Assessment of Knowledge and Attitude of HBV among Secondary School and College Students of Gopalganj

A dissertation submitted to the Department of Pharmacy, East West University, Bangladesh, in partial fulfillment of the requirements for the Degree of Bachelor of Pharmacy

Submitted by:

Chandan Mridha

ID: 2013-1-70-076

EAST WEST UNIVERSITY

Declaration by the Research Candidate

I, Chandan Mridha, ID: 2013-1-70-076, hereby declare that the dissertation entitled **"Assessment of Knowledge and Attitude of HBV among Secondary School and College Students of Goplganj"** submitted by me to the Department of Pharmacy, East West University in the partial fulfillment of the requirement for the award of the degree Bachelor of Pharmacy, is an original research work.

Chandan Mridha
ID: 2013-1-70-076
Department of Pharmacy,
East West University

Certificate by the Supervisor

This is to certify that the dissertation entitled **"Assessment of Knowledge and Attitude of HBV among Secondary School and College Students of Gopalganj"** submitted to the Department of Pharmacy, East West University for the partial fulfillment of the requirement for the award of the degree Bachelor of Pharmacy is a bonafide record of original and genuine research work carried out by Chandan Mridha, ID: 2013-1-70-076, under my supervision and guidance.

Nigar Sultana Tithi
Senior Lecturer and Supervisor
Department of Pharmacy,
East West University

Certificate by the Chairperson

This is to certify that the dissertation entitled **"Assessment of Knowledge and Attitude of HBV among Secondary School and College Students of Gopalganj"** submitted to the Department of Pharmacy, East West University for the partial fulfillment of the requirement for the award of the degree Bachelor of Pharmacy is a bonafide record of original and genuine research work carried out by Chandan Mridha, ID: 2013-1-70-076.

Dr. Chowdhury Faiz Hossain
Professor & Chairperson
Department of Pharmacy,
East West University

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Dedication

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TABLE of CONTENTS

CHAPTER ONE: INTRODUCTION

CHAPTER FOUR: RESULTS

CHAPTER FIVE: DISCUSSION AND CONCLUSUION

List of Figures

List of Tables

Abstract

The global epidemic of Hepatitis B virus (HBV) is now progressing at a rapid rate among young people. School or College people are at high risk of HBV infections. Therefore, awareness is needed to control and preventthe transmission of HBV. The purpose of our study was to determine the knowledge level of Secondary and Higher Secondary students of Gopalganj about HBV and their attitude towards the infected patients. The survey was conducted on 301 different school or college students of Gopalganj by using a pre-structured questionnaire. All of the respondents have heard about the term HBV. The major sources of information weremedia (63.5%) and educational institute (36.6%). According to most of respondents the disease can be transmitted by unprotected sex (94.2%), mother to fetus (86.4%), sharinginfected needles or syringe (90.2%), blood transfusion (92.1%) and breast feeding (69.1%). Some respondents said that it can be transmitted by razor sharing (40.2%) and medical or dentalprocedure (30.1%). Some students had misconception about the transmission. About 22%students said it can be transmitted by mosquito bite. Regarding the knowledge about controland prevention most of them had better knowledge. Most participants had positive attitudetowards infected person. Education and intervention programs are needed to be arranged to reduce the misconception and to increase awareness of HBV.

Keywords: Hepatitis B, Knowledge, Attitude, Mode of Transmission, Prevention, Bangladesh

Chapter 1

Introduction

1.1 Hepatitis

Hepatitis is inflammation of the liver. Some people have no symptoms whereas others develop yellow discoloration of the skin and whites of the eyes, poor appetite, vomiting, tiredness, abdominal pain, or diarrhea. Hepatitis may be temporary (acute) or long term (chronic) depending on whether it lasts for less than or more than six months. Acute hepatitis can sometimes resolve on its own, progress to chronic hepatitis, or rarely result in acute liver failure. Over time the chronic form may progress to scarring of the liver, liver failure, or liver cancer.

The most common cause worldwide is viruses. Other causes include heavy alcohol use, certain medications, toxins, other infections, autoimmune diseases, and non-alcoholic steatohepatitis (NASH). There are five main types of viral hepatitis: type A, B, C, D, and E. Hepatitis A and E are mainly spread by contaminated food and water. Hepatitis B is mainly sexually transmitted, but may also be passed from mother to baby during pregnancy or childbirth. Both hepatitis B and hepatitis C are commonly spread through infected blood such as may occur during needle sharing by intravenous drug users. Hepatitis D can only infect people already infected with hepatitis B (NIAID, 2016).

Hepatitis A, B, and D are preventable with immunization. Medications may be used to treat chronic cases of viral hepatitis. There is no specific treatment for NASH; however, a healthy lifestyle, including physical activity, a healthy diet, and weight loss, is important. Autoimmune hepatitis may be treated with medications to suppress the immune system. A liver transplant may also be an option in certain cases.

Worldwide in 2015, hepatitis A occurred in about 114 million people, chronic hepatitis B affected about 343 million people and chronic hepatitis C about 142 million people. In the United States, NASH affects about 11 million people and alcoholic hepatitis affects about 5 million people. Hepatitis results in more than a million deaths a year, most of which occur indirectly from liver scarring or liver cancer (WHO, 2017).

1.2 Types of viral Hepatitis

There are five main types of viral hepatitis.

- Hepatitis A
- Hepatitis B
- Hepatitis C
- Hepatitis D
- Hepatitis E

1.2.1 Hepatitis A

Hepatitis A is caused by the hepatitis A virus. It's usually caught by consuming food and drink contaminated with the poo of an infected person and is most common in countries where sanitation is poor. Hepatitis A usually passes within a few months, although it can occasionally be severe and even life-threatening. There's no specific treatment for it, other than to relieve symptoms such as pain, nausea and itching.

Vaccination against hepatitis A is recommended if you're travelling to an area where the virus is common, such as the Indian subcontinent, Africa, Central and South America, the Far East and Eastern Europe (NHS, 2016).

1.2.2 Hepatitis B

Hepatitis B is caused by the hepatitis B virus, which is spread in the blood of an infected person. It's a common infection worldwide and is usually spread from infected pregnant women to their babies, or from child-to-child contact. In rare cases, it can be spread through unprotected sex and injecting drugs. Hepatitis B is uncommon in the UK and most cases affect people who became infected while growing up in part of the world where the infection is more common, such as Southeast Asia and sub-Saharan Africa. Most adults infected with hepatitis B are able to fight off the virus and fully recover from the infection within a couple of months.

However, most people infected as children develop a long-term infection. This is known as chronic hepatitis B and it can lead to cirrhosis and liver cancer. Antiviral medication can be used to treat it.

HBV is transmitted by percutaneous or mucosal exposure to blood or body fluids of an infected person, such as from an infected mother to her newborn during childbirth, through close personal contact within households, through unscreened blood transfusion or unsafe injections in health-care settings, through injection drug use, and from sexual contact with an infected person. Adults with diabetes mellitus are at an increased risk of acquiring HBV infection if they share diabetes-care equipment such as blood glucose meters, finger stick devices, syringes and/or insulin pens. Adults with diabetes aged <60 years are thus recommended to receive hepatitis B vaccination and those aged ≥60 years are to be considered for vaccination (WEBMD, 2017).

Risk for chronic HBV infection decreases with increasing age at infection. Of infants who acquired HBV infection from their mothers at birth, as many as 90% become chronically infected, whereas 30%–50% of children infected at age 1–5 years become chronically infected. This percentage is smaller among adults, for whom approximately 5% of all acute HBV infections progress to chronic infection.

Effective vaccines to prevent HBV infection have been available in the United States since 1981. Ten years later, a comprehensive strategy was recommended for the elimination of HBV transmission in the United States, the strategy was revised to include catch-up vaccination of older children, adolescents and other populations. The current vaccine-based strategy for the elimination of HBV transmission encompasses the following four components:

- Universal vaccination of infants beginning at birth;
- Prevention of perinatal HBV infection through routine screening of all pregnant women for HBV infection and provision of hepatitis B vaccine and immunoprophylaxis to infants born to hepatitis B surface antigen (HBsAg)-positive mothers;
- Routine vaccination of previously unvaccinated children and adolescents; and

- Vaccination of adults at increased risk for infection (including health-care workers, dialysis patients, adults with diabetes, household contacts and sex partners of persons with chronic HBV infection, recipients of certain blood

products, persons with a recent history of having multiple sex partners concurrently, those infected with a sexually transmitted disease, MSM, and PWID.

In addition to hepatitis B vaccination, efforts have been made to improve care and treatment for persons who are living with hepatitis B. In the United States, 850,000–2.2 million persons are estimated to be living with HBV infection, many of whom are unaware of their infection status. To improve health outcomes for these persons, in 2008 CDC recommended HBV testing for populations at risk for HBV infection and public health management of persons living with chronic HBV infection. These guidelines stress the need for testing persons at high risk for infection, conducting contact management, educating patients, and administering FDA-approved therapies for treating hepatitis B. Other recent guidelines address the appropriate management of chronic HBV infection among surgeons, other health-care workers, and students (Mayoclinic, 2017).

1.2.3 Hepatitis C

Hepatitis C is caused by the hepatitis C virus and is the most common type of viral hepatitis in the UK. It's usually spread through blood-to-blood contact with an infected person. In the UK, its most commonly spread through sharing needles used to inject drugs. Poor healthcare practices and unsafe medical injections are the main way it’s spread outside the UK.

Hepatitis C often causes no noticeable symptoms, or only flu-like symptoms, so many people are unaware they're infected. Around one in four people will fight off the infection and be free of the virus. In the remaining cases, it will stay in the body for many years. This is known as chronic hepatitis C and can cause cirrhosis and liver failure. Chronic hepatitis C can be treated with very effective antiviral medications, but there's currently no vaccine available (Mayoclinic, 2017).

1.2.4 Hepatitis D

It is caused by the hepatitis D virus. It only affects people who are already infected with hepatitis B, as it needs the hepatitis B virus to be able to survive in the body. Hepatitis D is usually spread through blood-to-blood contact or sexual contact. It's uncommon in the UK, but is more widespread in other parts of Europe, the Middle East, Africa and South America. Long-term infection with hepatitis D and hepatitis B can increase risk of developing serious problems, such as cirrhosis and liver cancer. There's no vaccine specifically for hepatitis D, but the hepatitis B vaccine can help protect you from it (CDC, 2015).

1.2.5 Hepatitis E

Hepatitis E is caused by the hepatitis E virus. It's usually caught by consuming food and drink contaminated with the poo of an infected person. It's now the most common cause of short-term (acute) hepatitis in the UK. Hepatitis E is generally a mild and short-term infection that doesn't require any treatment, but it can be serious in a small number of people. It can become chronic in people who have a suppressed immune system, such as those who have had an organ transplant.

There's no vaccine for hepatitis E, but it can be reduced by practicing good food and water hygiene measures, particularly when travelling to parts of the world with poor sanitation (NHS, 2016).

1.3 Hepatitis B virus

Hepatitis B virus, abbreviated HBV, is of the double stranded DNA type, a species of the genus *Orthohepadnavirus*, which is likewise a part of the *Hepadnaviridae* family of viruses. This virus causes the disease hepatitis B.

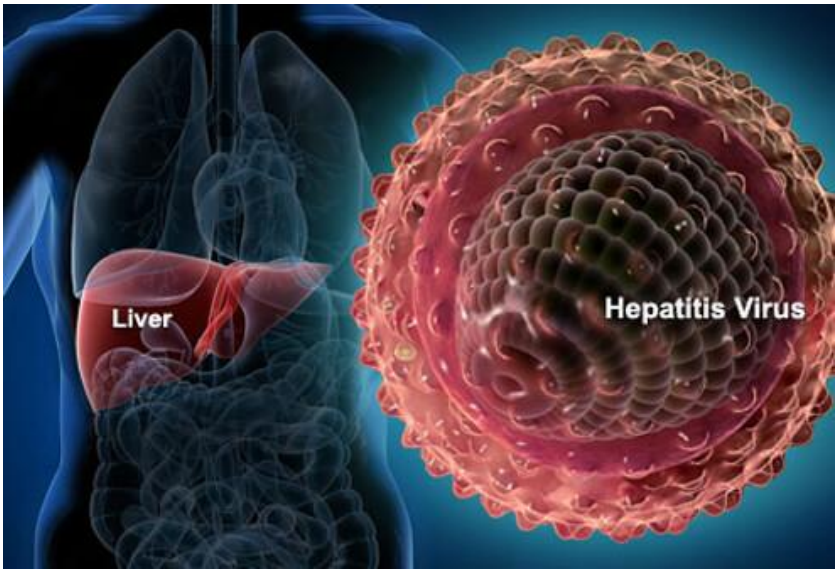

Figure 1.1: Hepatitis B Virus (emedicinehealth, 2017)

1.4 Classification

The hepatitis B virus is classified as the type species of the *Orthohepadnavirus*, which contains three other species: the *Ground squirrel hepatitis virus*, Woodchuck hepatitis virus, and the *Woolly monkey hepatitis B virus*. The genus is classified as part of the *Hepadnaviridae* family, which contains two other genera, the *Avihepadnavirus* and a second which has yet to be assigned. This family of viruses have not been assigned to a viral order. Viruses similar to hepatitis B have been found in all apes (orangutan, gibbons, gorillas and chimpanzees), in Old World monkeys, and in a World woolly suggesting an ancient origin for this virus in primates. The virus is divided into four major serotypes (adr, adw, ayr, ayw) based on antigenic epitopes present on its envelope proteins. These serotypes are based on a common determinant (a) and two mutually exclusive determinant pairs (d/y and w/r). The viral strains have also been divided into ten genotypes (A–J) and forty subgenotypes according to overall nucleotide sequence variation of the genome. The genotypes have a distinct geographical distribution and are used in tracing the evolution and transmission of the virus. Differences between genotypes affect the disease severity, course and likelihood of complications, and response to treatment and possibly vaccination. The serotypes and genotypes do not necessarily correspond. Genotype D has 10 subgenotypes (Microbewiki.kenyon, 2010).

1.5 Life cycle of hepatitis B virus

The life cycle of hepatitis B virus is complex. Hepatitis B is one of a few known non-retroviral viruses which use reverse transcription as a part of its replication process.

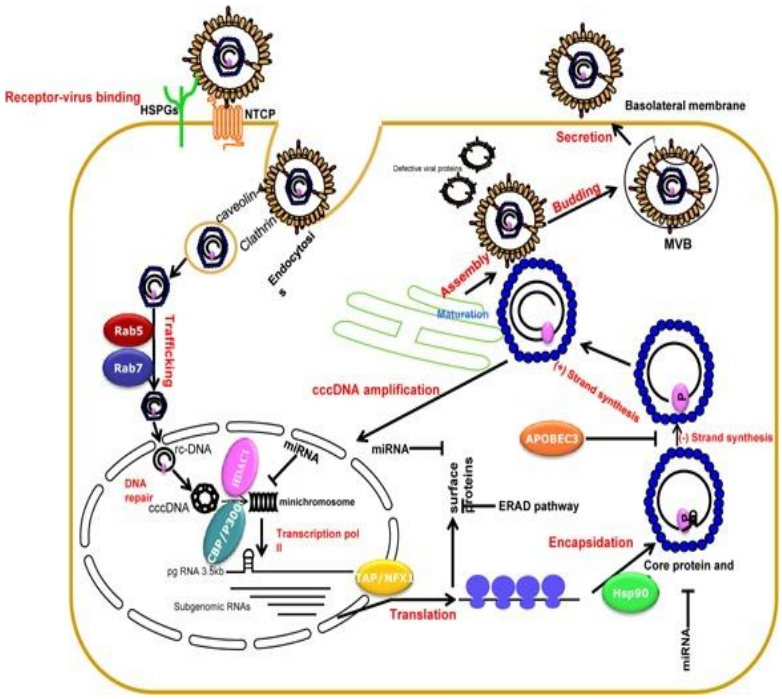

Figure 1.2: Life cycle of hepatitis b virus (Grimm, D., Thimme, R. and Blum, HE. 2011)

1.5.1Attachment

The virus gains entry into the cell by binding to a receptor on the surface of the cell and enters it by clathrin-dependent endocytosis. The cell surface receptor has been identified as the Sodium/Bile acid cotransporting peptide SLC10A1 (also named NTCP).

1.5.2 Penetration

The virus membrane then fuses with the host cell's membrane releasing the DNA and core proteins into the cytoplasm.

1.5.3 Uncoating

Because the virus multiplies via RNA made by a host enzyme, the viral genomic DNA has to be transferred to the cell nucleus. It is thought the capsid is transported on the microtubules to the nuclear pore. The core proteins dissociate from the partially double stranded viral DNA is then made fully double stranded and transformed into covalently

closed circular DNA (cccDNA) that serves as a template for transcription of four viral mRNAs.

1.5.4 Replication

The largest mRNA, (which is longer than the viral genome), is used to make the new copies of the genome and to make the capsid core protein and the viral DNA polymerase.

1.5.5 Assembly

These four viral transcripts undergo additional processing and go on to form progeny virions which are released from the cell or returned to the nucleus and re-cycled to produce even more copies.

1.5.6 Release

The long mRNA is then transported back to the cytoplasm where the virion P protein synthesizes DNA via its reverse transcriptase activity (Hepatitisbviruspage, 2000).

1.6 Hepatitis B Transmission

- a mother to their newborn baby, particularly in countries where the infection is common – all pregnant women in the UK are offered screening for hepatitis B; babies of infected mothers are vaccinated immediately after birth to help prevent infection
- injecting drugs and sharing needles and other drug equipment, such as spoons and filters
- having sex with an infected person without using a condom
- having a tattoo, body piercing, or medical or dental treatment in an unhygienic environment with unsterilized equipment
- having a blood transfusion in a country where blood isn't tested for hepatitis B – all blood donations in the UK are now tested for the infection
- sharing toothbrushes or razors contaminated with infected blood
- the skin being accidentally punctured by a used needle (needle stick injury) – this is mainly a risk for healthcare workers

- the blood of someone with hepatitis B getting into an open wound, cut, or scratch – in rare cases, being bitten by someone with hepatitis B can also spread the infection

Hepatitis B isn't spread by kissing, holding hands, hugging, coughing, sneezing, or sharing crockery and utensils (Mayoclinic, 2017).

1.7 Risk factors of Hepatitis B

People at highest risk of hepatitis B include:

- people born or brought up in a country where the infection is common
- babies born to mothers infected with hepatitis B
- people who have ever injected drugs
- anyone who has had unprotected sex, including anal or oral sex – particularly people who've had multiple sexual partners, people who've had sex with someone in or from a high-risk area, men who have sex with men, and commercial sex workers
- close contacts, such as family members, of someone with long-term (chronic) hepatitis B infection

The risk of getting hepatitis B for travelers going to places where the infection is common is generally considered to be low if the activities mentioned above are avoided (Mayoclinic, 2017).

1.8 Sign and Symptoms

Only some people with hepatitis B experience symptoms, which usually develop two or three months after exposure to the hepatitis B virus. Many people infected in adulthood won't experience any symptoms and will fight off the infection without realizing they had it. However, they'll still be able to pass the virus on to others while they're infected.

1.8.1 Main symptoms of Hepatitis B

Symptoms of hepatitis B can include:

- tiredness
- general aches and pains
- a high temperature (fever) of 38C (100.4F) or above
- a general sense of feeling unwell
- loss of appetite
- feeling and being sick
- diarrhea
- tummy (abdominal) pain
- yellowing of the skin and eyes.
- dark urine and pale, grey-colored poo

Many of these symptoms can be mistaken for more common illnesses, such as flu or gastroenteritis (Webmd, 2017).

1.8.2 Symptoms of Chronic Hepatitis B

Hepatitis B in adults will usually pass within one to three months. This is known as acute hepatitis B and rarely causes any serious problems. Occasionally, the infection can last for six months or more. This is known as chronic hepatitis B.Chronic hepatitis B mainly affects babies and young children who get hepatitis B. It's much less common in people who become infected later in childhood or when they're an adult.

The symptoms of chronic hepatitis B are the same as those mentioned above, but they tend to be quite mild and may come and go. Some people may not have any noticeable symptoms. However, without treatment, people with chronic hepatitis B can develop problems such as scarring of the liver (Webmd, 2017).

1.9 Treatment of Hepatitis B

Treatment for hepatitis B depends on how long you've been infected for:

- short-term (acute) hepatitis B doesn't usually need specific treatment, but may require treatment to relieve the symptoms
- long-term (chronic) hepatitis B is often treated with medication to keep the virus under control

Emergency treatment can also be given soon after possible exposure to the hepatitis B virus to stop an infection developing (Mayoclinic, 2016).

1.9.1 Emergency Hepatitis B Treatment

To help stop becoming infected, Doctor can give:

- **a dose of the hepatitis B vaccine** – patient will need two further doses over the next few months to give long-term protection
- **hepatitis B immunoglobulin** – a preparation of antibodies that work against the hepatitis B virus and can offer immediate but short-term protection until the vaccine starts to take effect

These are most effective if given within 48 hours after possible exposure to hepatitis B, but patient can still have them up to a week after exposure.

1.9.2 Treatment for Acute Hepatitis B

If someone are diagnosed with hepatitis B, Doctor will usually refer him/her to a specialist, such as a hepatologist (liver specialist).

Many people don't have any troublesome symptoms, but if you do feel unwell, it can help to:

- getting plenty of rest

- taking over-the-counter painkillers, such as Paracetamol or ibuprofen, for tummy (abdominal) pain
- maintaining a cool, well-ventilated environment, wear loose clothing, and avoid hot baths or showers if itching is a problem
- taking medication such as metoclopramide to stop feeling sick and chlorphenamine to reduce itching – doctor can give a prescription for these if necessary

Most people recover completely in a couple of months, but patient will be advised having regular blood tests to check that if he free of the virus and hasn't developed chronic hepatitis B.

1.9.3 Treatment for Chronic Hepatitis B

If blood tests show that patients still have hepatitis B after six months, doctor may recommend medication to reduce the risk of complications of hepatitis B and regular tests to assess the health of liver.

Treatment is usually offered if:

- immune system is unable to control the hepatitis B by itself
- there's evidence of ongoing liver damage

Hepatitis B medications can help keep the virus under control and stop it damaging liver, although they won't necessarily cure the infection and some people need lifelong treatment.

1.9.3.1 Peginterferon Alfa-2a

If liver is working fairly well, the first treatment offered is usually a medicine called peginterferonalfa 2-a.This stimulates the immune system to attack the hepatitis B virus and regain control over it. It's usually given by injection once a week for 48 weeks.

1.9.3.1.1 Side Effects: Common side effects include flu-like symptoms, such as a fever and muscle and joint pain, after start of taking the medicine, although these should

improve with time. Tests will be carried out during treatment to see how well it's working. Alternative medicines may be recommended if it's not helping.

1.9.3.2 Antiviral Medicines

If liver isn't working well, or peginterferon alpha-2a is not suitable or not working for patient, doctor may recommend trying antiviral medication instead. This will usually be either tenofovir or entecavir, both of which are taken as tablets.

1.9.3.2.1 Side Effects: Common side effects of these medicines include feeling sick, vomiting and dizziness.

1.10Living with Hepatitis B

If someone has hepatitis, he should:

- **avoid having unprotected sex** – including anal and oral sex, unless he is sure his partner has been vaccinated against hepatitis B
- **avoid sharing needles** used to inject drugs with other people
- **taking precautions to avoid the spread of infection** – such as not sharing toothbrushes or razors with other people; close contacts such as family members may need to be vaccinated
- **eating a generally healthy, balanced diet** – there's no special diet for people with hepatitis B
- **avoid drinking alcohol** – this can increase the risk of developing serious liver problems
- **speak to doctor if she is thinking of having a baby**

People with hepatitis B can usually have a healthy pregnancy, but it's a good idea to discuss her plans with a doctor first as she may need extra care and her medications may need to be changed. There’s a risk of pregnant women with hepatitis B passing the infection on to their child around the time of the birth, but this risk can be reduced by ensuring the baby is vaccinated shortly after they're born.(WHO, 2017).

1.11Prevention of HBV

The hepatitis B vaccine is the mainstay of hepatitis B prevention. WHO recommends that all infants receive the hepatitis B vaccine as soon as possible after birth, preferably within 24 hours. The birth dose should be followed by 2 or 3 doses to complete the primary series. In most cases, 1 of the following 2 options is considered appropriate:

- a 3-dose schedule of hepatitis B vaccine, with the first dose (monovalent) being given at birth and the second and third (monovalent or combined vaccine) given at the same time as the first and third doses of diphtheria, pertussis (whooping cough), and tetanus – (DTP) vaccine; or
- a 4-dose schedule, where a monovalent birth dose is followed by three monovalent or combined vaccine doses, usually given with other routine infant vaccines.

The complete vaccine series induces protective antibody levels in more than 95% of infants, children and young adults. Protection lasts at least 20 years and is probably lifelong. Thus, WHO does not recommend booster vaccination for persons who have completed the 3 dose vaccination schedule. All children and adolescents younger than 18 years-old and not previously vaccinated should receive the vaccine if they live in countries where there is low or intermediate endemicity. In those settings it is possible that more people in high-risk groups may acquire the infection and they should also be vaccinated. They include:

- people who frequently require blood or blood products, dialysis patients, recipients of solid organ transplantations;
- people interned in prisons;
- persons who inject drugs;
- household and sexual contacts of people with chronic HBV infection;
- people with multiple sexual partners;
- health-care workers and others who may be exposed to blood and blood products through their work; and
- Travelers who have not completed their hepatitis B vaccination series, who should be offered the vaccine before leaving for endemic areas.

The vaccine has an excellent record of safety and effectiveness. Since 1982, over 1 billion doses of hepatitis B vaccine have been used worldwide. In many countries where between 8–15% of children used to become chronically infected with the hepatitis B virus, vaccination has reduced the rate of chronic infection to less than 1% among immunized children.

As of 2014, 184 Member States vaccinate infants against hepatitis B as part of their vaccination schedules and 82% of children in these states received the hepatitis B vaccine. This is a major increase compared with 31 countries in 1992, the year that the World Health Assembly passed a resolution to recommend global vaccination against hepatitis B. Furthermore, as of 2014, 96 Member States have introduced the hepatitis B birth dose vaccine.

In addition, implementing of blood safety strategies, including quality-assured screening of all donated blood and blood components used for transfusion, can prevent transmission of HBV. Safe injection practices, eliminating unnecessary and unsafe injections, can be effective strategies to protect against HBV transmission. Furthermore, safer sex practices, including minimizing the number of partners and using barrier protective measures (condoms), also protect against transmission (WHO, 2017).

1.11.1 Vaccination of Hepatitis B

Hepatitis B vaccination isn't routinely available as part of the NHS vaccination schedule. It's only offered to those thought to be at increased risk of hepatitis B or its complications. The vaccine gives protection against the hepatitis B virus, which is a major cause of serious liver disease, including cirrhosis and liver cancer.

1.11.2Peoplethose should be Vaccinated against Hepatitis B

People can get infected with hepatitis B if you have contact with an infected person's blood or other body fluids. Babies born to mothers infected with hepatitis B are also at risk of becoming infected.

People at risk of hepatitis B – and who should therefore consider vaccination – are:

- people who inject drugs or have a partner who injects drugs

- people who change their sexual partners frequently
- men who have sex with men
- babies born to infected mothers
- close family and sexual partners of someone with hepatitis B
- anyone who receives regular blood transfusions or blood products
- people with any form of liver disease
- people with chronic kidney disease
- people travelling to high-risk countries
- male and female sex workers
- people who work somewhere that places them at risk of contact with blood or body fluids, such as nurses, prison staff, doctors, dentists and laboratory staff
- prisoners
- families adopting or fostering children from high-risk countries(WHO, 2017).

1.11.3How to Get Vaccinated against Hepatitis B

Asking the doctor to vaccinate, or visiting any sexual health or genitourinary medicine (GUM) clinic for the hepatitis B vaccination.

Finding local genitourinary medicine clinic. If his job places him at risk of hepatitis B infection, it is his employer's responsibility to arrange vaccination for him, rather than his Doctor. Contacting his occupational health department (NHS, 2016).

1.11.4Emergency hepatitis B Vaccination

If patient has been exposed to the hepatitis B virus and has not been vaccinated before, he should seek medical advice immediately as he may benefit from the hepatitis B vaccine. In some situations, he may also need to have an injection of antibodies called specific hepatitis B immunoglobulin (HBIG) along with the hepatitis B vaccine. HBIG should ideally be given within 48 hours, but he can still have it up to a week after exposure (NHS, 2017).

1.11.5 Babies and hepatitis B Vaccination

Pregnant women have a routine blood test for hepatitis B as part of their antenatal care. Babies born to mothers found to be infected with hepatitis B need to be given a dose of

the hepatitis B vaccine within 24 hours of their birth, followed by further doses at 1, 2 and 12 months old. Babies of mothers identified by the blood test as particularly infectious might also receive an injection of HBIG at birth on top of the hepatitis B vaccination to give them rapid protection against infection. All babies born to mothers infected with hepatitis B should be tested at 12 months old to check if they have become infected with the virus. (Mayoclinic, 2017).

1.11.6 Hepatitis B Vaccination in Pregnancy

Hepatitis B infection in pregnant women may result in severe disease for the mother and chronic infection for the baby, so it's advised that a pregnant woman should have the hepatitis B vaccine if she is in a high-risk category. There is no evidence of any risk from vaccinating pregnant or breastfeeding women against hepatitis B. And since it's an inactivated (killed) vaccine, the risk to the unborn baby is likely to be negligible (NHS, 2016).

1.12 High-risk Areas of HBV

Hepatitis B is found throughout the world, but is particularly common in:

- sub-Saharan Africa
- east and southeast Asia
- the Pacific Islands
- parts of South America
- southern parts of eastern and central Europe
- the Middle East
- the Indian subcontinent

Most new cases of hepatitis B in the UK occur in people who caught the infection in one of these areas before moving to the UK.

1.13 Hepatitis B condition in Bangladesh

Prevalence of hepatitis A, B and C was found to be most frequent. Hepatitis A virus has plagued mankind for centuries by causing acute Hepatitis associated with significant morbidity and occasional mortality. Asia and Africa have previously been classified as areas of high endemicity for hepatitis B virus (HBV), but in some countries highly effective vaccination programs have shifted this pattern towards intermediate or low endemicity. Bangladesh is considered as to be low endemic (André, 2000).Alcoholic hepatitis was reported in 3.57% of patients (Table 3). In Bangladesh due to socio-religious barriers alcohol consumption is not common among the general people. In a study conducted by Biswas *et al.*, (2011) among the tribal people of Chittagong Hill Tracts, found low percentage of alcoholic liver diseases; acute hepatitis was reported in 5 patients (10%). Liver abnormalities are common in heart disease and typically seen in patients with a due to sharing needle, syringe or other drug equipment respectively. Several reports indicate that blood borne routes are one of the major moods of transmission of hepatitis B (Chaudhry *et al*., 2010; WHO, 2008), hepatitis C (Chaudhry et al., 2010;Oliveira-Filho et al., 2010), hepatitis E virus (Aggarwal, 2004;Anand *et al*., 2010; Arankalle and Chobe, 1999; Lee *et al*., 2005).The risk of hepatitis B virus infection through transfusion has been reduced subsequently introduction of hepatitis B surface antigen(HBsAg) screening in blood donors (Asim *et al*., 2010).The sign and symptoms developed by the hepatitis affected patients were classical sign and symptoms. Jaundice (28.57%) and weight loss (28.57%) were most common with loss of appetite (10.71%). It was an interesting observation that 5.71 %of patients reported to have itchy skin. Itchiness is developed in particularly hepatitis A patients as a result of cholestasis (Batta,2011).Lamivudine, Adefovir and Ribavirine were the most commonly used drugs to treat different forms of hepatitis. Drugs used to treat hepatitis are presented in Figure 1.42.86% patients were taking preventive treatment whereas57.14% patients were under drug treatment. Among the 140patients 50 (35.71%) patients had liver cirrhosis. Viral hepatitis remains the worldwide hepatological challenge (Sherlock and Dooley, 2007) Effective hepatitis A vaccination programs have helped to control the disease with proven social and economic benefits. Vaccines against hepatitis have been available since 2001 in the Bangladeshi private market, but are not widely used currently and are not a part of the universal expanded program of immunization in Bangladesh (Saha et al., 2009). The present study indicates that in Bangladesh hepatitis A and B are most prevalent. Approximately 350 million people worldwide are living with chronic hepatitis B virus (HBV)infection, and an estimated 620,000 die annually from complications of HBV-related liver disease (Lo Re III, 2011).Among the affected 350 million 75% reside in the Asia Pacific region.

Chapter 2

Literature Review

The hepatitis B virus (HBV), discovered in 1966, infects more than 350 million people worldwide. Hepatitis B is a leading cause of chronic hepatitis, cirrhosis, and hepatocellular carcinoma, accounting for 1 million deaths annually. Knowledge of the intricacies of viral infection and of the molecular biology of this fascinating virus has led to the successful development of a vaccine and to treatment sometimes capable of eradicating chronic infection. This review addresses many aspects of HBV infection, including the role of the immune system in determining the outcome of clinical infection, recent developments in molecular studies of the virus, and new treatment options (William and Lee, 1997).

Southeast Asians have higher rates of liver cancer than any other racial/ethnic group in the United States. Chronic carriage of hepatitis B virus (HBV) is the most common underlying cause of liver cancer in the majority of Asian populations. Our objectives were to describe Vietnamese Americans' awareness of hepatitis B, levels of HBV testing, and knowledge about hepatitis B transmission; and to compare the HBV knowledge and practices of men and women. A community-based, in-person survey of Vietnamese men and women was conducted in Seattle during 2002. Seven hundred and fifteen individuals (345 men and 370 women) completed the questionnaire. Eighty-one percent of the respondents had heard of hepatitis B (76% of men, 86% of women) and 67% reported HBV testing (66% of men, 68% of women). A majority of the participants knew that HBV can be transmitted during sexual intercourse (71% of men, 68% of women), by sharing toothbrushes (67% of men, 77% of women), and by sharing razors (59% of men, 67% of women). Less than one-half knew that hepatitis B is not spread by eating food prepared by an infected person (46% of men, 27% of women), nor by coughing (39% of men, 25% of women). One-third of our respondents did not recall being tested for HBV. Important knowledge deficits about routes of hepatitis B transmission were identified. Continued efforts should be made to develop and implement hepatitis B educational campaigns for Vietnamese immigrant communities. These efforts might be tailored to male and female audiences (Taylor, et *al.*2005).

Chronic hepatitis B virus (HBV) infection causes liver cancer and disproportionately affects the Asiancommunity in the U.S. In order to advance HBV and liver cancer awareness and prevention, it is important toidentify existing gaps in knowledge and preventive practices among Asian Americans. Therefore, the authorsadministered a written questionnaire to 199 adults in the Asian-American community of the San

Francisco Bay area, California. Although the majority of adults had at least a college education, knowledge regarding HBVtransmission, prevention, symptoms, risks, and occurrence was low. Fewer than 60% reported having been testedfor HBV, only 31% reported having been vaccinated against HBV, and only 44% reported having had theirchildren vaccinated. Asians, especially those born in China or Southeast Asia, had significantly poorer knowledgeregarding HBV and liver cancer than non-Asians. Those with higher knowledge levels were significantly morelikely to have been tested for HBV and to have had their children vaccinated. Younger adults, women, Caucasians,more highly educated individuals, those not born in China or Hong Kong, and those with a personal or familyhistory of liver disease were more likely to have taken preventive action against HBV. Our results suggest thatHBV and liver cancer knowledge among Asian Americans, especially Chinese Americans, is poor, and that betterknowledge is associated with increased preventive practices. Thus, there is a need for increased HBV educationand improved community-based interventions to prevent HBV-related liver disease in the high-risk Asian-Americancommunity (Charlotte *et al.* 2005).

To determine the current knowledge and awareness of undergraduate dental students of Rural Dental College regarding the Hepatitis B infection. This cross-sectional observational study was conducted among the students of Rural Dental College, Maharashtra, India. Predesigned questionnaire which assessed knowledge and awareness about Hepatitis B infection and transmission was the tool of data collection. A total of 150 students participated. The male female ratio was 1:2; mean age of respondents was 20.66 ± 1.01 years. On an average, 59.23 and 40.67% had correct and incorrect knowledge about Hepatitis B infection, respectively. A total of 81.55% exhibited adequate level of awareness while 18.45% exhibited incorrect level of awareness about transmission of Hepatitis B infection. Results indicate that students had adequate awareness and perception level about awareness of Hepatitis B infection (Saini, Saini andSugandha, 2010).

Due to the high prevalence of hepatitis B, Asian Americans have high rates of liver cancer. Screening for hepatitis B leads to monitoring and treatment and prevent further infection through vaccination of contacts. We reviewed the published literature up to 2006 on hepatitis B awareness, knowledge, and screening among Asian Americans. Many Asian Americans lack knowledge about hepatitis B and have not been screened. Sociodemographics, knowledge, beliefs, and health care variables are associated with

screening. Further research and health policy changes are needed to address the problem of hepatitis B and liver cancer among Asian Americans (Nguyen, 2005).

Hepatitis B (HBV) is endemic and a leading cause of morbidity and mortality in Asia. British Columbia has the highest proportion of Chinese and Southeast Asians among all Canadian provinces. The present study was designed to evaluate the degree of concern for and knowledge of HBV in this high-risk community. Unselected patrons of two large Asian commercial centres in Richmond, British Columbia were surveyed. The variables studied were population demographics, concern for HBV, level of HBV knowledge and awareness of HBV-related cirrhosis or hepatocellular carcinoma (HCC). Associations were assessed using c2 testing and multiple logistic regression analysis. A total of 1008 individuals participated in the survey. Fifteen incomplete surveys were excluded. Only 7.7% felt that HBV was not a concern for the community. Only 13% of respondents felt that HBV education was adequate in the community. The main sources of community health education were their doctor's office (56.3%) and media (49.1%). A high number stated they were 'aware' of HBV (68%) but over 60% were unaware that HBV could cause HCC or cirrhosis and only 61.3% scored a 'reasonable' level of HBV knowledge. Higher HBV knowledge was significantly associated with increasing age ($P<0.001$), higher education ($P<0.001$) and the use of media for health education ($P<0.001$). Awareness that HBV may cause HCC and cirrhosis was significantly associated with age ($P<0.001$), education ($P=0.006$) and birthplace ($P=0.001$). HBV education is necessary in this local Asian community. Programs should target younger, less educated adults and elaborate on the potential serious health consequences of HBV. Vehicles for public education should include the physicians' offices and local media (Cheung and Lee, 2005).

To assess the knowledge and practices of barbers regarding transmission risk of HBV and HCV viruses. A cross-sectional survey of barber’s shops in Rawalpindi and Islamabad was conducted during September- November1998. Barbers were queried about hepatitis, knowledge regarding hepatitis transmission through razor, vaccination, sterilization, and the form of media they use forinformation and entertainment. Use of instruments on at least 2 clients were observed in each shop. Proportion and their 95% confidence intervals were computed. Of 96 barbers approached, 12 (13%) knew that hepatitis is a disease of the liver, causing jaundice, it is transmitted through parenteral route and could also be transmitted by razor. During theactual observation of 192 clients, razors were cleaned with antiseptic solution for 22 (11.4%) and reused for 88 (46%) shaves. Level of

awareness among barbers about hepatitis and risks of transmission is very low, and their practice of razor reuse that may spread hepatitis is very common. Messages about hepatitis need to be incorporated in media campaigns, in addition to regulation of practices (Janjua and Nizamy, 2006).

A study in Egypt determined the prevalence of hepatitis B and C virus infections among barbers (n= 308) and their clients (n= 308) in Gharbia governorate, and assessed knowledge, attitude and practices during hair-cutting and shaving. HBsAg was detected among 4.2% of barbers and 3.9% of clients (more urban than rural).Anti-HC antibodies were detected in 12.3% of barbers and 12.7% of clients. HCV-RNA prevalence was 9.1% among both barbers and clients (more rural than urban). Knowledge was high among the majority of participants and good practices during shaving and hair-cutting were observed for the majority of barbers. Barbers appeared to have no job-related risk of acquiring viral hepatitis (Shalaby*et al.* 2010).

In Pakistan, there are estimated 7-9 million carriers of hepatitis B virus (HBV) with a carrier rate of 3-5%. This article reviews the available literature about the prevalence, risk factors, awareness status and genotypes of the HBV in Pakistan by using key words; HBV prevalence, risk factors, awareness status and genotypes in Pakistani population in PubMed, PakMediNet, Directory of Open Access Journals (DOAJ) and Google Scholar. One hundred and six different studies published from 1998 to 2010 were included in this study. Weighted mean and standard deviation

were determined for each population group. The percentage of hepatitis B virus infection in general population was 4.3318% ± 1.644%, healthy blood donors (3.93% ± 1.58%), military recruits (4.276% ± 1.646%), healthcare persons (3.25% ± 1.202%), pregnant women (5.872% ± 4.984), prisoners (5.75% ± 0.212%), surgical patients (7.397% ± 2.012%), patients with cirrhosis (28.87% ± 11.90%), patients with HCC (22% ± 2.645%), patients with hepatitis (15.896% ± 14.824%), patients with liver diseases (27.54% ± 6.385%), multiple transfused patients (6.223% ± 2.121%), opthalmic patients (3.89% ± 1.004%) and users of injectable drugs (14.95% ± 10.536%). Genotype D (63.71%) is the most prevalent genotype in Pakistani population. Mass vaccination and awareness programs should be initiated on urgent basis especially in populations with HBV infection rates of more than 5% (Ali*et al.* 2011).

Health care workers (HCW) are a population at high risk of hepatitis B virus (HBV) infection, especially in endemic countries such as Lao PDR. Effective vaccines are available since over 10 years, but many HCWs are not aware of the risk of infection and are still not immunized against hepatitis B. This study aimed to assess immunization coverage against hepatitis B among the students of the University of Health Sciences (UHS) of Lao PDR in 2013 and to look for the causes of non-vaccination. A cross-sectional survey was conducted by self-administered questionnaire on a representative stratified sample of each academic year in each faculty. In total, 961 questionnaires were collected, Basic Sciences: 143, Medicine: 167, Pharmacy: 148, Dentistry: 139, Nursing Sciences: 159, Medical Technology: 99, and Postgraduate Studies: 106. Respondents were predominantly female (59.1%), mean age 25.1 ± 7.0 years, single (76.3%), from the provinces (68.0%), of the Lao Loum ethnic group (84.4%). Among them, 21% were fully vaccinated against hepatitis B and 9.5% partially. Immunization coverage rates were significantly higher among women ($p = 0.01$), students aged over 25 years, married or belonging to the post-graduate faculty ($p < 0.001$). The most common reason (38.6%) given for non-vaccination was not knowing where to get vaccinated. Knowledge about hepatitis B, scored from 0 to 5, was poor (0–1) for 86.5% of the students, but 77.5% were aware of the hepatitis B vaccine. The knowledge scores were significantly higher for students aged over 25 years, married or post-graduated ($p < 0.001$). Vaccination coverage against hepatitis B is dramatically low among students of health professions in Laos, largely because of their lack of knowledge and awareness. Upon admission to the University, all future HCWs should receive information about the occupational risks of blood-borne viruses transmission and be encouraged to get vaccinated against hepatitis B (Pathoumthong and Latthaphasavang 2014).

Significance of the study

HBV is becoming major public concern in the world and is one of the major global andregional health problem that have devastated large populations almost all over the world. It is a major cause of morbidity and mortality in Bangladesh. According to The Liver Foundation of Bangladesh, about 7%-10% population have hepatitis B infection. One could get hepatitis B through contact with an infected person's blood, semen or other body fluid.

Most people who get hepatitis B virus are affected acutely but in most cases, the virus is cleared off by the body within 6 months. People who have persistence presence of the virus after 6 months are called carrier (Shuma and Halder, 2015).

There is a study conducted about this topic on 2015 among private university students inBangladesh. My study was based on the knowledge and attitude of secondary and higher secondary students of Gopalganj.

In May 2016, The World Health Assembly adopted the first *"Global Health Sector Strategy on Viral Hepatitis, 2016-2020"*. The strategy highlights the critical role of Universal Health Coverage and the targets of the strategy are aligned with those of the Sustainable Development Goals. The strategy has a vision of eliminating viral hepatitis as a public health problem and this is encapsulated in the global targets of reducing new viral hepatitis infections by 90% and reducing deaths due to viral hepatitis by 65% by 2030. Actions to be taken by countries and WHO Secretariat to reach these targets are outlined in the strategy (WHO, 2017).

Although Bangladesh is a low HBV-prevalence country, it is important that prevention effortsare maintained to limit further spread of the virus. Lack of knowledge on the control andprevention of this virus is harmful and main reason for spread the disease. As mostly students are at risk, their knowledge about prevention and control is important. So, the present study was aimed to find out the awareness of the school and college students about HBV and their attitude towards the infected persons. From the results of this study an idea could be obtained whether the students are properly informed about the diseases or not. Their knowledge regarding correct mode of transmission and prevention could also be identified. If any misconception is persisting, it might also be found. The proper

ways to spread correct knowledge about HBV could be investigated and used in future to disseminate the information in the society more effectively and efficiently.

Aims of the study

The aims of the study were to:

- Determine the knowledge level of Secondary and higher Secondary students of Gopalganj about HBV.
- Determine the attitude of the students towards theHBV infected patients.

Chapter 3

Methodology

3.1 Type of the Study

It was a survey based study.

3.2 Study Population

The study was carried out on 301 Students of different schools and colleges of Gopalganj. The Schools and Colleges were:

- S.J. Model High School
- Muksudpur Govt. Degree College
- Muksudpur Pilot Boys High School
- Rajpat Degree College
- Rajpat High School
- Shatpar College
- Joynagor high school
- Surupi Shalinaboksha High School
- Ujani High School
- Bashuriya High School
- Ujani Degree College
- Baliakandi High School

3.3 Inclusion Criteria

- ✓ Students of class VIII-XII
- ✓ Both males and females

3.4 Exclusion Criteria

 Anyone unwilling to participate

3.5 Development of the Questionnaire

The questionnaire was developed based on general knowledge about HBV. Also from the observation of different behavior of Bangladeshi people.

3.6 Sampling Technique

In this study convenient sampling was followed.

3.7 Data Collection Method and Analysis

The data was collected by both face to face interview and by questionnaire supply.

After collecting, all the data were checked and analyzed with the help of Microsoft Excel 2007. The duration of data collection was about two months that started from March, 2017 up to April, 2017.

Chapter 4

Results

4.1 Age distribution

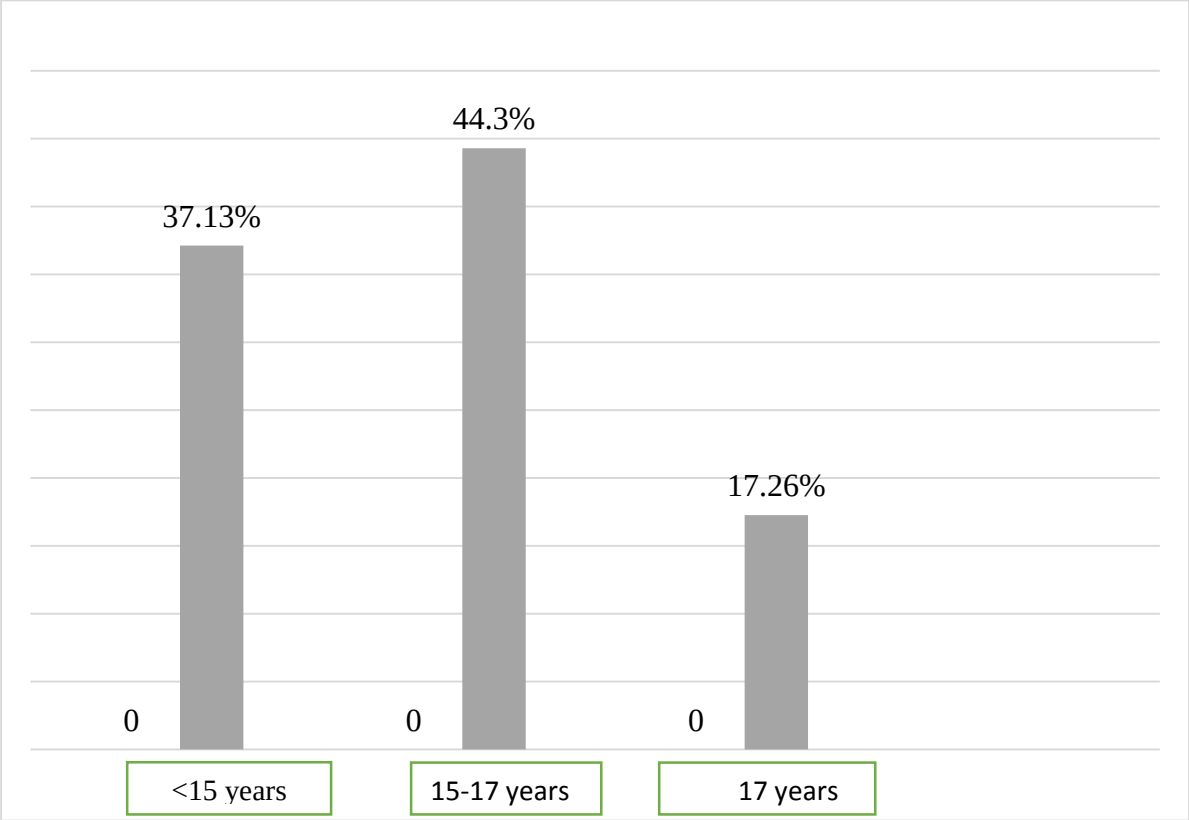

Figure 4.1 Age Distribution

Among 301 students is 37.13% were less than 15 years, 44.30% were between 15-17 years and 17.26% were above 17y.

4.2 Gender Distribution

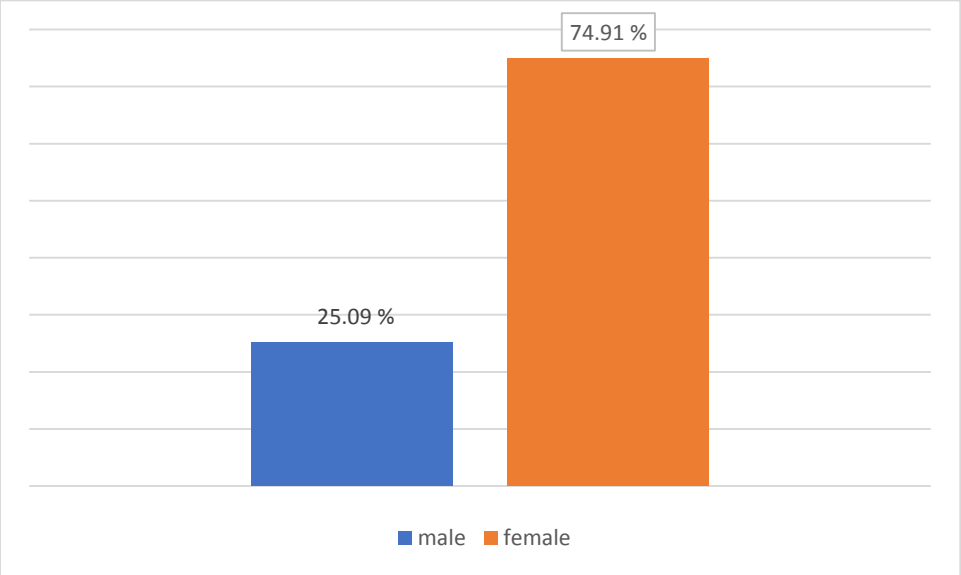

Figure 4.2 Gender Distribution

In this gender study, 25.09% were male and 74.91% were female respectively.

4.3 Number of School and College students

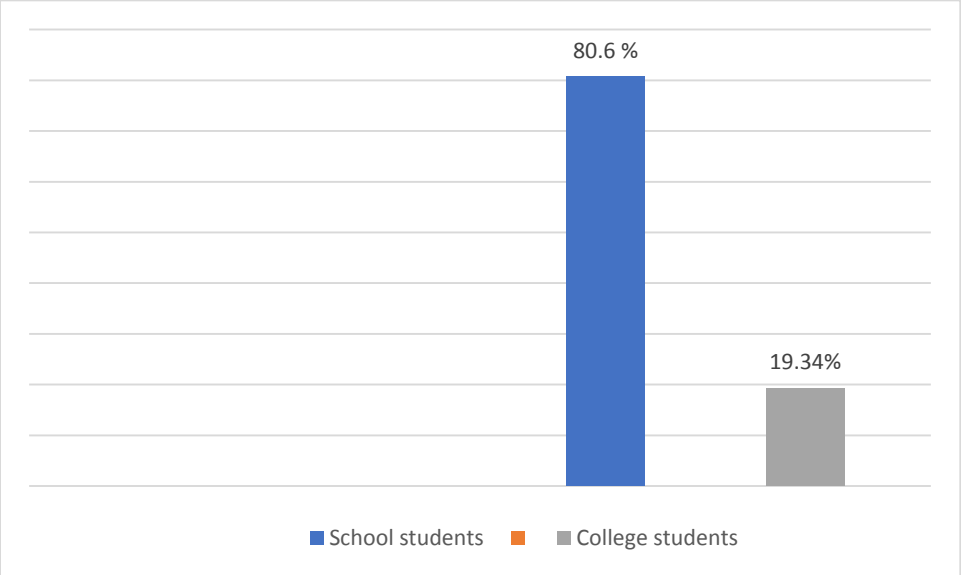

Figure 4.3 Number of School and College students

In this study, the percentage of college students were 19.34% and the percentage of school students found were 80.66%.

4.4 Distribution of the group of the students

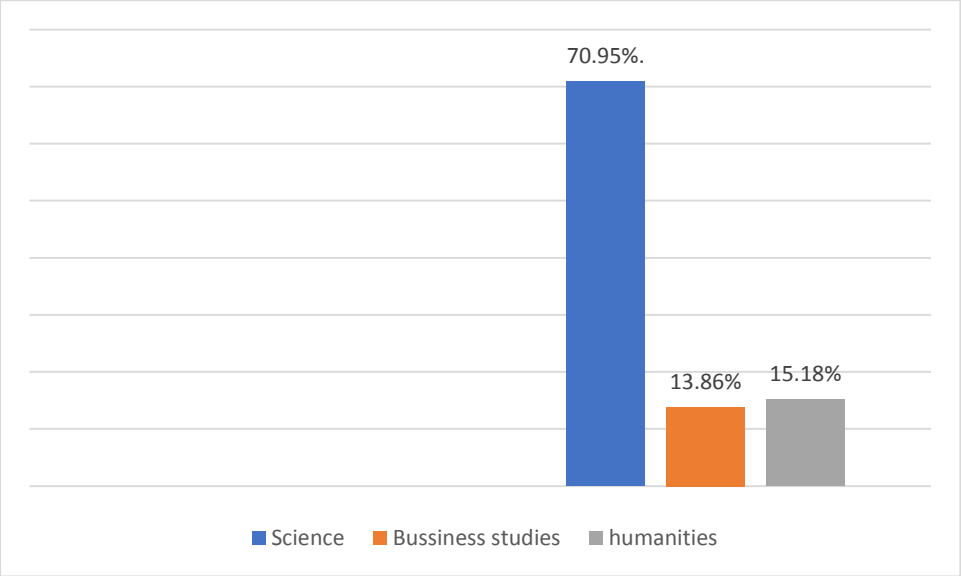

Figure 4.4 Distribution of the group of the students

Majority of the students were in science group with the percentage of 70.95%, 13.86% business studies and15.18% humanities respectively.

4.5 Marital Status

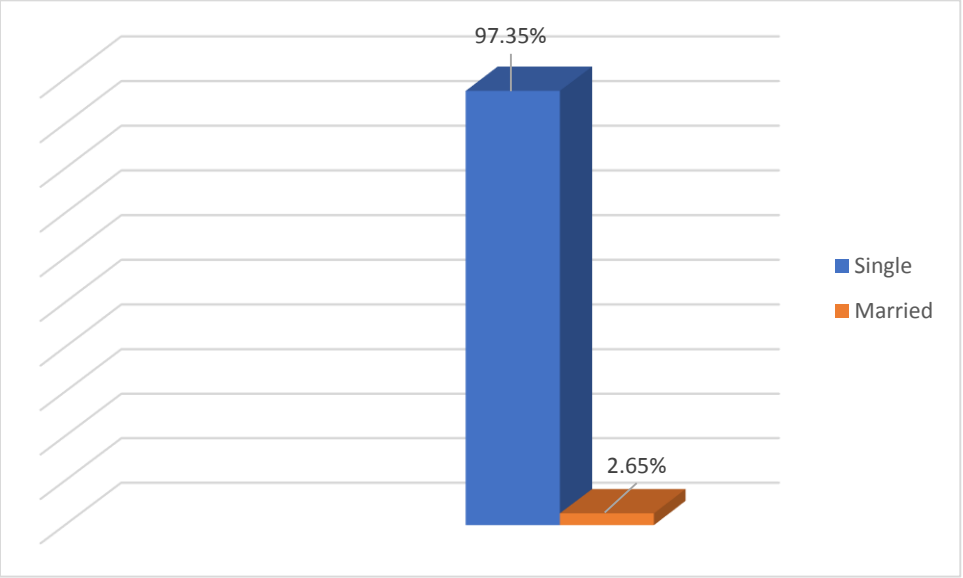

Figure 4.5 Marital Status

In this study, majority of the students were single with the percentage of 97.35% and 2.65% were married.

4.6 Heard about HBV

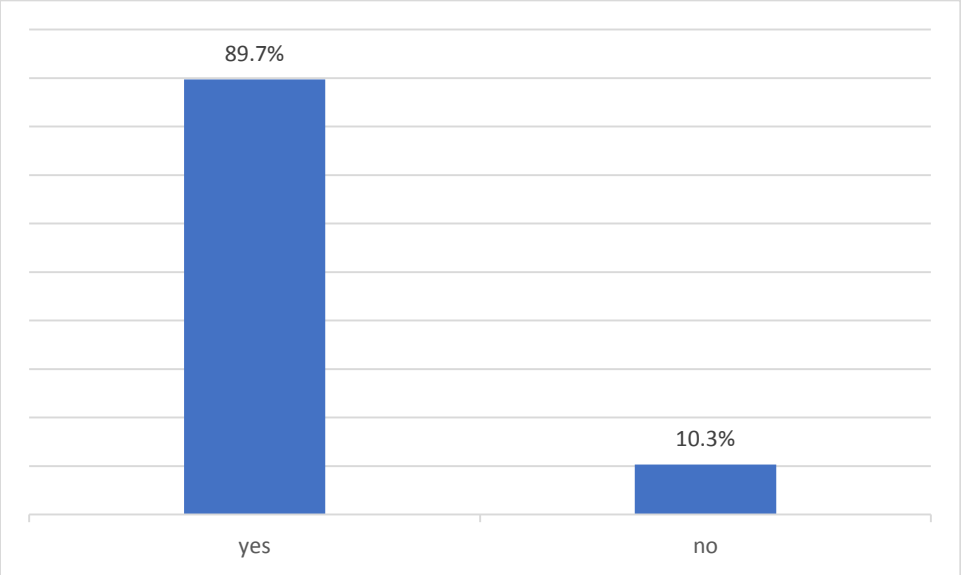

Figure 4.6 Heard about HBV

Majority (89.7%) of the respondents heard about HBV.

4.7 Source of information

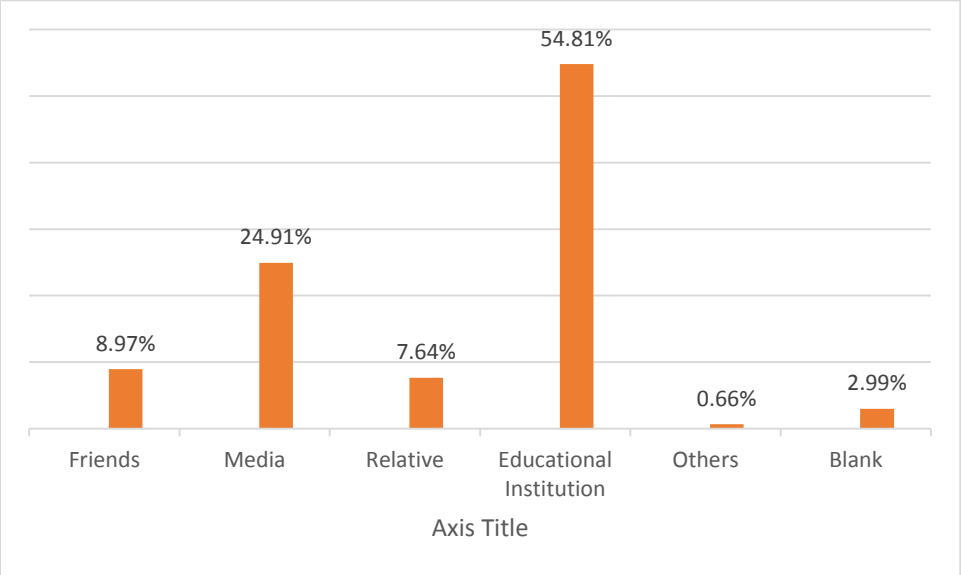

Figure 4.7 Source of information

In this study, almost all of the people of the above-mentioned category heard about HBV.

4.8 Hepatitis B disease status of the family members or friends of the students

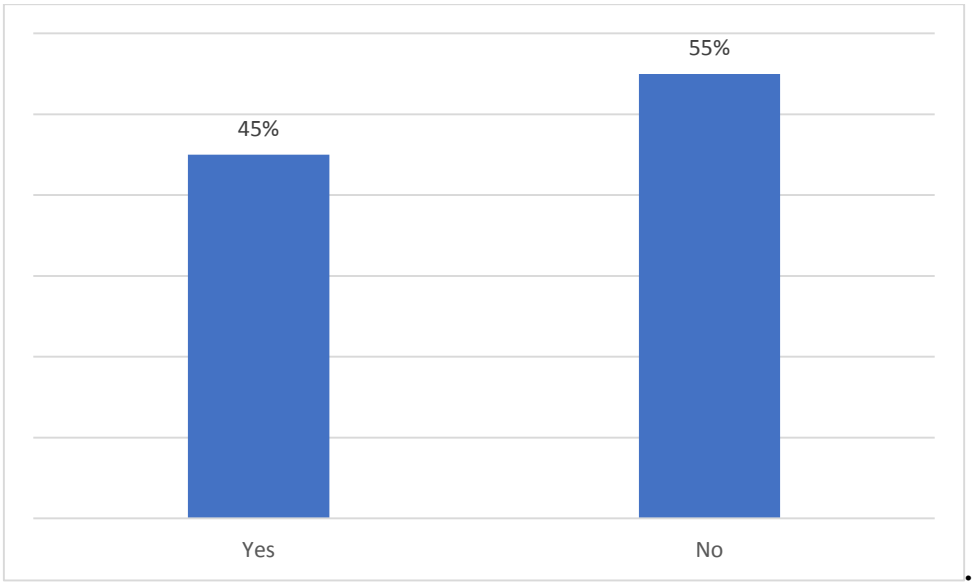

Figure 4.8 Hepatitis B disease status of the family members or friends of the students

Among the respondents 45% students said that their family members or friends were affected by this disease and 55% said no.

4.9 Knowledge about the reason of the disease

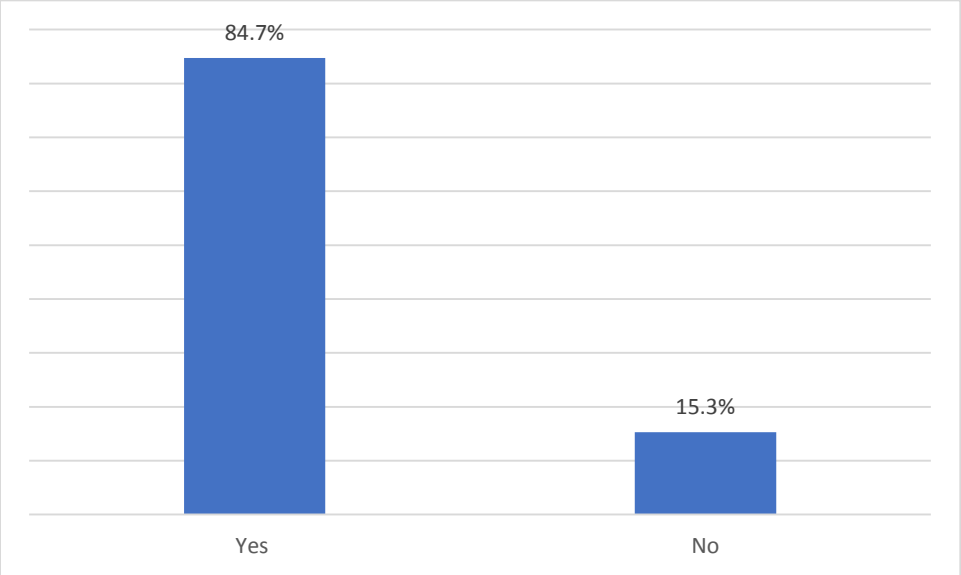

Figure 4.9 Knowledge about the reason of the disease

In this study about 84.7% students said yes and 15.28 % said no.

4.10 Knowledge about Treatment

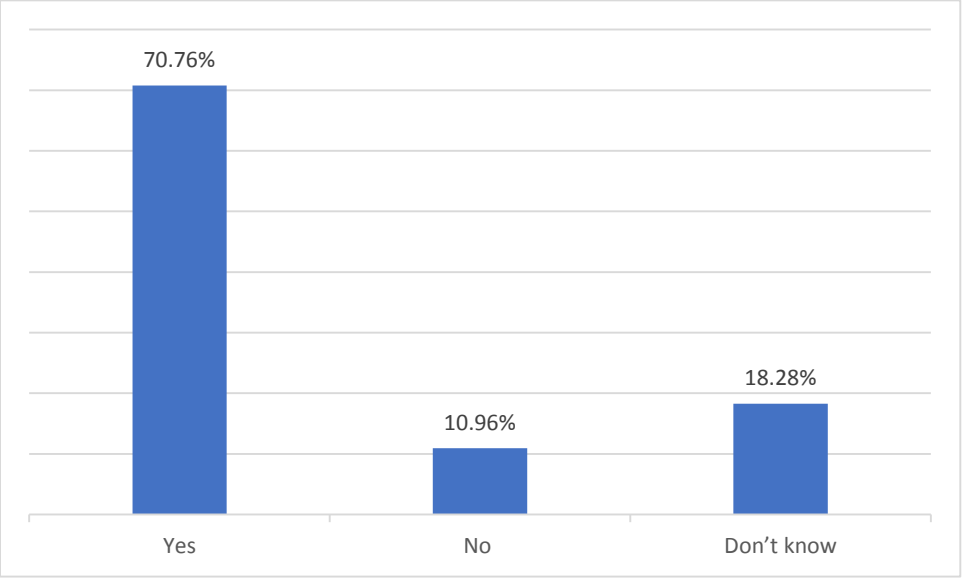

Figure 4.10 Knowledge about Treatment

In this study about 70.76% said that it is treatable 10.96% said no. Among them, 18.28% students had no idea about it.

4.11 Knowledge about Vaccination

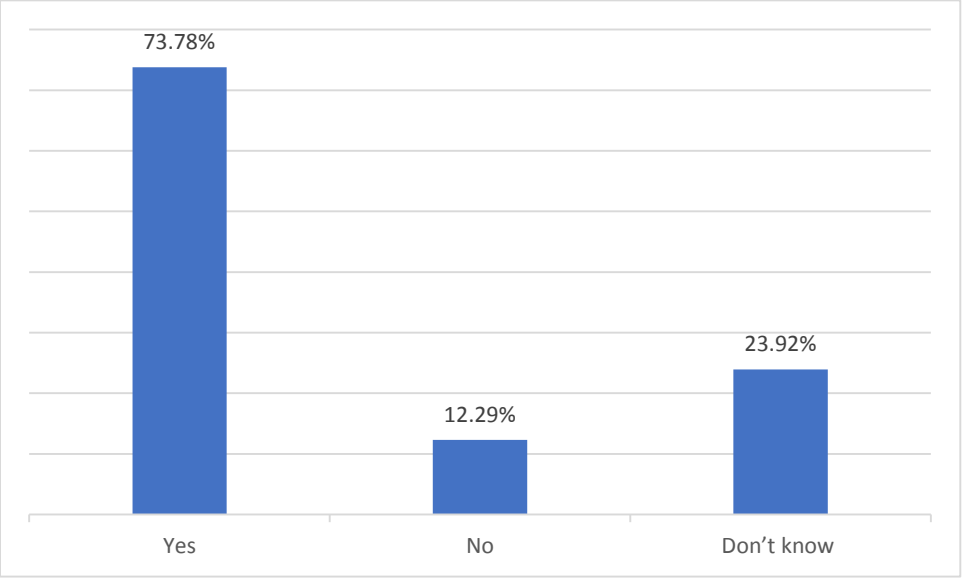

Figure 4.11 Knowledge about Vaccination

In this study about vaccine, 63.78% students answered yes about the availability of the vaccine, 12.29% students answered no and 23.92% students did not know anything about it.

4.12 Vaccination status of the students

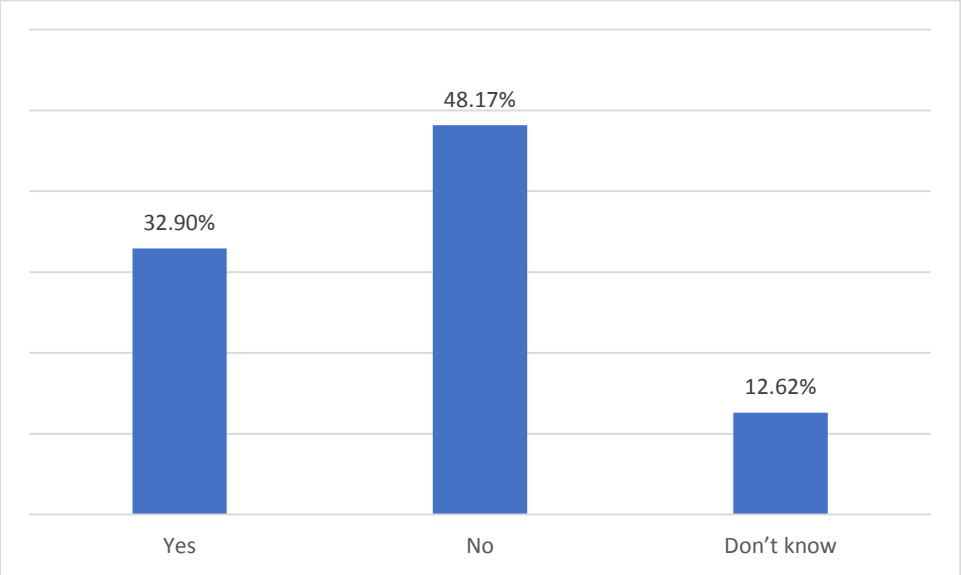

Figure 4.12 Vaccination status of the students

32.90% students have taken the vaccine, 48.17 % don't and 12.62 don't have any idea

4.13 Knowledge about the correct mode of transmission of HBV

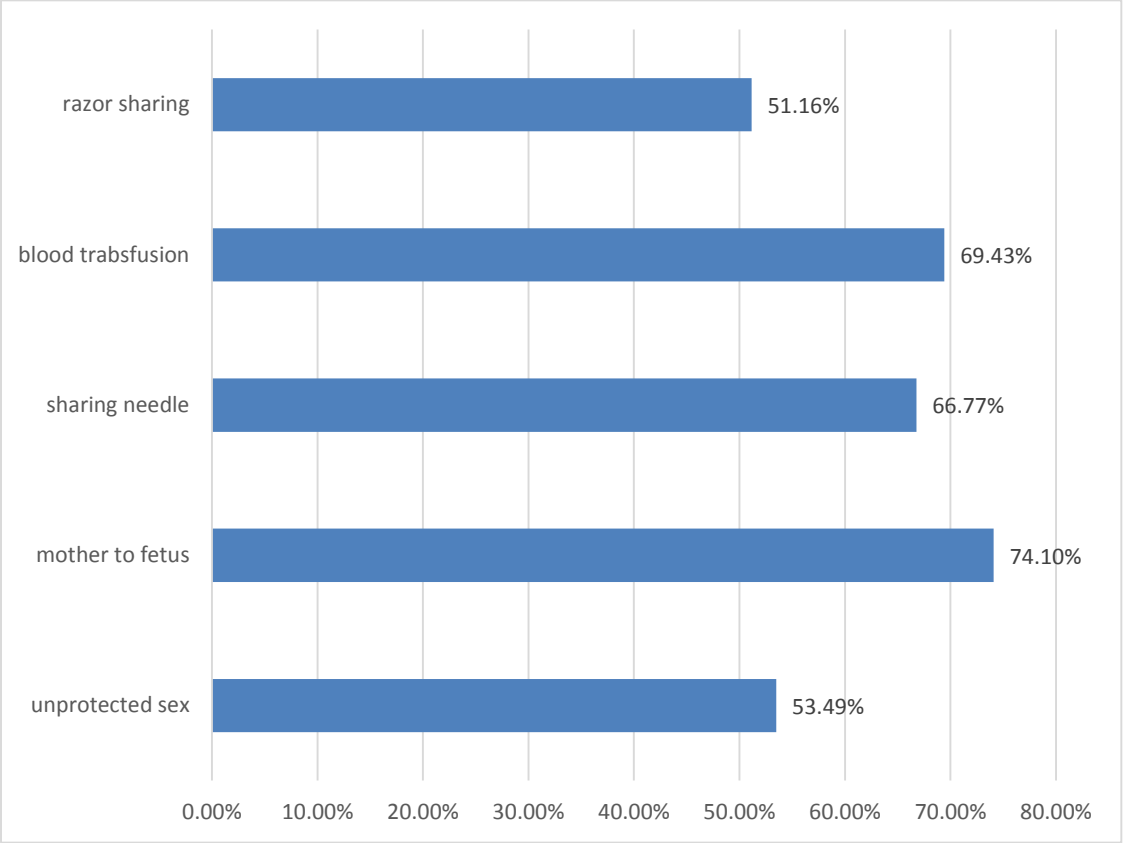

Figure 4.13 Knowledge about the correct mode of transmission of HBV

In our study most of the students say that HBV is transmitted from mother to fetus with the percentage of 74.10 %, blood transfusion 69.43%, sharing needle 66.77%, unprotected sex 53.49% and razor sharing 51.16%.

4.14 Misconception about the mode of transmission of HBV

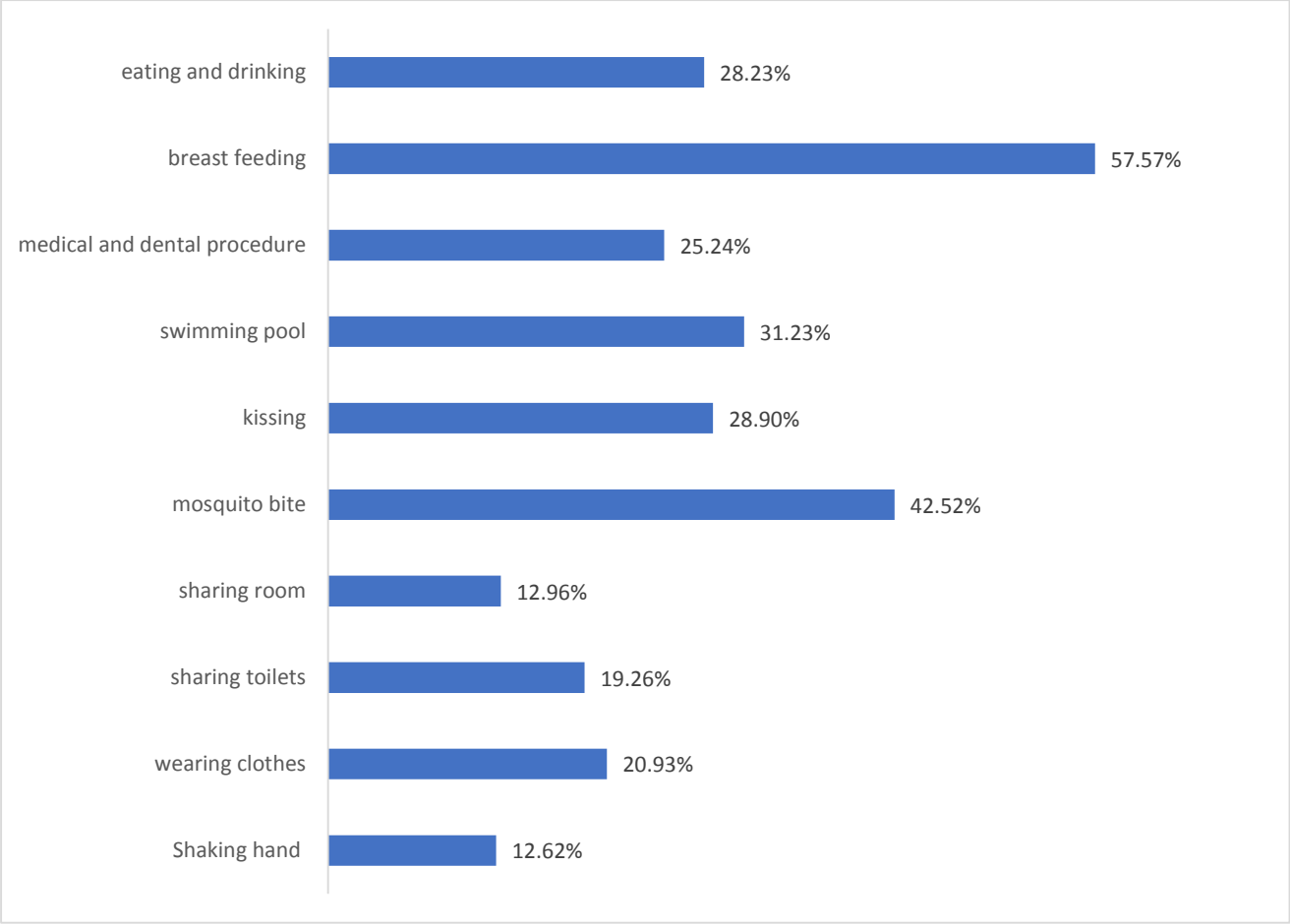

Figure 4.14 Misconception about the mode of transmission of HBV

On the basis of our survey we can see that 57.57% students said that HBV can be transmitted by breast feeding, 42.52% mosquito biting, swimming pool 31.23 %, 28.23% eating and drinking, 28.09% kissing,25.24% medical and dental procedure, 20.93% wearing clothes, 19.26% sharing toilets, 12.96% sharing room and shaking hand 12.62%.

4.15 Control and Prevention of HBV

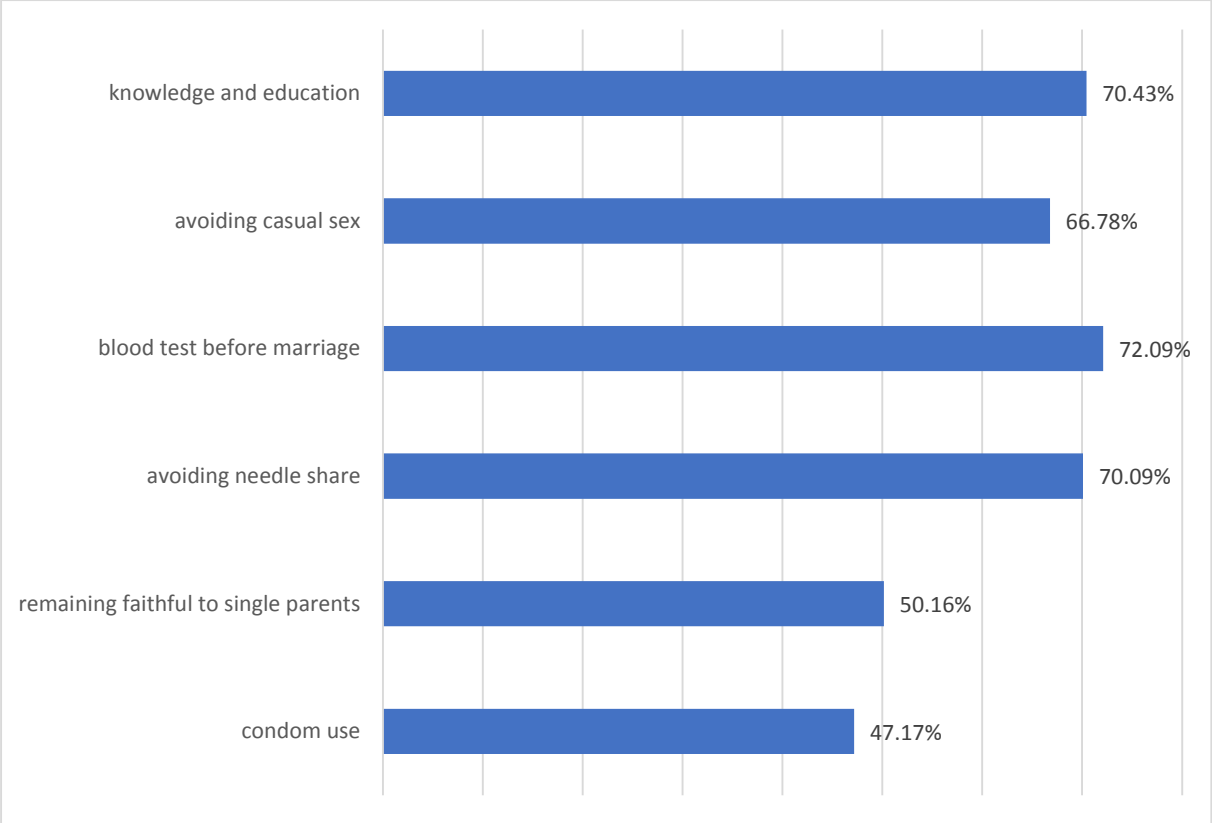

Figure 4.15 Control and Prevention of HBV

In our study 72.09% students said that HBV can be prevented by testing blood before marriage, 70.43% by proper knowledge and education, 70.09% by avoiding needle sharing, 66.78% by avoiding casual sex, 50.16% by remaining faithful to single partner, 47.17% by condom use.

4.16 Attitude toward HBV infected person

Table 4.1 Attitude toward HBV infected person

Attitude toward infected person	Yes (%)	No (%)	Don't Know (%)
Taking care of the patient	59.46	19.27	21.26
Continuing relationship	51.82	34.22	13.95
If person is shopkeeper, then buying food from him	48.5	36.22	15.28
Be positive about the presence if he/she is student	53.48	27.9	18.63
Be positive about the presence if he/she is teacher	50.83	26.25	22.92

Maximum (59.46%) participant wants to take care of the infected person whereas the only 19.27% of people don't want to take care of them.

Most (51.82%) of responds wants to continue relationship with infected person.

48.5% of the respondents want to buy food from infected shopkeeper and will be positive towards the infected person and 36.22% doesn't want to buy food

53.48% students are positive about the presence if he/she is a student and 27.9% doesn't.
50.83% students are positive about the presence if he/she is a teacher and 26.25% doesn't.

Chapter 5

Discussion & Conclusion

5.1 Discussion

This study was conducted to find out the awareness among the secondary and higher secondary students of Gopalganj. Total 301 subjects were initially selected for the study, among which 25.09% were males and 74.91% were females. In my study majority (44.3%) of the students were between the age range 15-17 years. And almost all of the students were unmarried (97.35%). Among the science, business and humanities group of students, the percentage were 70.95%, 13.86% and 15.18% respectively.

In this study about 89.7% students answered positive about hearing it. Among them, 10.3% did not know anything about it. Among the students. A community-based, in-person survey by Taylor, *et al*. (2005) of Vietnamese men and women was conducted in Seattle during 2002. Seven hundred and fifteen individuals (345 men and 370 women) completed the questionnaire. Eighty one - percent of the respondents had heard of hepatitis B (76% of men, 86% of women) and 67% reported HBV testing (66% of men, 68% of women).

In this study about "treatable", 70.76% students answered yes with a 10.96% people answered no. Among them, 18.28% students had no idea about it. About 63.78% students answered yes about the availability of vaccine. 12.29% students answered no and finally among them 23.92%students did not know anything about it.

In my study Most of the students say that HBV is transmitted from mother to fetus with the percentage of 74.10 %, blood transfusion 69.43%, sharing needle 66.77%, unprotected sex 53.49% and razor sharing 51.16%. In the study of Taylor, *et al*said that a majority of the participants knew that HBV can be transmitted during sexual intercourse (71% of men, 68% of women), by sharing toothbrushes (67% of men, 77% of women), and by sharing razors (59% of men, 67% of women). Less than one-half knew that hepatitis B is not spread by eating food prepared by an infected person (46% of men, 27% of women), nor by coughing (39% of men, 25% of women).

On the basis of my survey it can be seen that 57.57% students said that HBV can be transmitted by breast feeding, 42.52% mosquito biting, swimming pool 31.23 %, 28.23% eating and drinking, 28.90% kissing,25.24% medical and dental procedure, 20.93% wearing clothes, 19.26% sharing toilets, 12.96% sharing room and shaking hand 12.62%. Saini, Saini and Sugandha, 2010 said that on an average, 59.23 and 40.67% of the Rural Dental College, Maharashtra, India students had correct and incorrect knowledge about

Hepatitis B infection, respectively. A total of 81.55% exhibited adequate level of awareness while 18.45% exhibited incorrect level of awareness about transmission of Hepatitis B infection. Results indicate that students had adequate awareness and perception level about awareness of Hepatitis B infection. In this study 72.09% students said that HBV can be prevented by testing blood before marriage, 70.43% by proper knowledge and education, 70.09% by avoiding needle sharing, 66.78% by avoiding casual sex, 50.16% by remaining faithful to single partner, 47.17% by condom use.

Maximum 59.46% participant wants to take care of the infected person whereas the only 19.27% of people don't want to take care of them. Most 51.82% of responds wants to continue relationship with infected person. 48.5% of the respondents want to buy food from infected shopkeeper and will be positive towards the infected person and 36.22% doesn't want to buy food. 53.48% students are positive about the presence if he/she is a student and 27.9% doesn't. 50.83% students are positive about the presence if he/she is a teacher and 26.25% doesn't.

5.2 Conclusion

Misconceptions about Hepatitis B exist although generally knowledge on Hepatitis B transmission and prevention was moderate. Education and intervention programs are needed to increase the level of knowledge and awareness of Hepatitis B. The findings have important implications for the development of primary Hepatitis B prevention programs for young school and college students in Bangladesh.

Chapter 6

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