding Hepatitis B and its prevention with prepared Structured Teaching Model.
- (3) Evaluation of the effectiveness of the teaching programme by assessing the change in the level awareness among the Government high school students after the intervention.

Design: Quasi-experimental study.

Setting: Randomly selected Government high schools of Dharan.

Sample size: One hundred and thirty five students of Dharan.

Sampling technique: Simple Random Sampling.

Variables: Independent variables - Educational intervention.
Dependent variable - Awareness.

Statistical analysis : By applying suitable test of significance (Z test).

Results:

Equal number of 45 students from each class were interviewed by the use of semi-structured questionnaire from the three selected Government high schools.

Our research show that out of total 135 students only 96(71.1%) were aware of Hepatitis in Pre-interventional test. There was no difference among the classes in this regard.

In the Pre-interventional test only about 63.5% of students were aware of virus as the causative organism of Hepatitis; whereas 100% came to know about it in Post-intervention. The class X students were more in number who knew this in comparison to class IX and VIII students.

About the different types of Hepatitis virus only 2.4% in Pre-interventional test knew all the types of Hepatitis A, B, C, D and E viruses. Majority of 31.2% knew about Hepatitis B virus. In Post-intervention about 71.1% came to know about all the types of Hepatitis.

Only 44.8% of the respondents knew liver as the organ which is affected in Hepatitis before the intervention, which was increased to 97% in Post-intervention. In terms of classes knowledge about the organ affected was higher in the students of class IX and X, as compared to the students of class VIII.

Mass media 33.3% was the major source of information of subjects' awareness before the application of our intervention; whereas health personnel was the major source 60% after the intervention.

All the students (100%) in Post-interventional period knew that hepatitis could be transmitted from one person to another, whereas only 86.5% knew it before the intervention. In this regard class X students were relatively more than the other two classes. Majority of 62.5 students said that it is transmitted through blood route (i.e. blood transfusions, injections) followed by sexual contact, placenta (mother to child), saliva & body fluids and close contact in the initial assessment.

About 52.1% and 34.4% students responded that injectable drug users and multiple sexual partners as the high risk groups respectively in Pre-interventional test; in Post-intervention test, however, equal percent of 97.8% students responded the injectable drugs users and multiple sexual partners as high risk groups respectively.

Majority of the students 63.5% said fever followed by yellow discoloration of the eyes and pain abdomen as clinical features of Hepatitis. About 15.6% students had misconception that blood in sputum was the symptom of Hepatitis B. After the intervention 97.8% students said that yellow discoloration of eyes followed by fever and pain abdomen were the clinical features of Hepatitis.

Prevention of Hepatitis B; 84.4% and 98.5% of students in Pre and Post interventional tests respectively supported that Hepatitis B was preventable and at the same time 96.3% and 97% students claimed that vaccine was available against HBV in Pre and Post interventional tests respectively.

Before the intervention 61.5% students responded death as the complication of Hepatitis B whereas 94.8% students said liver damage as the complication after the intervention.

About 92.6% and 100% students in Pre and Post interventional tests respectively said that they needed to be taught about this infectious disease while 24.6% and 64.4% students in Pre and Post interventional respectively said that parents, teachers and health personnel in sequence were all responsible for providing this information.

Conclusion:

The overall data in the initial assessment showed the students had poor in depth knowledge about Hepatitis B which was markedly increased after educational intervention. Lack of such awareness among the adolescent groups leave them vulnerable to exposure of this highly infectious disease, Hepatitis. Therefore, there is a need of such educational programme to increase awareness, to protect and prevent themselves and others from the risk of contracting this infection.

CONTENTS



NHRC Library
Accession No. 72
Call No.

Acknowledgement
Abstract

CHAPTER I:

INTRODUCTION

- 1.1 Background
- 1.2 Need o justification of the study
- 1.3 Problem statement
- 1.4 Objectives of the study
- 1.5 Conceptual framework
- 1.6 Variables
- 1.7 Hypothesis
- 1.8 Operational definition
- 1.9 Delimitation

CHAPTER II:

Review of literature

CHAPTER III:

RESEARCH METHODOLOGY

1. Research approach
2. Types of survey
3. Sampling:
 - Population
 - Sample size
4. Sampling Technique
5. Method of data collection:
 - Research instrument
 - Content validity
 - Reliability test
6. Procedure for data collection
7. Plan for data analysis
8. Ethical consideration
9. Budget

CHAPTER IV

DATA ANALYSIS & INTERPRETATION

1. Tables
2. Figures

CHAPTER V

SUMMARY OF FINDINGS, RECOMMENDATION & CONCLUSIONS

1. Discussion
2. Summary of findings
3. Implication
4. Recommendation
5. Problem faced during the study
6. Limitation.

CHAPTER VI

1. Bibliography
2. Work plan for study
3. Questionnaire
4. Master sheet
5. Teaching module



NHRC Library
Accession No. 72
Call No.

LIST OF TABLES

- Table No. 1: Distribution of age.....
- Table No. 2: Distribution of Sex.....
- Table No. 3: Awareness of High school students.....
- Table No. 4: Students awareness regarding the causative organism of Hepatitis B.....
- Table No. 5: Comparison of students awareness regarding different types of Hepatitis virus.....
- Table No. 6: Awareness of the organ affected by Hepatitis B among students of different classes.....
- Table No. 6 (I.I): Sources of information about Hepatitis B among students.....
- Table No. 7 (I.I): Awareness of high school students on transmission of Hepatitis B from one person to another.....
- Table No 7 (I.II): Awareness of students on transmission of Hepatitis B from an asymptomatic person.....
- Table No 7 (I.III): Awareness of students on mode of transmission of Hepatitis B.....
- Table No. 8: Difference in subjects awareness regarding high risk groups in Pre and Post tests.....
- Table No. 9: Students awareness regarding symptoms of Hepatitis B.....
- Table No. 10: Students awareness regarding prevention of Hepatitis B.....
- Table No.10.1: Students awareness regarding the availability of vaccines against Hepatitis B.....
- Table No. 10.2: Vaccination of students.....
- Table No.10.3: Awareness of students on preventive measures of Hepatitis B.....
- Table No.11: Students awareness regarding cure of Hepatitis B.....
- Table NO. 12: Students on complication of Hepatitis B.....
- Table No.13: Students awareness regarding taking alcohol by Hepatitis B.....

LIST OF FIGURES

- Fig 1: Distribution of age.....
- Fig. 2: Distribution of Sex.....
- Fig.3: Students awareness of Hepatitis in Pre and Post interventional tests.....
- Fig. 4: Comparison of Students awareness between Pre and Post interventional tests regarding the causative organism of Hepatitis.....
- Fig. 5: Comparison of Students awareness between Pre and Post interventional tests regarding organ affected.....
- Fig.6: Comparison of Students awareness between Pre and Post interventional tests regarding the transmission of Hepatitis B.....

CHAPTER-I

TITLE OF THE STUDY

"Study on Awareness of Hepatitis B among Government High School Students of Dharan before and after Educational Intervention."

BACKGROUND

Hepatitis B virus infection is a major public health problem world wide with 66% of world's population lives in areas with higher levels of infections. More than 2 billion people worldwide have an estimated 350 million chronic carriers³. This chronically infected persons are at high risk of death from cirrhosis of liver and liver cancer, diseases that kill about one million person each year¹⁸.

In South East Asia the prevalence of HBV is very high with carriers more than 80 million (23%)⁹. Every year rough 14 to 16 million people are infected with hepatitis B29. Carrier rates are high and acute infections mostly occurs in infants and young children² with prevalence rate of 24 % among 9-12 years of age 10. Around 43 million HBV are in India which is the second largest pool of carriers world next to China⁵. It is reported in the study done in India the HBsAg carrier state is built up in early childhood. The study found the carrier rate to be 2.1% in preschool age group⁴.

In Nepal it is reported that more than 4.3% of Nepalese population at any time in their life has been infected with HBV⁴. The carrier rate of HBsAg in Nepal is 1%⁷. A study reports that 6.6% of populations were positive for HBs Ag in Surkhet⁴. Again it reports that 2-7 percent of healthy college students were positive for HBsAg⁴.

NEED OF THE STUDY

Hepatitis B virus infection, a silent killer is the major course of mortality and morbidity⁵. Infections with this virus leads to 100 times increased risk of developing primary hepatocellular carcinoma³, which is one of the three top causes of cancer death in East and South-East Asia, the pacific and Sub-Saharan Africa¹. Children are 230 times more likely to develop these."

HBV infection is found in children of all age group but often unrecognized. Chronic infection develop in about 90% of children infected at birth, 60% at 5 years of age and 2% of older children. The risk of deaths is approximately 25% for person who becomes chronically infected during early childhood⁵.

The major route of transmission is through potential, sexual, horizontal and vertical³. Non- sexual transmission occurs primarily from child to child through mucous membranes or non-intact skin⁸. The young adolescents are more prone to get this

infection because of their risk taking behaviors like taking injectable drugs and unsafe sexual contacts.

To reduce the morbidity & mortality from this dreadful disease awareness on transmission of HBV in adolescents is needed to protect our future generations from this infection.

STATEMENT OF PROBLEM

To assess the awareness of hepatitis B among government high school students of Dharan before and after educational intervention.

OBJECTIVES

1. To assess the awareness of high school student's regarding Hepatitis B and identify the need for intervention.
2. To provide knowledge regarding the disease and its prevention with prepared Structured Teaching Module.
3. To evaluate the effectiveness of teaching program by assessing the change in the level of awareness after the intervention among the government high school students.

CONCEPTUAL FRAMEWORK

Lewin suggested a three-phase model for achieving change through manipulation the equilibrium of the force field model. Firstly, the current state must be 'unfrozen' by becoming aware of the problem and the need for change.

Secondly, the change must be worked on by increasing the forces that are driving the change and minimizing the forces that are resisting the change.

Finally, the situation must be 'refrozen' with the change integrated into the person, the organization and the culture.

Lewin's 3 phase model for change.

Unfreezing



Working on the
change



Refreezing

-
- Becoming aware of the level of awareness.
- Recognizing the need for intervention.

- Planning action & preparing lesson plan.
- Maintaining motivating forces, reducing resisting forces.
- Bringing the change in the level of awareness.

- Assessing the change in the level of awareness.

VARIABLES

Independent variables: Educational intervention

Dependent variables: Awareness

HYPOTHESIS

The level of awareness on hepatitis B among government high school students will be higher after than before the educational intervention.

OPERATIONAL DEFINITION

1. Awareness → Students level of knowledge regarding hepatitis B, its mode of transmission, manifestations, risk factors and prevention.
2. High school students → Students who are studying in VIII, IX & X classes of randomly selected government high schools in Dharan.
3. Educational intervention → Conducting teaching programmed to provide information regarding hepatitis B, its mode of transmission, manifestation, risk factor and prevention through lecture, and flip charts.

DELIMITATION

This study is limited to only government high school students of Dharan.

CHAPTER - II

Review of literature

Review of literature throughout the study was carried out referring to various journals, health bulletin, WHO reports and fact sheets, text book, medline search and through internet.

Maccollum in 1947 first named two diseases caused by viral agents as hepatitis A and hepatitis B. Later Baruch Blumberg, a medical researcher discovered 'Australia Antigen' in 1967 & named as Hepatitis B surface antigen. He wondered why people often became sick after receiving blood transfusion. This convergence led to the discovery that in less than a spared population a blood screening campaign resulted in decreased incidence of hepatitis B by blood transfusions. In 1973 Feinstein identified hepatitis A and hepatitis B viruses by electron microscopy¹⁵.

The prevalence of HBV widely varies globally. Horizontal transmission through close, non-sexual contact with chronically infected person has been well documented (in peer-reviewed studies performed in the United States and abroad). In U.S the prevalence of HBV is 4.9% with the carrier rate 4%¹⁷.

As reported by WHO, annual incidence of Hepatitis B among age nine to twelve years is one percent and those among three to six years is three percent¹⁰.

More than 1200 subjects in six countries off Latin America: Argentina, Brazil, Chile, The Dominican Republic, Mexico and Venezuela was investigated for sero-prevalence of Hepatitis B. In order to determine Hepatitis B infection antibodies against Hepatitis core antigen (anti-HBC) was measured. In all the countries an increase in sero-prevalence was found among persons ≥ 16 years of age, suggesting sexual transmission as the major route of the infection. In addition, comparatively high sero-prevalence levels were seen at an early in the Dominican Republic and Brazil, implicating a vertical route of the transmission¹⁸.

In the Gambian villages, in children aged one to nine years on an average 27% were positive for HbsAg. HBV infection was suggested to occur in early life; 80% off people acquired this infection by seven years of age. In another study ten to thirty-seven percent children and 75% adults showed HBV markers, HbsAg being detectable in 2-14% of children and in eight percent of the adults⁴.

The sera of 158 pregnant women investigated for the prevalence of Hepatitis B antigen (HbsAg) and Hepatitis C virus (HCV) antibody. Of the 158 serum attending the anti-natal Clinic in a Teaching Hospital in Nigeria tested by Elisa, 25 (15.8%) and 4 (2.5%) were positive for the presence of HbsAg and HCV antibody respectively. The prevalence of HbsAg was significantly high ($p < 0.005$) than HCV. Most off the HbsAg and all the HCV positive women belonged to the child-bearing age (20-39 years) who are matured and

sexually active. Emphasis was done on the need to develop rapid diagnostic assay for the detection of HbsAg and HCV as well as routine vaccination of off spring of positive mothers ¹⁹.

A cross-sectional study was done in health personnel working in Primary Health Care services in Golbari, Turkey in October 1996 for the immunological assessment of Hepatitis A, B, C and E infections and for determination of their degree of knowledge on the transmission of these infections. Of the 60 personnel including doctors, nurses and midwives, 55.0% knew correctly the route of transmission of Hepatitis A, 73.3% for Hepatitis B, 53.3% for Hepatitis C and 15.0% for Hepatitis E. A regular training on viral hepatitis to the primary health care personnel was suggested ²⁰.

A study was done in China to review the achievements in the prevention and therapy of Hepatitis B (HBV) during the last 30 years after the discovery of hepatitis B virus in 1967. At least 200 million Chinese people have accepted HBV vaccination which has decreased the prevalence of HBV in the both urban and rural areas. The conclusion was made that China is successful and has obtained great achievements in the prevention and treatment of HBV by the use of HBV vaccine ²¹.

In India, acute hepatic failure almost always presents with encephalopathy within four weeks of the onset of acute hepatitis. Viral hepatitis is the cause in approximately 95-100% of patients. Hepatitis E (HEV) and Hepatitis B (HBV) viruses are the most important causes of AHF, approximately 60% of cases are caused by these viruses ²².

A thirty cluster sampling survey was carried out to investigate community perceptions of pilia (the local word for jaundice) in east Delhi (India), by using senior health professionals interviewers. Of 416 persons (mostly mothers of children aged < two years) interviewed, 339 (81%) were aware of pilia as illness. Only 322 (77%), 164 (39%), 73 (18%) and 71 (17%) people knew about correct symptoms, dangers, causes and prevention of pilia. Literate respondents were significantly more aware of pilia (x 52.81, $p < 0.0001$), its symptoms (x 48.88, $p < 0.0001$), causes (x 39.34, $p < 0.0001$), dangers (x 19.3, $p = 0.0007$) and prevention (x 60.8, $p < 0.0001$). The age of the respondents had no significant bearing ($p \geq 0.05$) on the correctness of responses. About 293 (70%) subjects considered pilia as a treatable illness; of them, 193 (66%) and 77 (26%) respectively expressed their preference for the 'modern and indigenous system of medicine for its treatment. In contrast, 110 (38%) respondents said that they would prefer faith healers for the treatment of pilia. Although only 31 (7%) persons were aware of a vaccine against pilia (Hepatitis B vaccine), virtually all agreed to have their children immunized if such a vaccines were made available. The study underscores the need for educating the community about its causes and prevention to increase people's participation in controlling viral Hepatitis and other diseases that mainly manifest as jaundice ²³.

A study was conducted during May 1993 to April 1997 to determine the clinical presentation of Hepatitis B surface antigen (HbsAg) positive children admitted to the medical college, Kerala India. Of the 45 children, 40 children (88.9%) presented as viral hepatitis. Of these, 95% had jaundice, 61.5% had fever, 57.5% had anorexia, 47.5% had

urticaria. The mode of transmission was determined as follows- contaminated needles, 26 patients (57.8%) ; close family contact, 5 (11.1%); perinatal infection, 1 (2.2%); unknown, 13 (28.9%). Forty patients (88.9%) recovered completely, 4 developed (8.89%) hepatic encephalopathy of which 3 died. Of the surviving 42 children, 41 became HbsAg negative by the end of three years, 7 children became carriers but at the end of five years only one child persisted as a carrier. It was recommended that since needle transmission was a major route of infection, hepatitis B vaccine if not given at birth should be administered with primary vaccinations ²⁴.

The prevalence of HbsAg in the general population, in Bangalore and Rajahmundry towns in Southern India was conducted during 1997-98 especially among children <5 years of age. Finger prick blood samples were collected from these person on filter paper stripes. The samples were tested for HbsAg by Micro ELISA. Overall, 3.3% (95% C.I, 2.0-4.5) of 737 person in Rajahmundry and 4.2% (95% C.I, 2.8-5.5) of 816 person in Bangalore were carrier of HbsAg. Most of the carrier (96%) denied any history of jaundice. The results from this community based study are in agreement with the hospital data from hospital based studies that about 3.5% of parson may be carriers of HbsAg and that the pool of chronic carrier of hepatitis B in India is built up in childhood and is then maintained in older children and adults. The results highlight the need to complete hepatitis B immunization during infancy ²⁵.

Hepatitis is a major public health problem, with an estimated 43 million carries of HbsAg in India. India is rated to come under the zones of intermediate prevalence of 2-7%²⁶.

HB virus carrier rates among healthy population Nepal is 0.9-1%. In this region, vertical transmission of HBV mostly occurs during childhood. It has been found that 8-15% of the population in this region are chronically infected with HBV.

In a study done in Kathmandu valley, the prevalence of hepatitis B among commercial sex workers was found to be 10.9% whiis higher in this because the study was done in higher risk groups ²⁷.

In another study done in BPKIHS during a period of six month (Feb 1998 to Jul 1998) total 300 patients sera were tested for hepatitis B surface antigen, of which 15 (5%) were found to be positive, among the patients attending BPKIHS ²⁸.

CHAPTER-III

METHODOLOGY

1. Research design.

Quasi-experimental study.

The level of awareness regarding hepatitis B of the subject as measure through the Pre-test was manipulated by the intervention of educational session and the effect was observed in the form of Post-test result.

2. Sampling.

(i) Population: Government high schools students of Dharan.

Total number of existing government high schools = 11 schools

Total number of students from VIII, IX & X classes = 3082 students

Total population = 3082 students

(ii) Sample size = 135 students

3. Sampling technique.

Simple Random Sampling Technique.

3. Method of data collection.

(i) **Research Instrument (Tools):**

A semi-structured Questionnaire was prepared for the students of VIII, IX & X classes of randomly selected government high schools. The questionnaire was specifically designed based on the topic of the study with categories of enquiry including- demographic data and general awareness of hepatitis B.

The Questionnaire was mainly consists of 3 sections:

- Section A- Demographic data
- Section B- General awareness of hepatitis B virus infection among the students
- Section C- Attitude of students.

Section B was again divided into various parts as followed - measured by Q No.2 to Q No.12.

- Part I- Awareness of hepatitis, causative agents and different types of hepatitis virus measured by Q No 2 to 4.
- Part II- Sources of information measured by Q No 5

- iii) Part III -Mode of transmission measured by Q No 6 (3 items, 5 sub-items of 3)
- iv) Part IV -High risk factor measured by Q No 7 (5 items)
- v) Part V- Symptoms measured by Q No 8 (5 items).
- vi) Part VI- Prevention measured by Q No 9 (3 items)
- vii) Part VII- Treatment measured by Q No (10) (1item)
- viii) Part VIII-Complications measured by Q No (11) (1 item)
- ix) Part XI-Taking alcohol measured by Q No (12) (1 item)

The questions was written in simple Nepali with both positive and negative answers

(ii) Content validity:

The validity of the research Instrument was evaluated and modified according to the need.

(iii) Reliability test:

The reliability of the Instrument was tested by giving the prepared Questionnaire to 6 students of the non-selected government high school. Three students was chosen from each VIII, IX and X class.

(iv) Procedure for data collection:

After the establishment of validity and reliability the prepared Questionnaire was used to collect data to assess the level of awareness of students on hepatitis B, Pre and Post educational intervention. The same questionnaire was used both in Pre and Post-tests.

After the attainment of the permission (consent) from the Institute & from the headmaster of the school we had proceeded for data collection.

Brief introduction regarding research process was given and Informed Consent was obtained, and they were requested to answer the questions.

Note:- Any query of explanations needed was given to the students.

(5) Plan for data analysis:

The raw data was analyzed by using the Two Population Proportion test.

(6) Ethical consideration:

A written information was forwarded to the principal of the three selected schools on behalf of the Head of the Department of Nursing, BPKIHS. Permission from the Principal to conduct this study was thus obtained from these schools. The purpose of the study was explained to the subjects clearly and informed consent was taken from every subjects with their willingness.

(7) Budget Planning:

| S. No. | Item | Amount |
|--------|---------------------------------------|-------------|
| 1. | Stationery | Rs. 750.00 |
| 2. | Computer work (analysis) | Rs. 500.00 |
| 3. | Printing and Litho. | Rs. 500.00 |
| 4. | Report writing and binding | Rs. 750.00 |
| 5. | Preparation of Audio visual materials | Rs. 200.00 |
| 6. | Transportation | Rs. 200.00 |
| 7. | Miscellaneous | Rs. 300.00 |
| | <u>Total</u> | Rs. 3000.00 |

CHAPTER -IV Data analysis and Interpretation

data were collected. These data were analyzed and tabulated as follows-

Its:

T A: Distribution of Subjects according to demographic characteristics.

No. I: - Distribution of Age:

| Age (Years) | Frequency | Percentage |
|-------------|-----------|------------|
| 13- 15 | 63 | 46.7 % |
| 15-17 | 62 | 45.9 % |
| > 17 | 10 | 7.4 % |
| Total | 135 | 100 % |

No. 1 shows the age distribution of subjects. The mean age was found to be 15.2 years (SD = 0).

No. II:- Distribution of Sex:

| Sex | Frequency | Percentage |
|--------|-----------|------------|
| Male | 72 | 55.3 % |
| Female | 63 | 46.7 % |

No. II shows that from the total number i.e. 135 of students 72 (53.3%) were male and 63 (46.7%) female.

T B: According to the awareness of students.

No. III: - Awareness of high school students about Hepatitis.

| CLASS | Before Educational Intervention (n=96) | | After Intervention (n=135) | |
|-------|--|------------|----------------------------|------|
| | YES | NO | YES | NO |
| 8 | 32 (71.1%) | 13 (28.8%) | 45 (100%) | None |
| 9 | 32 (71.1%) | 13 (28.8%) | 45 (100%) | None |
| 10 | 32 (71.1%) | 13 (28.8%) | 45 (100%) | None |
| Total | 96 (71.1%) | 39 (28.8%) | 135 (100%) | None |

No. III: Awareness of high school students regarding hepatitis before and after educational intervention.

of the total 135 students only 96 (71.1%) were aware of hepatitis before an educational intervention whereas all 135 (100%) students came to know about this disease after the educational intervention. The data are statistically highly significant, where $Z=6.9$, p is < 0.005 .

relation to the level of education equal number of students i.e. 32 from each class in pre-interventional test were aware of hepatitis whereas all the students (45) from each class were aware of the disease after the intervention.

Table No. IV Students awareness regarding the causative organism of Hepatitis.

| Class | Before Educational Intervention (n=96) | | | | After Educational Intervention (n=135) | | | |
|-------|---|-------------|-----------|-------------|---|--------------|----------|-------------|
| | Bacteria | Virus | Protozoa | No Response | Bacteria | Virus | Protozoa | No Response |
| 8 | 12 37.5% | 18 56.3% | 2 6.2% | None | None | 45 100% | None | None |
| 9 | 6 18.6% | 20 62.5% | 3 6.2% | 3 9.4% | 2 6.3% | 43 95.5% | None | None |
| 10 | 8 25% | 23 71.8% | 1 3.1% | None | 4 8.9% | 41 91.1% | None | None |
| Total | 26 27.1% | 61 63.5% | 6 6.3% | 3 3.1% | 6 6.3% | 129 95.5% | None | None |

The above table reveals the difference in students' awareness regarding the causative organism of hepatitis.

In pre-interventional test, only 61 (63.5%) knew virus as the causative agent of hepatitis whereas 129 (95.5%) gave the correct answer after the intervention. These data are statistically highly significant where $Z=7.8$ and $p < 0.005$.

In comparison to the education level i.e. among different classes, only 56.3%, 62.5% and 71.8% from classes VIII, IX and X knew the correct answer respectively in pre-interventional test. But in post-interventional test, all the 45 students (100%) gave the correct response in class VIII whereas 43 (95.5%) and 41 (91.1%) students responded correctly in class IX and X respectively.

Table No. V:- Comparison of students awareness regarding different types of Hepatitis virus.

| S. N. | Item | Before Educational Intervention (n=96) | After Educational Intervention (n=135) |
|-------|-----------|---|---|
| 1 | A B C D E | 2 (2.4%) | 96 (71.1%) |
| 2 | A B C D | 11 (11.5%) | 15 (11.1%) |
| 3 | A B C | 19 (19.8%) | 4 (3.0%) |
| 4 | A B | 16 (16.7%) | 6 (4.4%) |
| 5 | B C | 10 (10.4%) | 1 (0.7%) |
| 6 | A | 4 (4.2%) | Nil |
| 7 | B | 30 (31.2%) | 13 (9.6%) |
| 8 | C | 2 (2.1%) | Nil |
| 9 | D | 1 (1.0%) | Nil |
| 10 | E | 1 (1.0%) | Nil |
| | Total | 100 % | 100 % |

Awareness about the types of hepatitis causing viruses is seen to be markedly increased in Post-interventional test i.e. from 2.1% in Pre-interventional test to 71.1% where $Z=9.86$, $p < 0.005$. Before the teaching programme majority of the respondents seemed to be aware of only hepatitis B (31.2%); whereas in post intervention test, the response shows that the respondents knew about different types of hepatitis causing viruses and not merely hepatitis B virus.

Keys:

A. Hepatitis A virus.

B. Hepatitis B virus.

C. Hepatitis C virus.

D: Hepatitis D virus.
E: Hepatitis E virus.

Table No. VI:- Awareness of the organ affected by hepatitis B virus among the students of different classes.

| Class | Before Educational Intervention (n=96) | | | | After Educational Intervention (n=135) | | | |
|-------|---|-------------|-------------|-------------|---|-------------|-------------|-------------|
| | Kidney | Liver | Lungs | Brain | Kidney | Liver | Lungs | Brain |
| 8 | 18 56.3% | 9 28.1% | 15 46.9% | 6 18.8% | 9 20% | 44 97.8% | 13 26.7% | 5 11.1% |
| 9 | 11 34.4% | 17 53.1% | 11 34.4% | 6 18.8% | 5 11.1% | 45 100% | 8 17.8% | 6 13.3% |
| 10 | 5 15.6% | 17 53.1% | 7 21.8% | 4 12.5% | 5 11.1% | 42 93.3% | 4 8.9% | 6 13.3% |
| Total | 34 35.4% | 43 44.8% | 33 34.4% | 16 16.7% | 19 14.1% | 131 97% | 24 17.8% | 17 12.6% |

The above table indicates the awareness of the students about the organ affected in hepatitis B. Out of the total i.e. 96 students in pre-interventional test, only 43 (44.8%) gave the correct response as compared to 131 (97%) students gave the correct response in post-interventional test. It is statistically significant, where $Z=7.8$ and $p < 0.005$. There was not much difference in level of awareness among class IX and X in Pre-interventional test while Post-interventional results show that there was 45 (100%) awareness in class IX and least 42 (93.3%) awareness in class X.

Table No. VI (I.I): Sources of information about hepatitis B among students.

| S.N | Item | Before Educational Intervention (n=96) | After Educational Intervention (n=135) |
|-------|-----------|--|--|
| 1 | A B C D E | 19 (19.8%) | 23 (17.0%) |
| 2 | A B C D | 4 (4.2%) | 4 (3.0%) |
| 3 | A B C | 1 (1.0%) | 5 (3.7%) |
| 4 | A B | 9 (9.4%) | 10 (7.4%) |
| 5 | B E | 6 (6.2%) | 12 (8.9%) |
| 6 | A | 32 (33.3%) | Nil |
| 7 | B | 19 (19.8%) | 81 (60%) |
| 8 | C | Nil | Nil |
| 9 | D | Nil | Nil |
| 10 | E | 6 (6.3%) | Nil |
| Total | | 100% | 100% |

Out of 96 respondents, the sources of information for 19 (19.8%) students were mass media, health personnel, friends, family and teachers in Pre-interventional test and similar sources were for 23 out of 134 respondents after intervention.

Maximum number of respondents i.e. 32(33.3%) claimed mass media as the source of information in Pre-interventional test whereas in post-interventional test health personnel seemed to be the major source of information i.e. for 81(60%).

Keys:

A: Mass media.

B: Health personnel.

- C: Friends.
 D: Family.
 E: Teachers/School curriculum.

Table No. VII (I.I):- Awareness of high school students on transmission of Hepatitis B from one person to another.

| Class | Before Educational Intervention (n=96) | | | | After Educational Intervention (n=135) | | | |
|-------|---|------------|-------------|------------|---|------|-------------|-------------|
| | YES | NO | DO NOT KNOW | Total | YES | NO | DO NOT KNOW | Total |
| 8 | 26 81.3% | 4 12.5% | 2 6.2% | 32 100% | 45 100% | None | None | 45 100% |
| 9 | 27 84.4% | 1 3.1% | 4 12.5% | 32 100% | 45 100% | None | None | 45 100% |
| 10 | 30 93.8% | 1 3.1% | 1 3.1% | 32 100% | 45 100% | None | None | 45 100% |
| Total | 83 86.5% | 6 6.2% | 7 7.3% | 96 100% | 135 100% | None | None | 135 100% |

The above table reveals the comparative awareness between the classes in Pre and Post interventional tests. When asked if hepatitis B can be transmitted from one person to another person, only 86.5% in Pre-interventional test said "YES" whereas in Post-interventional test 100% of students said, "YES" which gives a statistically significant data ($Z=3.0$ and $P < 0.005$).

In comparison between the different education level and awareness regarding transmission of hepatitis B, class X was slightly more aware i.e. 93.8% than the other two classes showing 81.3% and 84.4% in classes VIII-and IX respectively.

Table No. VII (I.II):- Awareness students on transmission of Hepatitis B from an asymptomatic person.

| ITEM | Before Educational Intervention (n=96) | | After Educational Intervention (n=135) | |
|-------------|---|------------|---|------------|
| | Frequency | Percentage | Frequency | Percentage |
| YES | 55 | 66.3% | 129 | 95.6% |
| NO | 5 | 6.0% | 6 | 4.4% |
| DO NOT KNOW | 23 | 27.7% | 0 | 0.0% |
| TOTAL | 83 | 100% | 135 | 100% |

Similarly in Pre-interventional test 66.3% students responded that hepatitis B can be transmitted from an infected person without any symptoms to another, while in Post-intervention 95.6% students responded correctly, which is highly significant where $Z=16.6$ and $p < 0.005$.

Table No. VII (I.III):- Difference in awareness of subjects regarding the modes of transmission of hepatitis B before and after the educational intervention:

| Item | Before Educational Intervention (n=96) | | | | After Educational Intervention (n=135) | | | |
|----------------------------|---|-------------|-------------|------------|---|-------------|-------------|-------------|
| | YES | NO | DO NOT KNOW | Total | YES | NO | DO NOT KNOW | Total |
| 1. Sexual contact | 46 48% | 11 11.4% | 39 40.6% | 96 100% | 134 99.3% | 1 0.7% | Nil | 135 100% |
| 2. Blood (B.T, injections) | 60 62.5% | 4 4.2% | 31 32.3% | 96 100% | 134 99.3% | 1 0.7% | Nil | 135 100% |
| 3. Through placenta | 37 38.5% | 11 11.5% | 48 50% | 96 100% | 131 97.0% | 3 2.2% | 1 0.7% | 135 100% |
| 4. Saliva & body fluids | 37 38.5% | 11 11.5% | 48 50% | 96 100% | 131 97.0% | 3 2.2% | 1 0.7% | 135 100% |
| 5. Close contact | 16 16.7% | 30 31.2% | 50 52.1% | 96 100% | 63 46.7% | 69 57.1% | 3 2.2% | 135 100% |

Table No. VII (I.III) shows the students' awareness on the modes of transmission of hepatitis B. In interventional test, the mode of transmission was given as "blood" by majority of the students 62.5%. Sexual contact, placenta, body fluids and close contact were quoted as the other modes by 38.5%, 38.5%, and 16.7% respectively; whereas in the Post-interventional test, 99.3% answered that mode of transmission was through blood as well as sexual contact. 97% quoted for placenta, saliva, body fluids whereas 46.7% quoted for close contact.

Table No. VIII:- Difference in subjects' awareness regarding high risk groups in Pre and Post test.

| ITEM | Before Educational Intervention (n=96) | | | After Educational Intervention (n=135) | | |
|-----------------------------|--|-------------|-------------|--|-------------|-----------|
| | Y | N | DK | Y | N | DK |
| 1. Injectable drug users | 50 52.1% | 6 6.2% | 40 41.7% | 132 97.8% | 3 2.2% | Nil |
| 2. Smoking | 23 24.0% | 18 18.7% | 55 57.3% | 54 30.3% | 81 60.0% | 1 0.7% |
| 3. Multiple sexual partners | 33 34.4% | 11 11.4% | 52 54.2% | 132 97.8% | 2 1.5% | 1 0.7% |
| 4. Taking alcohol | 22 23.0% | 12 12.5% | 62 64.5% | 68 50.4% | 67 49.6% | Nil |
| 5. Health workers | 12 12.5% | 24 25.0% | 60 62.5% | 85 63% | 48 35.5% | 2 1.5% |

Above table shows the comparison between the students' awareness regarding high risk groups developing Hepatitis B infections.

In Pre-interventional test, for injectable drug users, 52.1% of students gave the positive response whereas in Post-interventional test 97.8% students responded correctly. This is statistically significant where $Z = 2.6$ and $P = < 0.005$. Individuals having multiple sexual partners fall under another high risk group; only 34.4% students gave the positive response in pre interventional test whereas 47.8% students responded correctly in post interventional test showing statistically highly significant data where $Z = 5.05$, $P = < 0.001$:

Health workers as the high risk groups - only 12.5% students said "yes" in pre interventional test whereas 63% students in post interventional test said "yes" which is statistically significant where $Z = 5.05$ and $P = < 0.005$.

Table No. IX: - Students' awareness regarding symptoms of Hepatitis B.

| Before Educational Intervention (n=96) | | | | | |
|--|---------------------------------|-------------|--------------|-----------------|--------|
| Class | Yellowish discoloration of eyes | Fever | Pain abdomen | Blood in sputum | Others |
| 8 | 15 46.9% | 22 68.7% | 12 37.5% | 5 15.6% | |
| 9 | 12 37.5% | 20 62.5% | 7 21.9% | 5 15.6% | |
| 10 | 16 50% | 19 59.4% | 11 34.4% | 5 15.6% | |
| Total | 43 44.8% | 61 63.5% | 30 31.2% | 15 15.6% | |

| After Educational Intervention (n=135) | | | | | | |
|--|--------------|--------------|-----------------|------------------|-------------|------------------|
| Jaundice | Fever | Pain abdomen | Blood in sputum | Other | | |
| | | | | Loss of appetite | Weight loss | Dark color urine |
| 45 100% | 45 100% | 42 93.3% | 3 6.7% | 6 60% | 4 40% | Nil |
| 45 100% | 44 97.8% | 44 97.8% | 5 11.4% | 3 50% | 3 50% | Nil |
| 42 93.3% | 41 91.1% | 41 91.1% | 2 4.4% | 7 53.8% | 1 7.7% | 5 38.5% |
| 132 97.8% | 127 94.1% | 130 96.3% | 10 7.4% | 16 55.2% | 8 27.6% | 5 17.2% |

Table no IX:- This table shows the comparison of awareness among classes regarding the symptoms of Hepatitis B before and after educational intervention. About 63.5% and 94.1% in Pre and Post-interventional tests knew fever as symptom of hepatitis which is statistically significant where $Z=2.40$, $p<0.005$. Yellowish discoloration of eyes and pain abdomen were the responses given by 44.8% and 31.2% students in pre interventional test while the same response was obtained from 97.8% and 96.3% respectively in Post-interventional test. The false answer, blood in sputum was given by 15.6% in Pre-interventional test and 7.4% were only responding in the Post-interventional test.

In terms of classes, classes there was not much difference in number of students who gave the above responses both in Pre and Post interventional test.

Table No. IX: - Students' awareness regarding symptoms of Hepatitis B.

| Class | Before Educational Intervention (n=96) | | | | |
|-------|--|-------------|--------------|-----------------|--------|
| | Yellowish discoloration of eyes | Fever | Pain abdomen | Blood in sputum | Others |
| 8 | 15 46.9% | 22 68.7% | 12 37.5% | 5 15.6% | |
| 9 | 12 37.5% | 20 62.5% | 7 21.9% | 5 15.6% | |
| 10 | 16 50% | 19 59.4% | 11 34.4% | 5 15.6% | |
| Total | 43 44.8% | 61 63.5% | 30 31.2% | 15 15.6% | |

After Educational Intervention (n=135)

| Jaundice | Fever | Pain abdomen | Blood in sputum | Other | | |
|--------------|--------------|--------------|-----------------|------------------|-------------|------------------|
| | | | | Loss of appetite | Weight loss | Dark color urine |
| 45 100% | 45 100% | 42 93.3% | 3 6.7% | 6 60% | 4 40% | Nil |
| 45 100% | 44 97.8% | 44 97.8% | 5 11.4% | 3 50% | 3 50% | Nil |
| 42 93.3% | 41 91.1% | 41 91.1% | 2 4.4% | 7 53.8% | 1 7.7% | 5 38.5% |
| 132 97.8% | 127 94.1% | 130 96.3% | 10 7.4% | 16 55.2% | 8 27.6% | 5 17.2% |

Table no IX:- This table shows the comparison of awareness among classes regarding the symptoms of Hepatitis B before and after educational intervention. About 63.5% and 94.1% in Pre and Post-interventional tests knew fever as symptom of hepatitis which is statistically significant where $Z=2.40$, $p<0.005$. Yellowish discoloration of eyes and pain abdomen were the responses given by 44.8% and 31.2% students in pre interventional test while the same response was obtained from 97.8% and 96.3% respectively in Post-interventional test. The false answer, blood in sputum was given by 15.6% in Pre-interventional test and 7.4% were only responding in the Post-interventional test.

In terms of classes, classes there was not much difference in number of students who gave the above responses both in Pre and Post interventional test.

Table No X:- Students awareness regarding prevention of Hepatitis B.

| CLASS | Before Educational Intervention (n=96) | | | | After Educational Intervention (n=135) | | | |
|-------|---|------------|-------------|------------|---|-----------|-------------|-------------|
| | YES | NO | DO NOT KNOW | TOTAL | YES | NO | DO NOT KNOW | TOTAL |
| 8 | 23 71.9% | 6 18.7% | 3 9.4% | 32 100% | 45 100% | Nil | Nil | 45 100% |
| 9 | 27 84.4% | 2 6.2% | 3 9.4% | 32 100% | 44 97.8% | 1 2.2% | Nil | 45 100% |
| 10 | 31 96.9% | Nil | 1 3.1% | 32 100% | 44 97.8% | 1 2.2% | Nil | 45 100% |
| TOTAL | 81 84.4% | 8 8.3% | 7 7.3% | 96 100% | 133 98.5% | 2 1.5% | Nil | 235 100% |

Table No. X shows students knowledge regarding prevention of hepatitis B. Around 71.9%, 81.4% and 96.9% students from class VIII, IX and X respectively gave the correct response in Pre-Interventional test. This data show grade IX and X had more awareness than grade VIII; whereas in Post Interventional test 100% and 97.8% students from VIII, IX and X respectively responded correctly.

Table No. X.I:- Students awareness regarding availability of vaccine against Hepatitis B.

| | Before Educational Intervention (n=81) | | After Educational Intervention (n=135) | |
|-------------|---|------------|---|------------|
| | Frequency | Percentage | Frequency | Percentage |
| YES | 78 | 96.3% | 131 | 97% |
| NO | 2 | 2.5% | 2 | 1.5% |
| DO NOT KNOW | 1 | 1.2% | 2 | 1.5% |
| TOTAL | 81 | 100% | 135 | 100% |

When asked if any vaccine is available against hepatitis B, 96.3% gave the correct response in Pre-interventional test; whereas in Post-intervention 97% responded correctly. It is statistically significant increased level of awareness, where $Z=2.99$ and P is < 0.005 .

Table No. X.II:- Vaccination of students.

| Item | Before Educational Intervention (n=78) | | After Educational Intervention (n=135) | |
|-------------|---|------------|---|------------|
| | Frequency | Percentage | Frequency | Percentage |
| YES | 11 | 14.1% | 14 | 10.4% |
| NO | 67 | 85.9% | 121 | 89.6% |
| DO NOT KNOW | Nil | Nil | Nil | Nil |
| TOTAL | 78 | 100% | 135 | 100% |

Table No. X.II reveals the number of vaccinated students. In Pre-interventional test only 11 students have been vaccinated against this infectious disease hepatitis B; whereas in Post intervention it has increased to 14 students.

Table No. X.III:- Awareness of students on preventive measures of hepatitis B in Pre and Post intervention.

| S. N | Item | Before Educational Intervention (n=33) | After Educational Intervention (n=76) |
|------|---|--|---------------------------------------|
| 1 | Take vaccines. | 31 (93.9%) | 53 (69.7%) |
| 2 | Avoid multiple sexual partners. | 19 (57.6%) | 76 (100%) |
| 3 | Avoid sharing needles. | 6 (18.2%) | 37 (48.7%) |
| 4 | Practice safe sex (use condom). | 3 (9.1%) | 40 (52.6%) |
| 5 | Infected mother should not bear child and if the baby should be vaccinated immediately. | 5 (15.1%) | 10 (13.2%) |
| 6 | Increase awareness among the people. | 4 (12.1%) | 5 (6.6%) |
| 7 | Take screened blood. | 17 (51.5%) | 71 (93.4%) |

The above shows: Taking vaccines and avoiding multiple sexual partners are the two major preventive measures responded by 31 (93.9%) and 19 (57.6%) students in Pre-interventional test and by 53 (69.7%) and 76 (100%) in Post-interventional test respectively.

Among different preventive measures, awareness on practice of safe sex had increased significantly in Post-interventional test where $Z = 4.4$ $p < 0.005$.

Table No. XII:- Difference in students' awareness regarding cure of Hepatitis B by the use of medicine in Pre and Post intervention.

| Item | Before Educational Intervention (n=96) | | After Educational Intervention (n=135) | |
|-------------|--|------------|--|------------|
| | Frequency | Percentage | Frequency | Percentage |
| YES | 37 | 38.5% | 64 | 97.4% |
| NO | 23 | 24.0% | 62 | 46.0% |
| DO NOT KNOW | 36 | 37.5% | 9 | 6.6% |
| TOTAL | 96 | 100% | 135 | 100% |

The above table shows to subjects awareness regarding the cure of hepatitis B by the use of medicines. About 38.5% and 97.4% students responded "YES" in Pre and Post intervention.

Table No. XIII:- Students' awareness regarding the complications of Hepatitis B.

| Item | Before Educational Intervention (n=96) | After Educational Intervention (n=135) |
|-----------------|--|--|
| 1. Cancer | 18 (18.7%) | 68 (50.4%) |
| 2. Liver damage | 46 (48.0%) | 128 (94.8%) |
| 3. Brain damage | 20 (20.4%) | 50 (37.0%) |
| 4. Death | 59 (61.5%) | 120 (88.9%) |

This table reveals the respondents' awareness regarding complications of Hepatitis B. In Pre intervention majority of the students i.e. 61.5% responded death as the complication; about 48%, 20.8% and 18.7% gave liver damage, brain damage and liver cancer as complications of Hepatitis B respectively; whereas in Post intervention majority i.e. 94.8% responded liver damage as the complication and 88.9%, 50.4% respectively said death and cancer as the complication.

Table No. XIV:- Awareness of students regarding taking alcohol by a person infected with Hepatitis B

| Item | Before any intervention (n=96) | | After Educational Intervention (n= 135) | |
|-------------|-----------------------------------|------------|--|------------|
| | Frequency | Percentage | Frequency | Percentage |
| YES | 11 | 11.5% | 10 | 7.4% |
| NO | 65 | 67.7% | 122 | 90.4% |
| DO NOT KNOW | 20 | 20.8% | 3 | 2.2% |
| TOTAL | 96 | 100% | 135 | 100% |

This table shows respondents' awareness on intake of alcohol for Hepatitis B infected persons, only 11.5% in Pre-intervention gave the correct response; whereas 90.4% in Post-test responded correctly.

PART C: Attitude of students.

Table No. XV.I:- Students attitude regarding need of the awareness among the high school students about Hepatitis B.

| Item | Before Educational Intervention (n=135) | | After Educational Intervention (n=135) | |
|-------|---|------------|--|------------|
| | Frequency | Percentage | Frequency | Percentage |
| YES | 125 | 92.6% | 135 | 100% |
| NO | 10 | 7.4% | Nil | Nil |
| TOTAL | 135 | 100% | 135 | 100% |

This table reveals the students' attitude regarding need of awareness about Hepatitis B among the high school in Pre and Post intervention. 92.6% and 100% respectively in Pre and Post interventional tests. It shows that the awareness regarding Hepatitis B is necessary among the high school students.

Table No. XV.II:- Students' attitude regarding who should be responsible for providing this awareness about Hepatitis B.

| S.N | Items | Before Educational Intervention (n=125) | After Educational Intervention (n=135) |
|-------|-------|---|--|
| 1 | ABC | 37 (29.6%) | 87 (64.4%) |
| 2 | AB | 18 (14.4%) | 1 (1.0%) |
| 3 | AC | 14 (11.2%) | 27 (20.0%) |
| 4 | A | 35 (28.0%) | 17 (12.4%) |
| 5 | B | Nil | Nil |
| 6 | C | 21 (16.8%) | 3 (2.2%) |
| TOTAL | | 125 (100%) | 135 (100%) |

Similarly when asked who should be responsible for providing this awareness the information revealed was as follows. Maximum number of respondents i.e. 29.6% and 64.4% in Pre and Post interventional tests respectively viewed that health personnel, guardians, school teachers & curriculum have the responsibility of providing information about Hepatitis B. However, 28.0% and 12.4% of the respondents respectively in Pre and Post interventional tests answered that health personnel only were responsible for this.

Keys:

ABC: Health personnel, Guardians, Teachers/School curriculum.

AB: Health personnel and guardians.

AC: Health personnel and teachers/School curriculum.

A: Health personnel.

B: Guardians.

C: Teachers/School curriculum.

DISTRIBUTION OF AGE

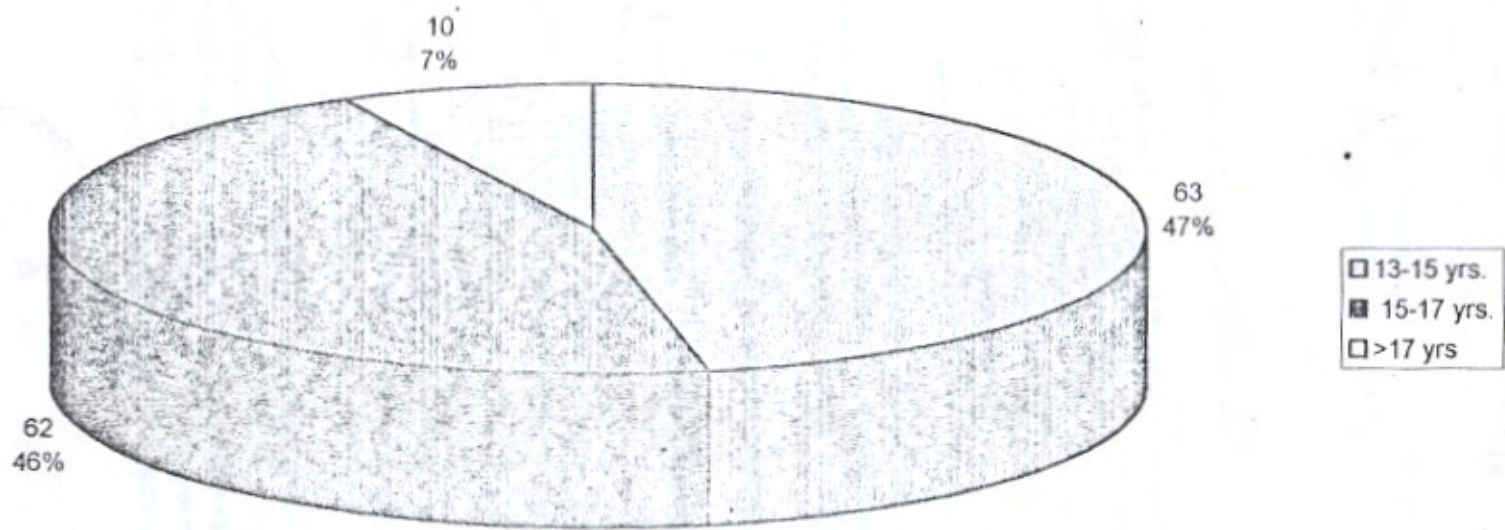


FIG NO 1

DISTRIBUTION OF SEX

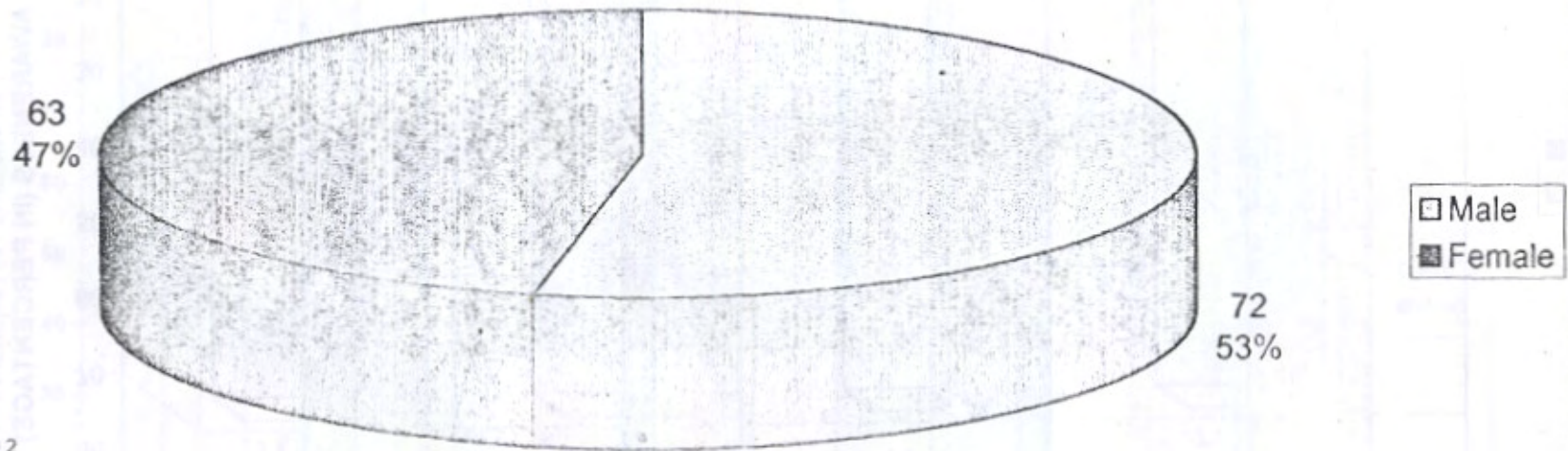


FIG NO 2

COMPARISON OF STUDENTS' AWARENESS BETWEEN PRE & POST INTERVENTIONAL TESTS REGARDING HEPATITIS

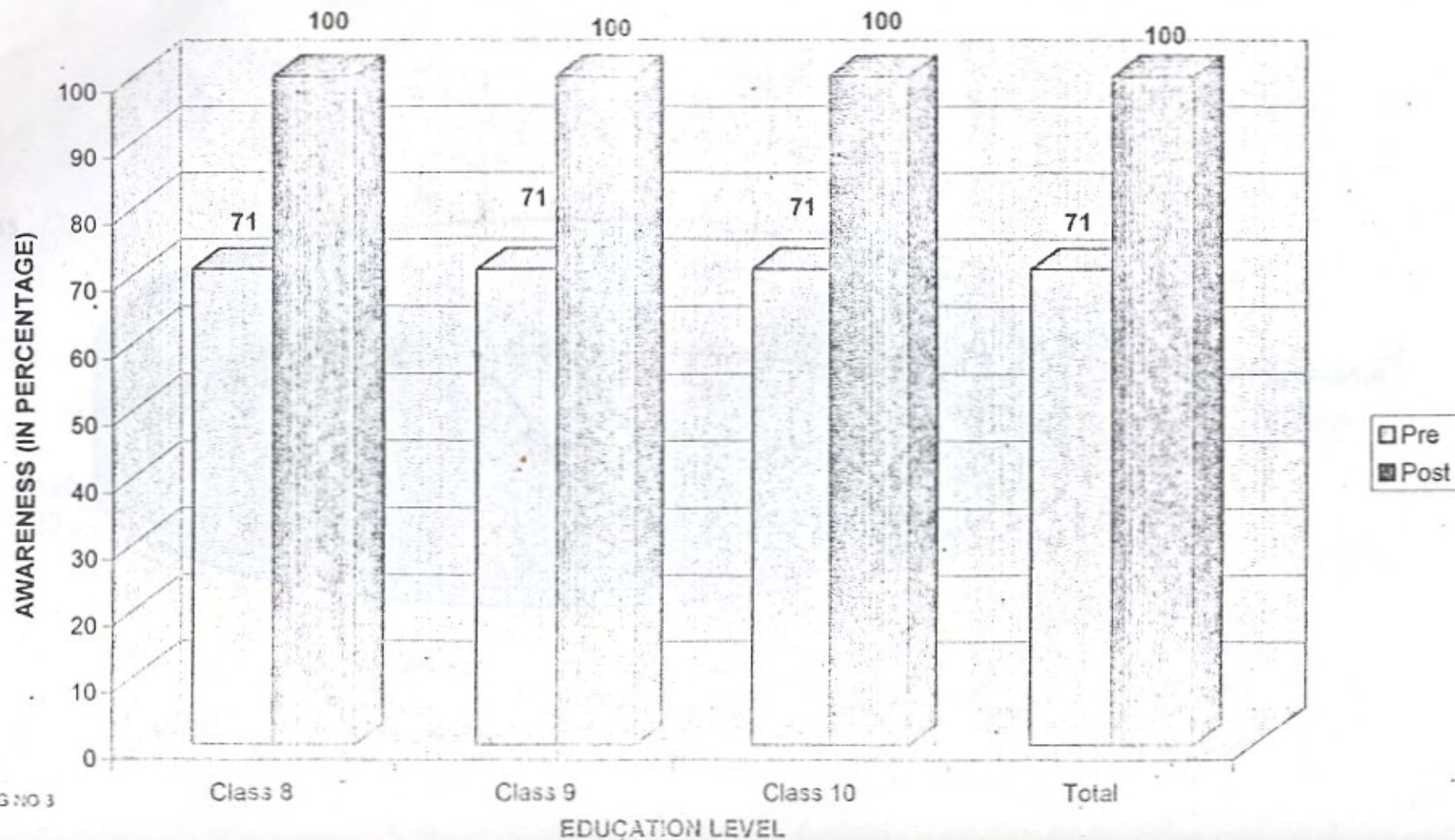


FIG NO 3

COMPARISON OF STUDENTS' AWARENESS BETWEEN PRE & POST INTERVENTIONAL TESTS REGARDING THE CAUSATIVE ORGANISM OF HEPATITIS

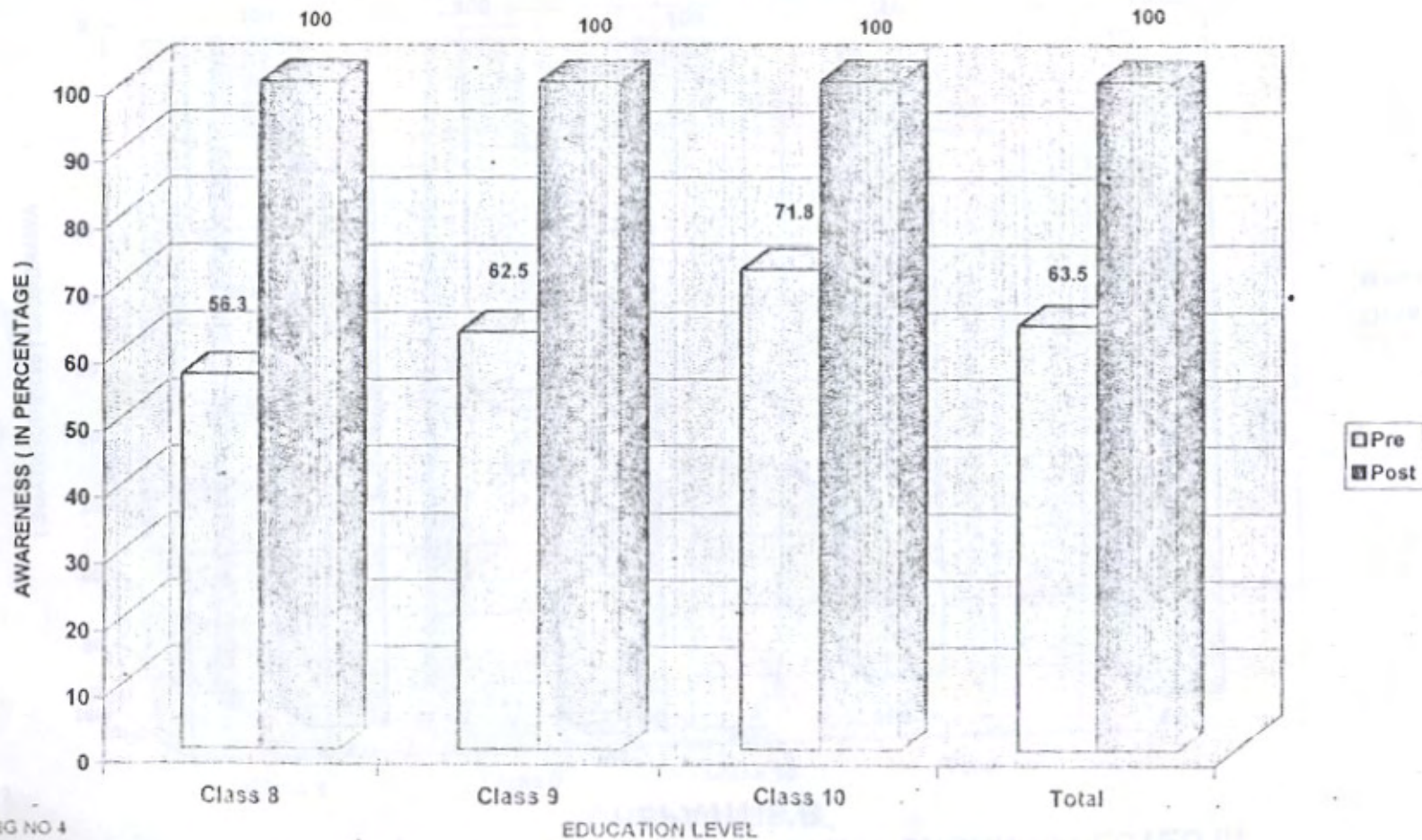


FIG NO 4

COMPARISON OF STUDENTS' AWARENESS BETWEEN PRE & POST INTERVENTIONAL TESTS REGARDING THE ORGAN AFFECTED IN HEPATITIS B

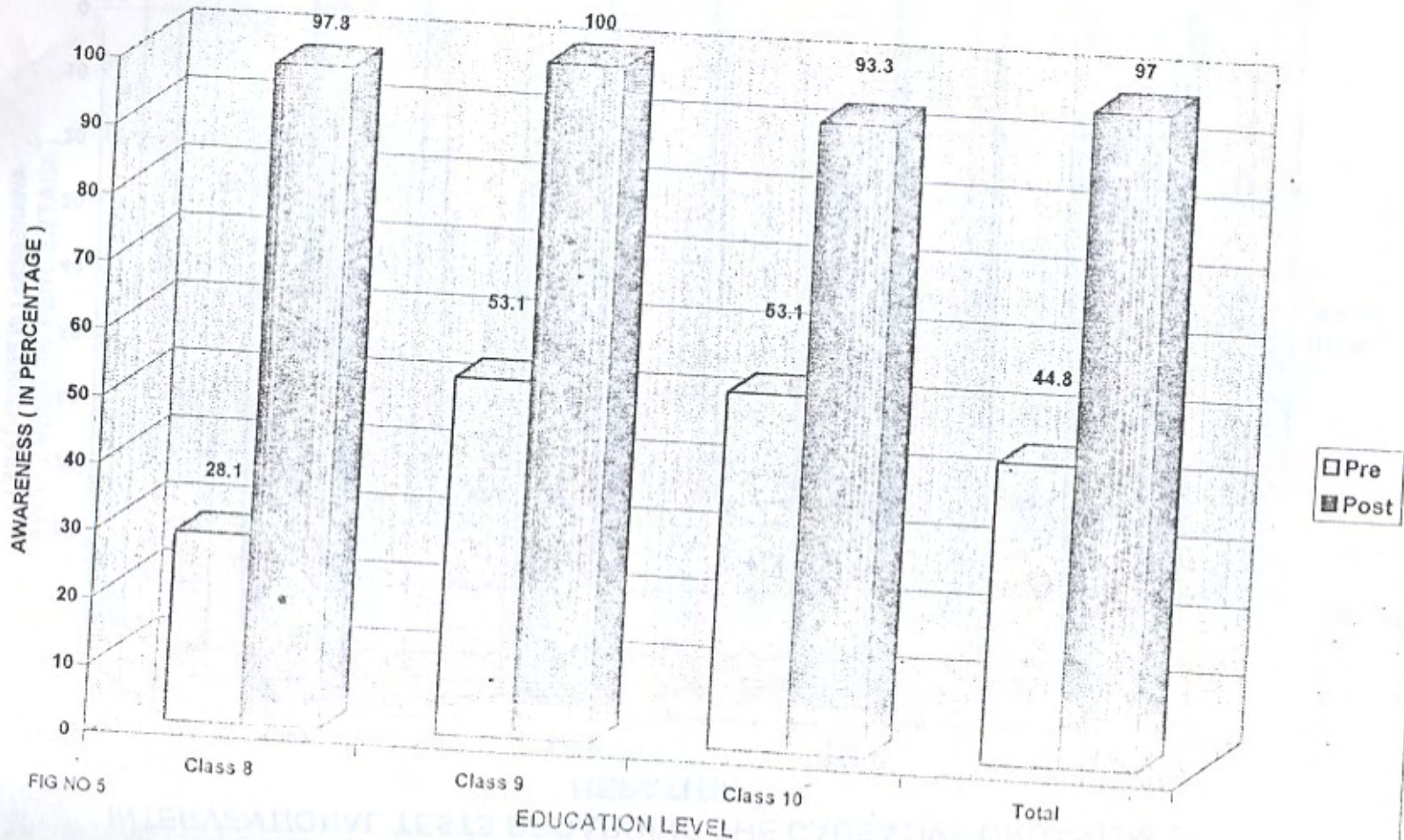


FIG NO 5

COMPARISON OF STUDENTS' AWARENESS BETWEEN PRE & POST INTERVENTIONAL TESTS REGARDING THE TRANSMISSION OF HEPATITIS B AT DIFFERENT EDUCATIONAL LEVELS

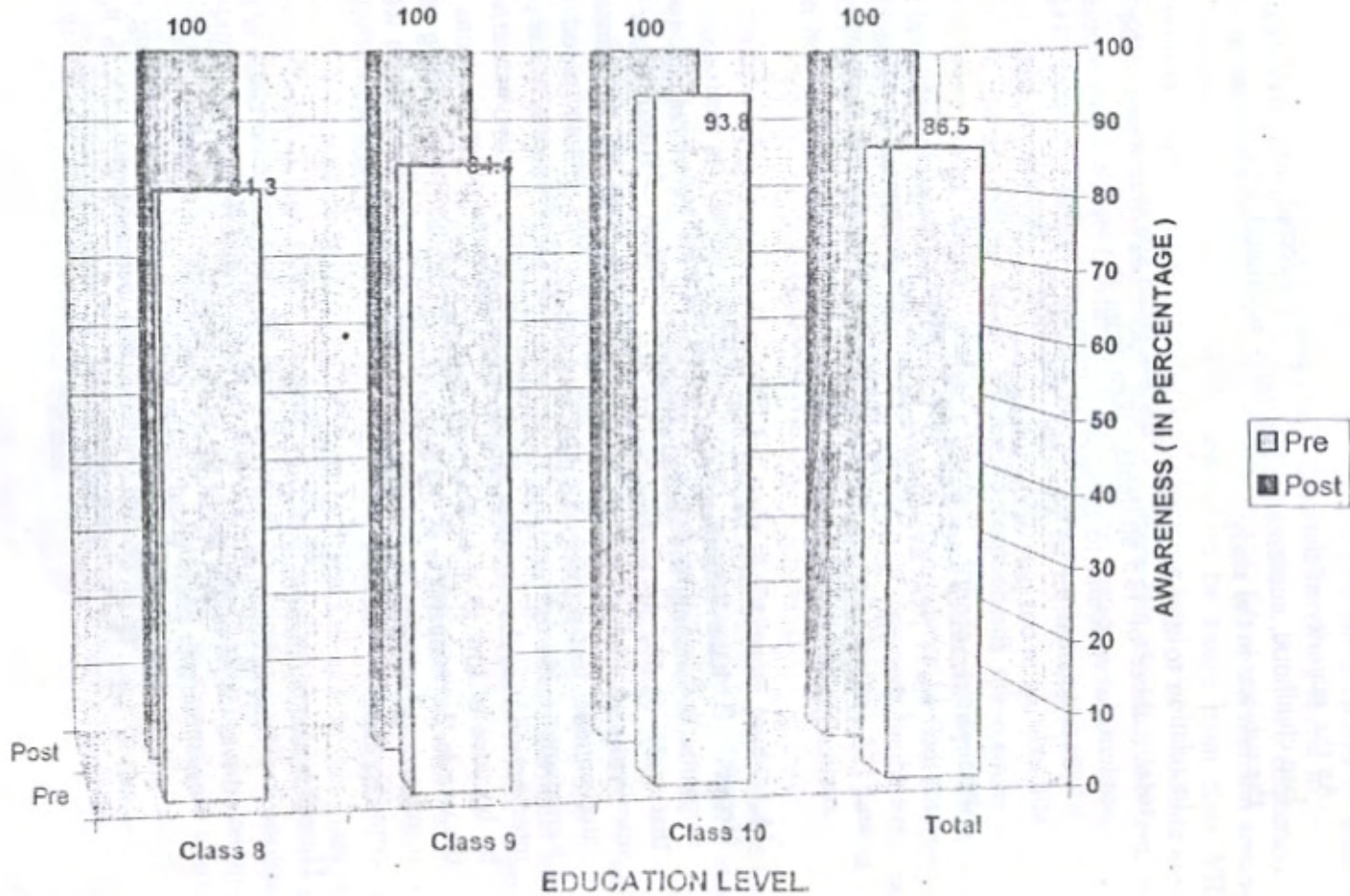


FIG NO 8

COMPARISON OF STUDENTS' AWARENESS BETWEEN PRE & POST INTERVENTIONAL TESTS REGARDING THE TRANSMISSION OF HEPATITIS B AT DIFFERENT EDUCATIONAL LEVELS

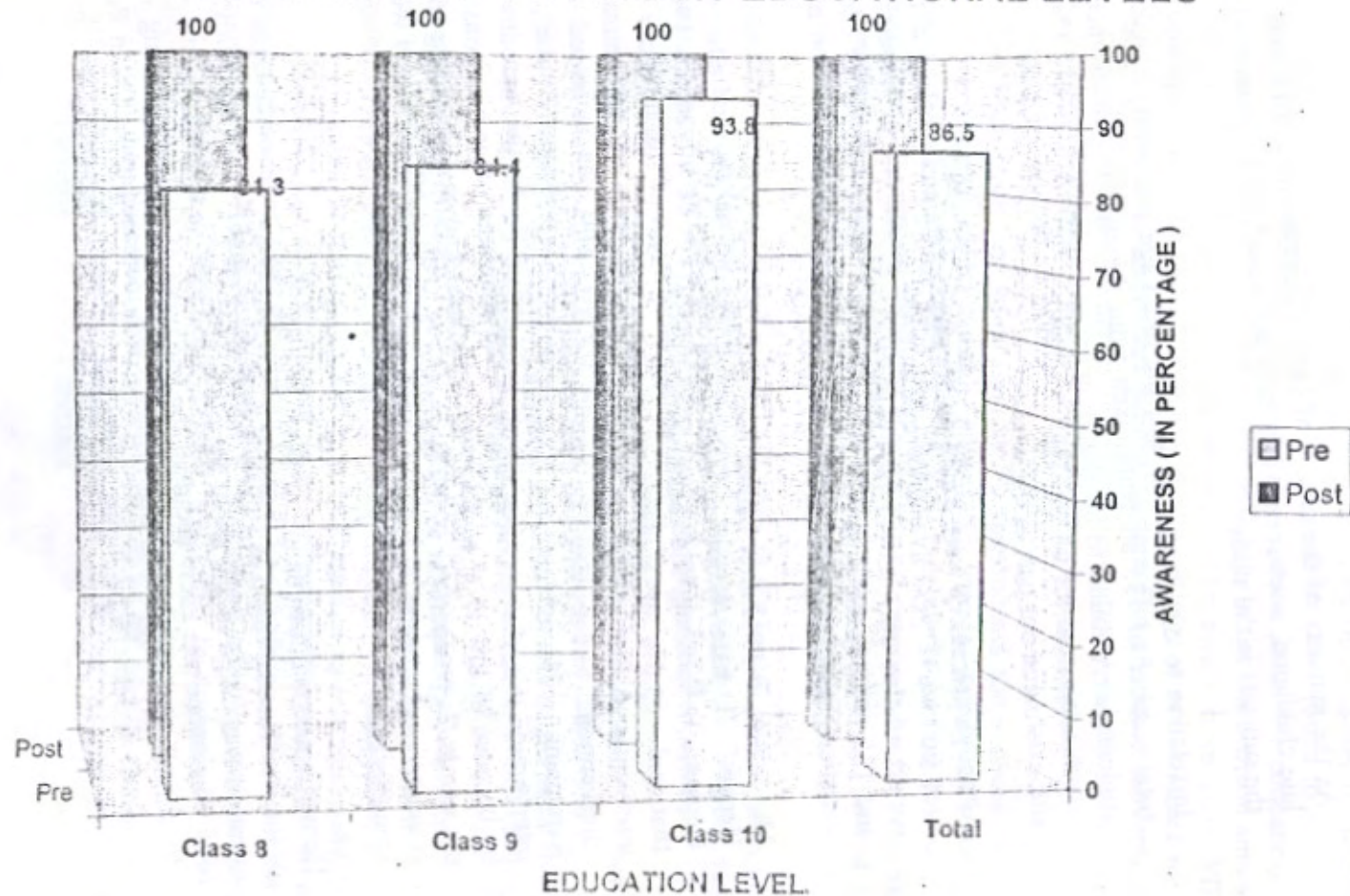


FIG NO 6

DISCUSSION

According to Fact Sheet WHO/204¹⁵, Revised October 2000, Hepatitis B is one of the major diseases of mankind and is a serious global public health problem. This is 50 times more infectious than HIV.

The main ways of getting infected with HBV are –

- perinatal,
- child to child transmission (horizontal, non-sexual route)
- unsafe injections and transfusions
- sexual contact

As the majority of the modes of getting infected with HBV falls under the age group late childhood, adolescence and early adulthood, high school students have been taken as the subjects in the study.

In relation to distribution of age, the mean age was found to be 15.2 ± 1.3 years. The total number of 135 students taken from the selected Government High Schools. Male students were found to be slightly more in number i.e. 72 (53.3%) than female students which accounted for 63 (46.7%). This may be because of gender discrimination which still exists in our part of the world.

Although literatures were found on prevalence rate and serological tests on hepatitis B, such literatures were available regarding the awareness of Hepatitis B. From this study we found that only 96 (71.1%) knew about Hepatitis B before educational intervention and 135 (100%) came to know after the educational intervention making the data statistically highly significant ($Z=6.9, p<0.005$).

MacCollum in 1947 first named two diseases caused by viral agents as Hepatitis A and Hepatitis B. Later Blumberg discovered "Australia Antigen" in 1967 and named it as Hepatitis B¹⁵. About the causative micro-organism of Hepatitis our study findings show that only 63.5% of students were aware of virus as the causative agent in the pre-interventional period out of 96 respondents. This has increased to 95.5% in the post-interventional test proving the data to be highly significant ($Z=7.8, p<0.005$). Remaining 6.3% of students responded bacteria as the causative agent after the intervention too, though these students had answered other questions correctly. This may be because of low level of scientific zoological knowledge leading to confusion among the words. In comparison to the education level class VIII students were most backward in awareness before the intervention but after intervention 100% of students were aware from this class.

Hepatitis means inflammation of liver, and the most common cause is infection with one of the five viruses, called as Hepatitis A, B, C, D, and E¹⁵. In our study, a multiple choice question was asked to ask about the types of Hepatitis causing viruses. Only 2.4% of the total 96 respondents knew about all the five types of Hepatitis causing viruses before the educational intervention and this response was increased to 71.1% in Post-interventional test which is seen to be highly significant ($Z=9.86, p<0.005$). In spite of only 2.4%

knowing about all five types Hepatitis virus a good percentage i.e. 31.2% out of total 96 respondents knew about Hepatitis B virus. However this response was decreased to 9.6% in Post-interventional test.

Hepatitis B virus affects the liver, where its multiplication occur. In much of the developing world most people become infected with HBV during childhood and 8% to 10% of people in the general population become chronically infected. In these regions liver cancer caused by HBV figures among the first three causes of death by cancer in men¹⁵. In our study findings, only 44.8% of students were found to be aware of liver as the organ affected in Hepatitis before our intervention. After the educational intervention this awareness rose to 97% where $Z=7.8$, $p<0.005$. In the comparison among the classes, least number of students i.e. 28.1% seemed to be aware from class VIII before the intervention. This can be because of low education level where students are less exposed to scientific knowledge and others subject matters. But after the intervention 97.8% from class VIII knew about it, whereas the Post-interventional results showed that there was 100% awareness in class IX and least of 93.3% awareness in class X.

From the findings of our study, among 96 respondents the sources of information for 19.8% were mass media, health personnel, friends, family and teachers in Pre-interventional test and for 17% out of 135 respondents in Post-interventional test. In comparison to the above data the percentage of respondents has decreased in Post-interventional test because the total number (n) varies in both i.e. 96 and 135 but when we look into the number of respondents it has increased by four.

The majority of the response i.e. 60% has gone to the health personnel as the only source of information in Post-interventional period, while mass media was the major source of Hepatitis B i.e. for 33.3% of respondents in Post-interventional period.

According to Dr. O.P. Aggarwal and Dr. V. Talwar⁵, more than 2 billion people have evidence of past or current HBV infection globally out of which 350 million people are chronically infected. The high carrier rate and the high rate of perinatal infection appears to be the mechanism for maintaining the high prevalence rate in some countries¹⁵.

According to Mr. Mayans¹⁴, 30% of children were infected with hepatitis B over two years. In the Gambian villages of West Africa⁴, in children aged one to nine years on an average 27% were positive for HbsAg. HBV infection was suggested to occur in early life, 80% of people acquitted this infection by 7 years of age. In this study, for finding out the awareness of high school students on transmission of Hepatitis B from one person to another only 86.5% among 96 students said "Yes" before the intervention whereas this awareness was increase to 100% in total 135 students after the intervention. This makes the data to be highly significant ($Z=3.0$, $p<0.005$). In comparison between different classes in Pre-interventional period, class X seemed to have slightly more knowledge (93.8%) than the other two classes i.e 81.3% and 84.4% in VIII and IX respectively. We can assume that this may be due to students of higher educational level have more knowledge on science and related diseases.

In Pre-interventional test 66.3% of students responded that Hepatitis B can be transmitted from an infected person without any symptoms to another person while 27.7% did not know about it. In Post-interventional test 95.6% responded correctly making the data to be highly significant where $Z=16.6$, $p<0.005$.

Sexual contact as the mode of transmission is similar for STD, HIV and HBV infection. According to B.H. Herg¹³, seroprevalence of HBV infection in STD & HIV infected patients were 41.2% and 61.7% respectively. In peer reviewed studies performed in the United States and abroad⁸, the horizontal transmission through close, non sexual contact with chronically infected person has been well documented. In a study done in Northern India¹², 5.5% of voluntary blood donors and 13.3% of professionals were HbsAg positive.

According to Dr. Grindles¹⁵, 30% of HbsAg positive child bearing women are e-antigen positive in China. These e-antigen positive women have 90% risk of transmitting HBV to the baby at the time of delivery. A study done on primary health care personnel²⁰, 73.3% had correct knowledge of mode of transmission of Hepatitis B whereas in our study the highest percentage of 62.5% students were aware of blood route including blood transfusion and unsafe injections and only 48% knew about sexual route. Though the mode of transmission as sexual route similar to that of HIV it was surprising to find out that 40.6% did not know about this. This can be because of less community awareness and lack of awareness generating programmes being launched in our country. Whereas in Post-interventional period the results are highly significant. Besides for close contact in which we found negative response of 51.1%, we can say that it may be the weakness of the researchers in highlighting it during intervention.

A study done in Kathmandu valley²⁷ shows 10.9% of commercial sex workers to be HbsAg positive whereas in Bangladesh⁴, the study shows 11% of commercial sex workers and 8% of drug addicts to be infected with HBV. In the context of our study on awareness of high risk groups for Hepatitis B infection, most of the students knew injectable drug users and blood recipients which accounted for 52.1% before our intervention and 97.8% responded as above Post-interventionally. This is statistically significant ($Z=2.6$, $p<0.005$). About 30.3% and 50.4% had given wrong answers such as smokers and alcohol users as high risk groups after the intervention. Although they alone are not the high risk groups we can assume that the students must have thought that the people especially the injectable drug users will also indulge in smoking and drinking. This makes the smokers as well as the drinkers to be the high risk groups.

According to C.P Bhatta²⁸, there are 4.2 million acute clinical cases of Hepatitis B each year, sometimes causing jaundice and death to the patients. Our study findings show that 63.5% and 94.1% in Pre and Post interventional test knew fever as a symptom of Hepatitis which is statistically significant where $Z=2.40$, $p<0.005$. Yellowish discoloration of eyes and pain abdomen were the responses given by 44.8% and 31.2% students in Pre-interventional test which was increased to 97.8% and 96.3% respectively after the intervention. About 7.4% students still had misconception that blood in sputum as the symptoms of Hepatitis even in Post-interventional test. The comparison among the

three classes revealed that class VIII students to be ahead with a greater percentage of awareness.

In Post-interventional test 29 students had given loss of appetite, weight loss and dark colored urine as other symptoms. Among them majority were aware of loss of appetite (55.2%) whereas only 17.2% said dark colored urine as the symptom. Among the different educational levels, class X students were more aware of these symptoms.

In relation to the prevention of Hepatitis B 84.4% were aware that Hepatitis B could be prevented in Pre-interventional period whereas the response has increased to 98.55 in Post-interventional test. In terms of classes, the awareness was in the following sequence: class X class < IX class < VIII before the intervention which means to say that students of class X were more aware about its prevention than the students of class IX, and VIII. Hence students of higher level can be assumed to have more knowledge.

Hepatitis B is preventable with safe and effective vaccines that have been made available since 1982. It is 95% effective in preventing chronic infections from developing, and is the first vaccine against the major human cancer. As far as the awareness regarding the availability of vaccine against Hepatitis B is concerned in a study done by Jagvir Singh only 7% were aware of a vaccine against Hepatitis B whereas in our study 96.3% of the respondents (where n=81) were aware in Pre-interventional test while 97.0% became aware of it after the intervention. These data are statistically significant ($Z=2.99$, $p<0.005$).

Since 1991 WHO has called for all countries to add Hepatitis B vaccine into their national immunization programmes. As of March 2000, 116 countries had included Hepatitis B vaccine in their national programmes¹⁵ but the price of it has been the main obstacle for introducing it in Nepal. From our study findings we could see that only 11 students had been vaccinated against HBV in Pre-interventional test and 14 students after intervention. Three respondents had received vaccines within two weeks of time at which the Post-interventional test was undertaken. This itself is a very good achievement data to be achieved. The reason for less HBV prophylaxis may be due to-

- High price.
- Lack of awareness.
- Not included in National Immunization Programme.

Prevention has been the major aim in managing viral Hepatitis B. Therefore, policy to give pre-exposure prophylaxis to general population should be adopted as soon as possible to prevent it emerging as a public health problem

According to our study findings, taking vaccines and avoiding multiple sexual partners are the two major preventive measures responded by 93.9% and 57.6% students in Pre-interventional test and by 69.7% and 100% in Post-interventional test respectively. Among different preventive measures awareness of practice safe of sex has increased significantly in Post test where $Z=4.4p < 0.005$.

In a study done by Jagvir Singh, 70% subjects considered Hepatitis B as a treatable illness whereas in our study only 38.5% students were aware about the availability of medicines for its cure in Pre-interventional test. This awareness was increased to 47.4% after the intervention but at the same time we could see that 46% still did not accept the fact that medicine for Hepatitis B was available. In regard to this particular point we can assume that these 46% students might have thought in the context of our country. However, interferon or lamivudin therapy costs thousands of dollars and will never be available in developing countries.

HBV infection is an important cause of chronic hepatic cirrhosis and hepatocellular carcinoma. According to the similar study done by Jagvir Singh 39% people knew about the dangers of Hepatitis B whereas in our study most of the students told death as its complication before our intervention while during the post-interventional period 94.8% responded liver damage.

No literature could be found regarding awareness of alcohol intake by the person infected with Hepatitis B. In our study findings, 67.7% knew that alcohol should not be taken while 20.8% were not aware of it before the intervention. But after the educational intervention the above response was greatly increased to 90.4%.

As far as the attitude questions are concerned we could not find any literature but from our study findings we found that 92.6% and 100% students said that the knowledge regarding Hepatitis B was necessary among the high school students in Pre and Post interventional tests respectively. In relation to students' attitude regarding who should be responsible for providing knowledge about Hepatitis B, maximum number of respondents viewed that health personnel, guardians, school teachers/school curriculum had this responsibility. In the Pre-intervention responses, 28% opined that the health personnel were responsible for providing the relevant information, whereas a much less number of students (12.4%) in the Post-interventional test had answered that the health personnel were responsible for the same. This might be because the importance had shifted towards mentioning everyone being responsible for providing information on Hepatitis B.

CHAPTER - V

SUMMARY, RECOMMENDATION & CONCLUSIONS

SUMMARY

A Quasi- experimental study was conducted to assess the level of awareness of hepatitis B among government high school students of Dhahran before and after the educational intervention. Three government high schools were selected for the study by lottery method. Equal number of students (45) from each class were selected (by simple random sampling technique), and interviewed by using pre-tested semi-structured closed and open ended questionnaire. The permission from the Principals and consent from each student were taken. The data were analyzed in frequency and percentage by using Two Population Proportion Test.

A total of 135 students were interviewed before the intervention after which teaching was provided by preparing and using Structured Teaching Model. After two weeks of education the same number of students were interviewed by using the same questionnaire. Of 135 students the mean age was 15.2 (± 1.3) years and 72 (55.3%) and 63 (46.7%) among them were males and females respectively.

There was a significant increase ($p < 0.005$) in the level of awareness of students in Post-interventional test. In terms of classes equal number of students, 32 and 45 in Pre and Post interventions, were found to be aware of this disease, Hepatitis B. Some students in Pre-interventional test had misconception that bacteria (26%) and protozoa (6.3%) were the causative agents of Hepatitis which was corrected and improved in Post-interventional test.

A significant number of students 71.1% ($p < 0.005$) came to know all types of Hepatitis virus after the intervention. Mass media (33.3%) was the major source of the information before the educational interventional test followed by health personnel (19.8%); whereas after the interventional test health personnel (including us) was the major source (60%) a information.

All the students (135) knew in Post-test that Hepatitis could be transmitted from one person to another. Majority said it was transmitted through blood followed by sexual contact, through placenta (Vertical), saliva & body fluids and close contact both in Pre and Post interventional tests. Among the high risk groups some students had misconception that smoking and alcohol taking were the high risk factors.

Around 98.5% students knew that Hepatitis B was a preventable disease after the intervention whereas in the Pre-interventional test only 84.4% students knew about it. All 135 students told that high school students should be taught about this infectious but preventable disease.

IMPLICATIONS:

1. This type of interventional study was not conducted previously. We found that this type of study is beneficial and educative to all the students and teachers.
2. This research study is mainly helpful to develop and implement health education materials in the school, in the field of hepatitis B and its prevention.
3. This study may also help to introduce the information on hepatitis B in the school curriculum.
4. Awareness of students will have a strong influence on adoption of healthy behaviours.
5. Nursing students fall under adolescent age group. There is an implication for nurses to assess their knowledge about it prior to induction in Nursing.
6. Mandatory prophylaxis for nursing students when it is not existing.

RECOMMENDATIONS:

1. Limited studies has been done on this context. Therefore further study can be conducted to investigate awareness and to motivate the general population regarding vaccination as the prophylaxis of this dreadful disease in different areas.
2. Further comparative study between Government and Private (boarding) school can be done to cover all the students of Dhahanu.
3. Young adolescents need to be educated regarding risk factors to protect to our future generation from this infectious disease.
4. Since hepatitis B is vaccine preventable disease, and this vaccine is 95% effective in prevention of children and adult from developing chronic hepatitis and hepatocellular carcinoma it is suggested to administer this vaccine with National Immunization Programme by the Government which will prevent not only the Hepatitis B but also Hepatitis D as there is always co-infection with this virus.
5. BPKIHS being tertiary level hospital in Eastern region of Nepal has the responsibility of creating awareness on highly infectious and preventable diseases like Hepatitis B. Therefore, this institute should organize a "Community Health Education Team" in order to impart awareness on this infectious disease to the entire population.

CONCLUSION:

In our study it is found that there is highly significant increased in level of awareness of Hepatitis B among Government high school students of Dhahanu after the educational intervention. This shows that our educational intervention was effective. There is not much difference among the classes regarding these awareness.

Limitations:

- Limited time.
- Limited number of related literatures.

BIBLIOGRAPHY

1. The World Report, 1998; 54-55.
2. Barbara A, Bannista, Norman T. Begg & Stephen H. Gillespie. Infectious Disease.
3. H K. Banskota, M. N. Islam, Md. Nazral Islam. Vertical transmission of hepatitis B virus infection; NMCJ, Voi. 2, no 1, Jan 2000; 37-40.
4. Dr. H. K. Banskota. Prevalence of hepatitis B virus infection in Nepalese population; NMCJ, Vol. 1, no 1, Nov 1998; 17-19.
5. Dr. O. P. Aggarwal, Dr. V. Talwar. Viral hepatitis spectrum and control; INDO- US- CME Program, 30-31 Jan 1998.
6. WHO, Bulletin of Regional health Information. 1988-1990. Regional office for South- east Asia, New Delhi, 1992.
7. WHO 1997
8. The hepatitis B vaccination debate - Should children be universally vaccinated? Medical Crossfire; Voi. 12, no 3, 2000; 60-73.
9. Emerging infectious disease in the SEAR countries, WHO 1998.
10. Teachers guide for Basic epidemiology, 2nd edition, WHO 1994;72.
11. Vaccines: Children & Practice, Aids International Ltd, Vol 2, no 2, 1999; 29.
12. South-East Journal of Tropical Medical & Public Health, March 1998.
13. BH Herg, K T Goh, R Chan et al. Journal of Epidemiology & Community Health, Vol. 49, no 3, June 1995.
14. MV Mayans, Andrew Jhali, Hazell M Inskip et al. The Lancet, Vol. 343, no 8900. March 1994.

15. Fact Sheet WHO/204 Revised October 2000, www.hepatitis.com
16. Malk Mitchell, Epidemiology of hepatitis B. www.HIVandHepatitis.com
17. JAMA 1997.
18. Silveira, T.R; Fonseca, J.C. DA, Rivera, L; et al Hepatitis B seroprevalence in Latin America. American Journal of Public Health (1994) 6(6) 378-383.
19. Baba, M.M; Onwuka, I.S; Baba, S.S. 'Hepatitis B and C virus infections among pregnant women in Maiduguri, Nigeria'. Central European Journal of public health (1999) 7(2) 60-62.
20. Maral, I; Ozkan, S; Aybay, C; Bumin, M.A. 'The Sero-prevalence of hepatitis A,B, C and E in primary health care personnel and their knowledge on transmission routes of these infections'. Turkish Journal of Infection (1999) 13(1) 89-93.
21. TAO Qimin; Feng Baifang Prevention and therapy of hepatitis B. Chinese Medical Journal (Beijing) (1999) 112 (10) 942-946.
22. Acharya, S.K; Panda, S.K, Alka Saxena; Gupta, S D. "Acute hepatic failure in India: a perspective from the east. Journal of Gastroenterology and hepatology (2000) 15 (5) 473-79.
23. Jagvir Singh; Nirmal Shakya, Jain, D C et al, 'A Survey on community perception of jaundice in east Delhi; implication for the prevention and control of viral hepatitis. Transactions of the Royal Society of Tropical Medicine and Hygiene (2000) 94 (3) 243-246.
24. Bai, S.S; Frances, L; Vijayan, E.K; Suma, M.S; Urmila, K.E; Aleyamma Cherian, 'Clinical profile and sero convergence pattern of children with HBsAg positivity' Indian Paediatrics (1999) 36 (12) 1243-1248.
25. Jagvir Singh; Rajesh Vatia; Shashi Khare et al 'Community Study on Prevalence of HBsAg in two Urban Population of Southern India.' Indian Paediatrics (2000) 37(2) 149-152.

26. Sunifa A Gansu; Asha Goel 'Prevalence of HBV and HCV infection among Health Care Workers (HCWs). Journal of Communicable Disease September 2000, Vol 32(3):228-230.
27. Bhatta P; Neupane S; Baker J; Frindman M 'Commercial Sex Workers in Kathmandu Valley, Profile and Prevalence of Sexually Transmitted Disease. Journal of Nepal Medical Association 1993:384-351.
28. C.P. Bhatta 'Prevalence of viral hepatitis B in BPKIHS, Dharan, Nepal 281-283.
29. CDC. Protection against viral hepatitis. MMWR 1990; 39/ No RR-2.

INFORMED CONSENT

The purpose of the study has been explained clearly to me by the researcher along with its implication. I hereby willing give my consent to participate in the study.

Signature of the student

.....

"Awareness of Hepatitis B among Government High School Students of Dharan before and after Educational Intervention"

This questionnaire is designed to find out how much you are aware of Hepatitis B. The information gathered here will be only for this research purpose and for any other purposes. Your name will be kept anonymous and your response will be kept confidential.

Please attempt questions by marking (✓) the option (s) provided with each question or by supplying the answer if space is provided with questions.

PART A:

1. Identification of student:

- a. Name of student:
- b. Age: Sex: Male/Female
- c. Name of the school
- d. Grade

PART B:

2. Have you heard about the disease called hepatitis? Yes/No

Note: If yes, proceed to the following questions, if not attempt only question Number 13

3. Can you tell which organism causes Hepatitis?

4. How many types of Hepatitis causing organisms have you heard about?

- a. Hepatitis A
- b. Hepatitis B
- c. Hepatitis C
- d. Hepatitis D (delta virus)
- e. Hepatitis E

5. Which organ of the body is affected in Hepatitis?

- a. Kidney
- b. Liver
- c. Lungs
- d. Brain

5.1 What are the sources of your information ?

- a. Mass media -Radio, T.V, Newspapers.
- b. Health personnel.
- c. Friends.
- d. Family.
- e. Teachers.

6. Can the infection from a person with Hepatitis B be transmitted to other person?

If yes, can an asymptomatic person with Hepatitis B transmit the infection to other person?

If yes, from which of the following means , it van be transmitted?

- a. Sexual contact Yes/No/Do not know.
- b. Blood Yes/No/Do not know/
- c. Placenta Yes/No/Do not know.
- d. Saliva & body fluids Yes/No/Do not know.
- e. Close contact. Yes/No/Do not know.

7. Do you agree that following person have higher risk of getting Hepatitis B.

- a. Intravenous drug users. Yes/No/Do not know.
- b. Persons who smoke. Yes/No/Do not know.
- c. Person with multiple sexual partners. Yes/No/Do not know.
- d. Person who drinks alcohol. Yes/No/Do not know.
- e. Health personnel. Yes/No/Do not know.

8. One or more of the following could be the symptoms of Hepatitis B infection-

- a. Yellowish discoloration of eyes. Yes/No/Do not know.
- b. Fever. Yes/No/Do not know.
- c. Abdominal pain. Yes/No/Do not know.
- d. Blood in sputum. Yes/No/Do not know
- e. Others

9. Is Hepatitis B a preventable disease? Yes/ No/ Do not know.

If yes, then

- a. Is there any vaccine available to prevent this disease? Yes/No/Do not know.
- b. If yes, have you taken any vaccine against Hepatitis B? Yes/No.

c. What are the other means of protection against Hepatitis B?

.....
.....
.....
.....
.....

10. Can Hepatitis B be cured by the use of medicine? Yes/No/Do not know.

11. What could be the results of Hepatitis B?

- a. Liver cancer.
- b. Liver damage.
- c. Brain damage.
- d. Death.

12. Can a person affected with Hepatitis B take alcohol? Yes/No/Do not know.

PART C:

13. Do you think the high school students should have knowledge about Hepatitis B?

If yes, who all should take the responsibility of giving this information?

- a. Health personnel.
- b. Guardians.
- c. Teachers/School curriculum.

"Awareness of Hepatitis B among Government High School Students of Dharan before and after Educational Intervention"

तलको प्रश्नावली हेपाटाइटिस "बी" भन्ने रोगसंग तपाईले कतिको जानकारी राख्नु भएको छ भन्ने कुरासंग सम्बन्ध राख्दछ । तपाईको नामको साथै यसबाट प्राप्त जानकारी पुर्णतः गोप्य राखिनुको साथै प्राप्त जानकारीलाई यस अनुसन्धान कार्य बाहेक अरु कुनै कार्यमा प्रयोग गरिने छैन भन्ने आश्वासन समेत दिइन्छ ।

प्रश्नहरूको उत्तर दिदा अरु कसैसंग नसोधी सल्लाह नगरी प्रश्नहरूमा दिइएका उत्तरहरूमा ○ गोलो चिन्ह लगाएर अथवा खाली ठाउँमा उत्तर लेखेर दिनुहोला ।

१। विद्यार्थीको परिचय:

क) नाम:

ख) उमेर :

वर्ष:

लिङ्ग: पुरुष र महिला

ग) स्कुलको नाम:

घ) कक्षा:

ङ) अविभावकको नाम:

२। तपाईले हेपाटाइटिस भन्ने रोगको बारेमा सूनू भएको छ ?

छ । छैन । थाहा छैन

यदि छ भने, तल दिइएका प्रश्न ३ देखि १२ सम्म भर्नुहोस्, छैन भने प्रश्न १३ मा जानुस् ।

३। तल दिएका मध्ये कून जिवाणूले हेपाटाइटिस रोग गराउंदछ ?

क) व्याक्टेरिया

ख) भाइरस

ग) प्रोटोजोआ

४। के तपाईलाई हेपाटाइटिस रोग गराउने जिवाणूहरू कति थरिका हुन् थाहा छ ?

- क) हेपाटाइटिस ए
- ख) हेपाटाइटिस बी
- ग) हेपाटाइटिस सी
- घ) हेपाटाइटिस डी (डेल्टा भाइरस)
- ङ) हेपाटाइटिस ई

५. यु. किसिमको हेपाटाइटिस ले शरीरको कून कून अंगलाई असर पार्दछ, के तपाइलाई थाहा छ ?

- क) मृगौला
- ख) कलेजो
- ग) फोक्सो
- घ) दिमाग

तपाईंको जानकारीको स्रोत के के हो ?

- क) सामूहिक संचार: रेडियो, टि.भी., पत्र पत्रिका
- ग) स्वास्थ्य कार्यकर्ता
- ग) साथी
- घ) परिवार
- ङ) शिक्षक

६। के हेपाटाइटिस बी एक व्यक्तिबाट अर्को व्यक्तिमा सर्न सक्छ ?

हो । होइन । थाहा छैन

के हेपाटाइटिस बी भएको लक्षण नदेखिने व्यक्तिले अरुलाई यो रोग सर्न सक्छ ?

हो । होइन । थाहा छैन

यदि हो भने, हेपाटाइटिस बी के तलका माध्यमबाट सर्नसक्छ ?

- | | |
|------------------------------|----------------------|
| क) यौन सम्पर्कबाट | हो । होइन । थाहा छैन |
| ख) रगतबाट (सूईबाट, रगत लिदा) | हो । होइन । थाहा छैन |
| ग) सालबाट (आमाबाट बच्चामा) | हो । होइन । थाहा छैन |
| घ) शूक वा ऋयालबाट | हो । होइन । थाहा छैन |
| ङ) छुवा(छूतबाट) | हो । होइन । थाहा छैन |

७) के तलका व्यक्तिहरूलाई हेपाटाइटिस, बी हुने सम्भावना बढी हुन्छ हो ?

- | | |
|-------------------------------------|----------------------|
| क) नशाबाट लागू पदार्थ सेवन गर्नेलाई | हो । होइन । थाहा छैन |
| ख) चुरोट सेवन गर्नेलाई | हो । होइन । थाहा छैन |
| ग) धेरैजनासंग यौन सम्पर्क राख्नेलाई | हो । होइन । थाहा छैन |
| घ) मद्यपान सेवन गर्नेलाई | हो । होइन । थाहा छैन |
| ड) स्वास्थ्य कर्मी | हो । होइन । थाहा छैन |

८) हेपाटाइटिस, बी का लक्षणहरु के के हुन् ?

- | | |
|-----------------------------|----------------------|
| क) शरिर र आंखा पहेलो हुनु | हो । होइन । थाहा छैन |
| ख) ज्वरो आउनु | हो । होइन । थाहा छैन |
| ग) पेटको दाहिने कोखा दुख्नु | हो । होइन । थाहा छैन |
| घ) खकारमा रगत देखापर्नु | हो । होइन । थाहा छैन |
| ज) अरु कुनै, थप्नुस् | |

९) के हेपाटाइटिस बी को रोकथाम गर्न सकिन्छ हो ? हो । होइन । थाहा छैन
यदि हो भने,

- | | |
|--|----------------------|
| क) के यो रोग विरुद्ध खोप पाइन्छ ? | हो । होइन । थाहा छैन |
| ख) हो भने, तपाईंले यो खोप लिनु भएको छ ? | छ । छैन |
| ग) यो रोग रोक्न सकिन्छ भने, रोकथामका उपायहरु के के हुन ? | |

१०) के हेपाटाइटिस बी निको पार्ने औपधी पाइन्छ हो? हो । होइन । थाहा छैन

११) हेपाटाइटिस बी रोगका परिणामहरु के के हुन सक्छन् ?

- क) क्यान्सर
- ख) सेलेजो खराव हुनु
- ग) दिमागमा असर पार्नु
- घ) मृत्यू
- ङ) अन्य कुनै

१२) के हेपाटाइटिस बी ग्रसित व्यक्तिले मध्यपान गर्न हुन्छ ?
हो । होइन । थाहा छैन

१३) के तपाईंलाई हेपाटाइटिसु बी को सम्बन्धमा माध्यमिक विद्यालयका विद्यार्थीहरुले जानकारी लिनूपर्छ जस्तो लाग्छ ? हो । होइन । थाहा छैन

हो भने, जानकारी कसरी लिन सकिन्छ ?

- क) स्वास्थ्य कार्यलयबाट
- ख) अभिभावकबाट
- ग) शिक्षकहरुबाट / स्कुल पाठ्यक्रमबाट

MASTER SHEET

Part A : Demographic Data

| 1 | | |
|-----|-----|-----|
| 1.1 | 1.2 | 1.3 |
| 123 | 12 | 123 |
| | | |

KEYS OF THE MASTER SHEET

Part A: Demographic data.

Question No 1:

- 1.1- Age
- 1.2- Sex
- 1.3- Class

Part B: Students' awareness

Question No 2:

- 1- Yes
- 2- No

Question No 3:

- 1- Bacteria
- 2- Virus
- 3- Protozoa
- 4- No response

Question No 4:

- 1- Hepatitis A
- 2- Hepatitis B
- 3- Hepatitis C
- 4- Hepatitis D
- 5- Hepatitis E

Question No 5:

- 1- Kidney
- 2- Liver
- 3- Lungs
- 4- Brain

Question No 5.1:

- 1- Mass media- T. V, Radio, Newspapers
- 2- Health personnel
- 3- Friends
- 4- Family
- 5- Teachers

Question No 6(I):

- 1- Yes
- 2- No
- 3- Do not know

Question No 6(ii):

- 1- Yes
- 2- No
- 3- Do not know

Question No 6(iii) a:

- 1- Yes
- 2- No
- 3- Do not know

Question No 6(iii) b:

- 1- Yes
- 2- No
- 3- Do not know

Question No 6(iii) c:

- 1- Yes
- 2- No
- 3- Do not know

Question No 6(iii) d:

- 1- Yes
- 2- No
- 3- Do not know

Question No 6(iii) e:

- 1- Yes
- 2- No
- 3- Do not know

Question No 7a:

- 1- Yes
- 2- No
- 3 Do not know

Question No 7b:

- 1- Yes
- 2- No
- 3- Do not know

Question No 7c:

- 1- Yes
- 2- No
- 3- Do not know

Question No 7d:

- 1- Yes
- 2- No
- 3- Do not know

Question No 7e:

- 1- Yes
- 2- No
- 3- Do not know

Question No 8a:

- 1- Yes
- 2- No
- 3- Do not know

Question No 8b:

- 1- Yes
- 2- No
- 3- Do not know

Question No 8c:

- 1- Yes
- 2- No
- 3- Do not know

Question No 8d:

- 1- Yes
- 2- No
- 3- Do not know

Question No 8e:

- 1- Loss of appetite
- 2- Weight loss
- 3- Dark colored urine

Question No 9(i):

- 1- Yes
- 2- No
- 3- Do not know

Question No 9(ii):

- 1- Yes
- 2- No
- 3- Do not know

Question No 9(iii):

- 1- Yes
- 2- No

Question No 9(iv):

- 1- Take vaccines
- 2- Avoid multiple sexual partners
- 3- Avoid sharing needles
- 4- Practice safe sex
- 5- Infected mother should not bear child & if the baby is born it should be vaccinated immediately against HBV
- 6- Increase awareness among the people
- 7- Take screened blood

Question No 10:

- 1- Yes
- 2- No
- 3- Do not know

Question No 11:

- 1- Cancer
- 2- Liver damage
- 3- Brain damage
- 4- Death

Question No 12:

- 1- Yes
- 2- No
- 3- Do not know

Part C: Students' attitude

Question No 13(I):

- 1- Yes
- 2- No
- 3- Do not know

Question No 13(ii):

- 1- Health Personnel
- 2- Guardians
- 3- Teachers/School curriculum.

TEACHING -LEARNING MODULE

ON

Awareness of hepatitis 'B' for High School
Students.

Duration = 60 minutes

Setting = Classroom

Language = Simple Nepali

| S.N. | LEARNING OBJECTIVES | CONTENT | TEACHING-LEARNING PROCESS | EVALUATION |
|------|--|--|---|--|
| 1 | List other types of viral hepatitis | <p>Introduction: Hepatitis is an Infectious disease caused by an organism called hepatitis 'B' virus. It enters into the blood circulation and lodges in the liver. It is a common disease in Nepal which mostly affects young age groups.</p> <p>Other types of viral hepatitis are :</p> <p>Hepatitis A Hepatitis C Hepatitis D (delta virus) Hepatitis E</p> | Explanation by the prepared flash card. | By conducting post-test after 2 weeks of intervention. |
| 2 | Describe the sources of infection | <p>HBV is spread from one person to other by human as he is the source of infection. The virus from the diseased person's body is released in human fluids such as- blood, urine/stool, saliva, semen & vaginal fluids and sweat.</p> <p>Even after an entry of the virus into the blood stream there is no obvious sign & symptoms upto 70 days, but an infected individual can transmit the disease from one to the other.</p> | Explanation through flow chart. | By conducting post-test after 2 weeks of intervention. |
| 3 | What are the means by which disease can be transmitted from one person to another. | <p>The following are the means by which the disease can be transmitted from one person to another-</p> <ul style="list-style-type: none"> ◆ blood transfusions ◆ cuts and open wounds ◆ infectable drugs ◆ mother to child (through placenta) ◆ sexual contact ◆ deep kissing (saliva) ◆ frequent close contact | Explaining through the prepared flow chart. | By conducting post-test after 2 weeks of intervention. |

| S. N. | LEARNING OBJECTIVES | CONTENT | TEACHING LEARNING PROCESS | EVALUATION |
|-------|---|--|--|--|
| 4 | Identify the people who are at higher risk of getting HBV | <p>The following are the people who are at risk of getting hepatitis B:</p> <ul style="list-style-type: none"> ◆ recipient of blood. ◆ person who is in frequent close contact with infected person. ◆ the person who share tooth brush and razor ◆ health personnels ◆ injectable drug users. ◆ child with an infected mother ◆ person with multiple sexual partners. ◆ unsafe sexual contact (a person not using condom.) ◆ prostitutes ◆ homosexuals. | Explaining through the prepared flow chart. | By conducting post-test after 2 weeks of intervention. |
| 5 | What are the signs and symptoms of hepatitis B | <p>Generally the symptoms occur after 8-10 weeks of infection. The person will have general feeling of weakness, loss of appetite, sickness, vomiting, fever and pain over the upper right quadrant. These symptoms last for 3-10 days. Then the person will slowly develop yellowish discolouration of eyes, skin and urine.</p> <p>These symptoms generally disappear by itself but among 15-20% of infected individuals will have the virus for life long and are known as chronic carrier.</p> | Explaining through the prepared flash card | By conducting post-test after 2 weeks of intervention. |
| 6 | Describe the preventive measures for | <p>The preventive measures of hepatitis 'B' are as follows:-</p> <ul style="list-style-type: none"> ◆ Infected person should not give blood. ◆ Always take screened blood. ◆ Sleep and sit separately from an infected person. ◆ Do not share tooth brush and razor. ◆ Needles and sharp instruments should be handled with care ◆ Avoid sharing needles to use injectable drugs. ◆ Infected pregnant mother should take vaccination against Hepatitis B. ◆ Avoid multiple sexual partners. ◆ Use condom ◆ Avoid prostitutes ◆ Avoid homosexuality. ◆ Vaccination: <ul style="list-style-type: none"> 0 month : first dose 1 month: second dose 6 months: third dose | Explanation through a chart paper about preventive measures. | By conducting post-test after 2 weeks of intervention. |

| S.N | LEARNING OBJECTIVES | CONTENT | TEACHING LEARNING PROCESS | EVALUATION |
|-----|--|---|--|--|
| 7 | Describe the treatment available for hepatitis 'B' | <p>There is no specific treatment available for hepatitis 'B', only symptomatic treatment can be given like:</p> <ul style="list-style-type: none"> ◆ Rest (complete bed rest) ◆ Good nutrition (high calorie diet) ◆ Good personal hygiene. ◆ Seek medical help. | Explanation through the prepared flash card. | By conducting post-test after 2 weeks of intervention. |
| 8 | Describe the complications of hepatitis 'B' | <ul style="list-style-type: none"> ◆ Liver cancer ◆ Liver damage. ◆ Cirrhosis ◆ Anaemia. | Explaining through the prepared flash card. | By conducting post-test after 2 weeks of intervention. |