

**KNOWLEDGE AND ATTITUDE TOWARD HEPATITIS B  
INFECTION AMONG THE STUDENTS IN FACULTY OF  
EDUCATION MALE', MALDIVES**

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**KNOWLEDGE AND ATTITUDE TOWARDS HEPATITIS B  
INFECTION AMONG STUDENTS IN FACULTY OF EDUCATION  
MALE' MALDIVES**

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**A project submitted in partial fulfillment of the requirements for the  
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**Bachelors of primary health care**

# Declaration

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I hereby declare that this project is the result of my own work, except for quotation and summaries which have been duly acknowledge.

Signature:

Date:

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**May 2015**

## **ABSTRACT**

A cross-sectional descriptive study was conducted to study about the knowledge and attitude towards hepatitis B infection amongst the students in the Maldives. A total of 120 students were randomly and systemically selected in the faculty of education age 20-39 years in Male' City and interviewed by anonymous self-administered questionnaire during March to May 2015. An information letter was provided with the questionnaire and also written consent was taken from the students who have participated in the survey. Statistical descriptive analysis was used to find the knowledge and attitude among the students in faculty of education aged 20-39 years in Maldives.

The result shows that majority of the students (73%) have heard about hepatitis B infection. Most of the students (28%) had heard about the disease from internet. Furthermore, majority of the students have knowledge about disease transmission, 55% of the students gave correct answered that disease can be transmitted by having personal contact. The study also show that majority of the students have less knowledge about the complication of the disease. Moreover, the study shows that students have positive attitude toward hepatitis b disease prevention.

The results indicate that there is a gap in knowledge among the students about the disease transmission and complication also the prevention. To conclude health education and health promotion should be provided to the students to improve their knowledge about the disease and build their confidence to test and receive vaccination against hepatitis b infection.

**Key words: Hepatitis B, Knowledge, Attitude, Male, Maldives**

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Sincerely

Fathaath Hassan

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# CHAPTER 1

## INTRODUCTION

### 1.1 BACKGROUND TO THE STUDY

According to world health organization, hepatitis B is one of a Major global health problem and the most serious viral hepatitis in the world (world health organization, 2011). Worldwide the hepatitis b prevalence range from 1% to 20%, a huge range due to the differences in age at infection (WHO, 2011). Hepatitis B virus can be spread from infected person to the other; hepatitis B is one of a contagious disease which spread from mother to baby, by having sex with someone who are infected with virus and sharing infected needles. Moreover the hepatitis B virus is so contagious that it causes chronic liver infection (WHO, 2014).

In addition, World health organization (WHO) has estimated that the each year about 780,000 people die due to the costs of hepatitis B infection, and more than 2000million people worldwide are infected with HBV at their life. Also about 350 million people are chronically infected and become carriers of HB virus (WHO, 2014).

Furthermore HBV is been considered as an urgent public health issue in south east-Asia (WHO, 2013). According to WHO 2013 there are approximately 100 million HBV carriers in south East-Asia region, which means there are more than 5.6% of global populations who are infected with HBV, As well as there are more than 300,000 people, estimated to die each year with the consequences of hepatitis B infection (WHO, 2013).

Besides there are few factors which lead to increase the prevalence of HBV in south East-Asia, which includes; lack of accuracy in data collecting and surveillance work in the region which directly associate with limited access to testing for HBV infection (WHO, 2014). Secondly, more than half the population in the region is not able to access to the free testing to hepatitis B. In south East Asia region, there are

countries which do not carry any compulsory HBsAg screening for blood products (WHO, 2013). Also in some countries of south East Asia the transfusion of blood has been is still practiced without screening for HBsAg. According to regional strategy for viral hepatitis in south East Asia region there is no governmental funding exists for treatment of patients with chronic hepatitis B in Maldives (WHO, 2013). Screening and awareness programs for those who are at risk of getting infection fund have not been provided to implement the programs. However, according to WHO 2013, government-funded public awareness work is not regular and more effort and resources are required to conduct the programs for the public. In addition to the governments' efforts, in certain countries civil society and NGOs are involved in promotion of HBV vaccination (WHO, 2013). Their participation could be effectively used for the prevention and control of hepatitis B infection (WHO, 2013).

Maldives is a small country in south East Asia region with the population of 34, 1256 (census 2014) where one third of the population 133,019 (census, 2014) lives in Male' City. Male' is the capital city of the country people from all the island comes to the Male' to get services many services, like health services, education, for business purpose. People from other island are migrating to the capital city to get better services. However, the increase in population growth in Male' city has many impact on population, increase in overcrowding and so the disease spreads more quickly mostly communicable disease like hepatitis B. Moreover the immigrant population in Maldives is also higher. In Maldives people come from foreign countries to earn money. According to the census most of the people come to Maldives as labor from Bangladesh, India and Sri-Lanka. In addition these countries have high endemic for HBV (WHO, 2013).

Moreover, in 1980-1999 statistics showed that Maldives has 6.5 HBsAg prevalence is a quiet high compare to the population of the Maldives. The data for 2000 to 2010 was not published (WHO, 2013). According to HPA statistics, there are 45 HBV cases which have been reported from all the atolls since 2008 (Sidas, 2015). Most of the cases reported are from age between 20 to 39 years, between ages 20-39 years there are 21 cases reported to HPA (Ministry of Health, 2015). However, from the government there is no written strategy or a plan that focuses on the prevention and control of viral hepatitis (WHO, 2013). In addition there is no designated governmental unit responsible for coordinating viral hepatitis related activities to

prevent and control hepatitis infection. Moreover, the government is not holding any events to aware people about hepatitis infection (WHO, 2013). Maldives has started giving vaccination since 1993 to every child at birth as it is required to prevent child from infection. As vaccine is started in 1993 there still is a population who are not vaccinated for hepatitis B infection which means that the population might come with the disease in some age of their life. Huge populations above 23 years are not vaccinated for hepatitis B. However people who are working in health care field are compulsory to get vaccinated for hepatitis B (WHO, 2013). Moreover, the students who are studying nursing, primary health care and laboratory technology are compulsory to get vaccinated for hepatitis B in Maldives (Faculty of health science, 2014).

According to WHO South East Asia regional report on hepatitis B Maldives, HBV screening is compulsory for pregnant women, pre-surgical patient, students who are studying in health sciences and foreign nationals who apply for work visa. The hepatitis B outbreak is not reported to the government and the report of hepatitis disease prevalence is also not published by the government (WHO, 2013).

## **1.2 PROBLEM STATEMENT**

WHO consider that, the hepatitis B is major global health problem in worldwide (WHO, 2011). More than 780,000 people die each year due to the causes of hepatitis B infection. More than 2000million people each year get infected and about 350 million people are carriers of hepatitis B infection (WHO, 2011).

In south East Asia there are approximately 100 million carriers of hepatitis B and more than 300,000 people are estimated to die each year. Hepatitis B has been considered as urgent public health issue in south East Asia. Moreover countries in south East Asia are not conducting awareness programs to change the behavior of the population on hepatitis b infection (WHO, 2013).

Maldives have not implemented any plan to focus on hepatitis B infection and the program is not conducting well in the country. Maldives have high risk of increasing hepatitis B as the population of Maldives has vulnerable groups; the drug users are increasing day by day (national drug use survey,2012). The surveillance of hepatitis B is not in routing track so the health care provider does not have the proper information of prevalence of hepatitis B in Maldives. It is very important to know the knowledge and attitude of the population regarding hepatitis B infection.

### **1.3 OBJECTIVE OF THE STUDY**

#### **General objective**

To study about knowledge and attitude towards hepatitis B infection amongst the students in faculty of education age 20-39 years in Male', Maldives.

#### **Specific objectives**

- ❖ To determine how much the students in faculty of education know about hepatitis B transmission.
- ❖ To determine the attitude of the students in faculty of education towards hepatitis B infection.

### **1.4 RESEARCH QUESTION**

**1.4.1** Do the students have adequate knowledge regarding hepatitis b infection?

**1.4.2** Do the students have positive attitude towards hepatitis B infection and its prevention?

### **1.5 SIGNIFICANCE OF THE STUDY**

This study is important to find out the knowledge and attitude towards hepatitis B infection among the population age 20 to 39 years. As Maldives started giving vaccination against hepatitis B infection from 1993, it is very important to provide proper information to those who have not received vaccination. Moreover faculty of education is place where the students will become teachers in future who have respect in the society. It is important that they have adequate knowledge that they can deliver the information to the majority of the population in Maldives.

## **1.6 SCOPE OF THE STUDY**

The study can be first step to find out the populations' knowledge about hepatitis B infection and their attitude towards prevention and testing. The result from this study will increase the understanding and knowledge for health care providers and will also be used to plan program for primary prevention of this disease, such as health education program for young people. Also this study can help in finding the target population giving health information.

## **CHAPTER 2**

### **LITRATURE REVIEW**

#### **2.1 THEORETICAL FRAME WORK**

As theoretical frame work used in this study was Health belief model (HBM). Health belief model is one of a common model used to attempt and explain the health behaviors of the person. The public health service Psychologists in U.S (Hochbaum, Rosenstock and Kegels) first developed health belief model in 1950s, to explain why people were not participating in programs to prevent and detect disease (university of twente, 2012). The model was developed after failure of tuberculosis health screening program in U.S. since than the HBM has been adapted to explore a variety of long- and short-term health behaviors, including sexual risk behaviors and the transmission of HIV/AIDS and hepatitis B. The HBM have six concepts in it. These concepts include;

##### **1. Perceived susceptibility**

Perceived susceptibility can be defined as belief in a risk of getting disease. For example, the risk of getting hepatitis B. Perceived susceptibility is more influential, encouraging people to adopt healthier behavior, “the greater perceived risk, the greater the likelihood of engaging in behaviors to decrease the risk” (jones and Bartlett). For example, men who are having sex with men are at risk of getting hepatitis B infection, so they can be encouraged to vaccinate for hepatitis B infection. Also to use condoms in effort to reduce HIV infection (Belcher et al., 2005)

##### **2. Perceived severity**

Perceived severity is the ability to believe in the seriousness of the disease. Persons believe that the consequences of hepatitis B are harmful to the person is one of the example to perceived seriousness. Perceived susceptibility and perceived seriousness results to perceived threats (Belcher et al., 2005).

### **3. Perceived benefits**

Perceived benefits is one that the person belief in efficacy of the advised action to reduce the risk of seriousness of the threat or the impact. For example person's belief that vaccination for hepatitis B can prevent from getting disease is perceived barriers.

### **4. Perceived barriers**

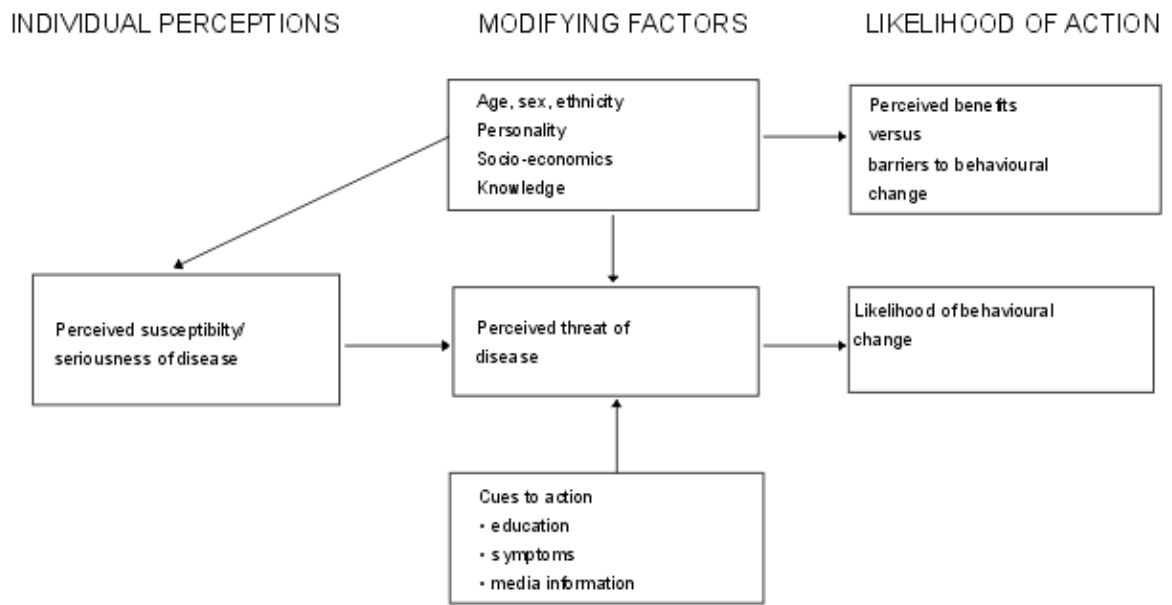
Perceived barriers are person's opinion of the palpable and psychological cost of the advised action. For example identifying and reducing barriers for hepatitis B infection by reassurance and by helping the community.

### **5. Cues to action**

Cues to action are the strategies which can be applied to take an action by the person. Example promoting information and conducting health awareness program for immunization against hepatitis b infection and about the prevalence of hepatitis B infection.

### **6. Self-efficacy**

Self-efficacy is the confidence provided to the person to take action for the problem. This means providing guidance and training to the patient regarding the disease and their preventive measures.



Source: Glanz et al, 2002, p. 52

Figure 1 Theoretical frame work

## CONCEPTUAL FRAME WORK

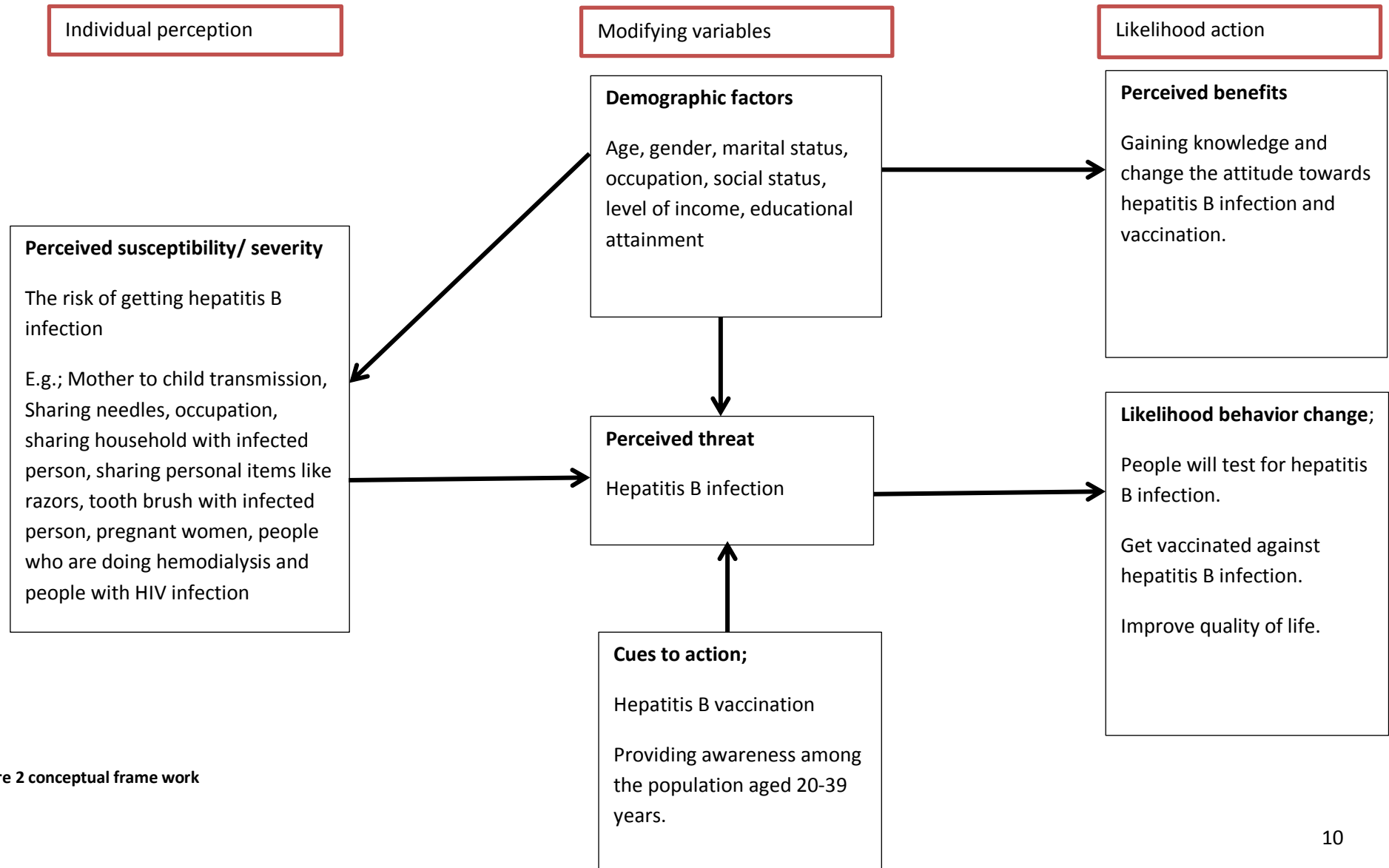
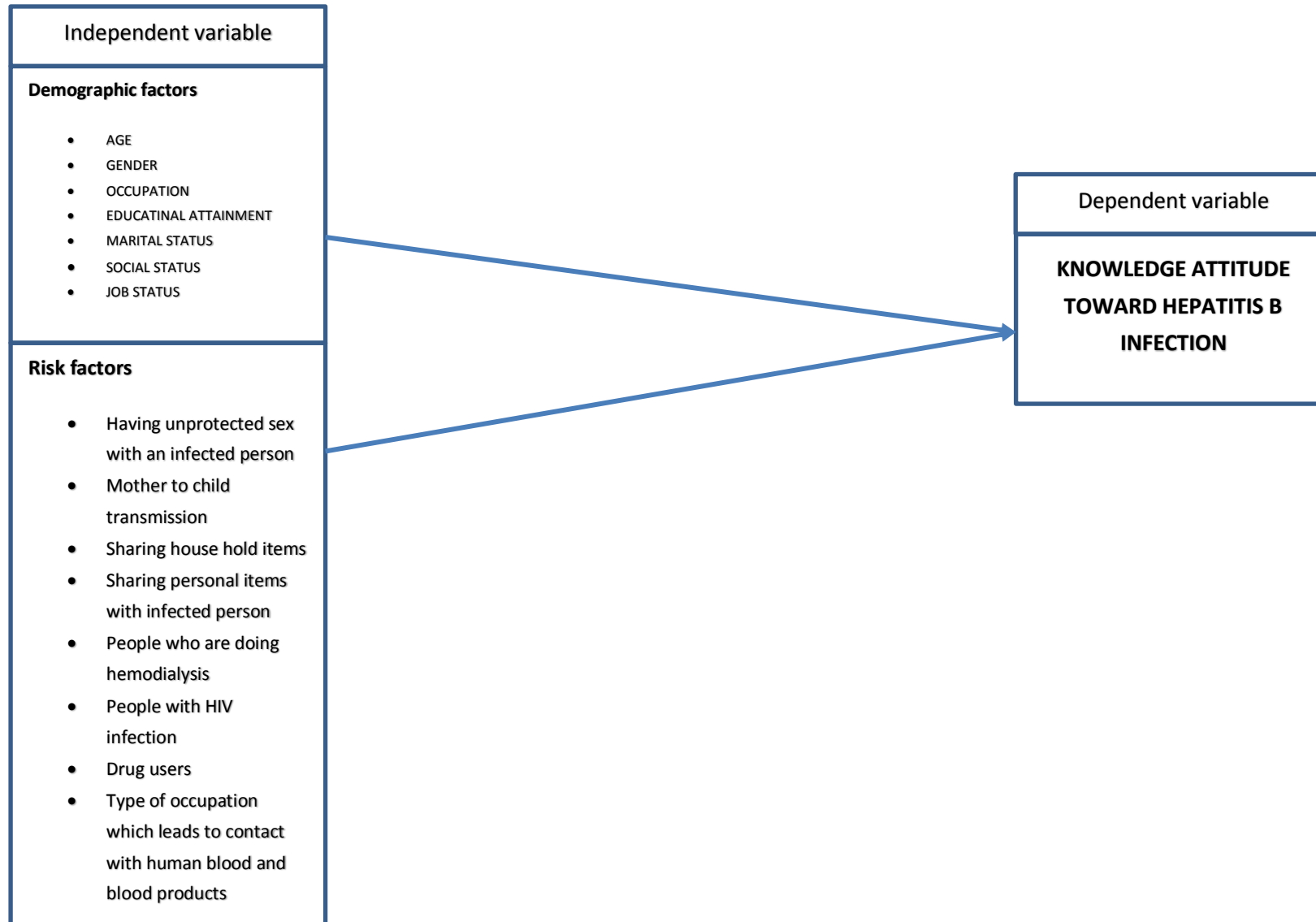


Figure 2 conceptual frame work

## CONCEPTUAL FRAMEWORK (CONT...)

Figure 3 Conceptual framework 2



## 2.2 PREVIOUS STUDIES

### 2.2.1 Hepatitis B virus

Hepatitis is an infection that affects the liver and is caused by virus and this infection is a major global health issue worldwide (Hopkins Medicine, 2013). Chronic HBV is the ninth leading cause of death in the world with approximately 300 million chronic carriers worldwide (Hopkins Medicine, 2013). There are several types of hepatitis virus, which includes hepatitis A, B, C, D and E. The type B virus is the most contagious type of virus among the group (WHO, 2014). The virus is able to remain in the surface for long time. This means the virus can stay in razor blades, table of the top and blood stains without losing its infectivity for long period of time (Hopkins Medicine, 2013). The most common way of HBV transmission is men having sex with men, having unprotected sex with infected person, sharing infected needles and blades, unsafe blood transfusion (WHO, 2013). In 1964 it became possible to identify that the people with HBV can be tested by using serological test, searching for hepatitis B surface antigen (HBsAg) (Weinbaum, Mast & Ward, 2009).

There is a risk that the people get infection without knowing it, as all HBV infection does not give symptoms (Weinbaum et al, 2009). However people may see some symptoms like jaundice, fever, fatigue, nausea and/or abdominal pain and loss of desire for food (CDC, 2015). For almost all adults, 90%, the infection heals and they become healthy, but for infants and young children, there is a 90% and 30-50% risk correspondingly that the infection leads to chronic hepatitis B (WHO, 2012). If the infection is not medically managed, it increases risk, approximately 25% that they later in life will suffer from liver cirrhosis and/or liver cancer (WHO, 2012). The patients who are diagnosed with acute hepatitis B will receive symptomatic treatment since there is no cure available (WHO, 2012). Patients diagnosed with chronic hepatitis B can be treated with interferon, which suppresses the HBV and helps the immune system to enhance the protection against HBV (WHO, 2012).

Early diagnosis of HBV infection with the help of blood test can help to break the ongoing transmission of infection and lead to treatment with antiviral medication to the infected person (Nguyen et al, 2010). Also it is important to identify and vaccinate

those people who share house hold with infected person or the sexual partner who might become infected. There are few things that the infected person can do to avoid spreading infection to others. For example, the person who is infected can inform the person who is sharing the household with him/her about his/ her health condition and convince them the test for HBV infection and also to get vaccinated for HBV infection. Using alcohol in combination with HBV-infection has shown to increase the risk of hepatotoxicity (Tan, Cheah &Teo, 2005). An HBV-infected person can delay liver disease by limiting their alcohol consumption and by regularly seeking disease monitoring (Weinbaum et al., 2009).

### **2.2.2 Hepatitis B: vaccination**

The HBV vaccine was introduced 1982 in the U.S. (Weinbaum et al., 2009) and in 1993 the hepatitis B vaccine was introduced in Maldives (ministry of health, 2015). The vaccine was first given to the new born in all the countries (Ministry of Health, 2015). However the percentage of vaccine coverage at 1993 is not known. From 1993 the vaccine coverage in Maldives is above 95% (Ministry of Health, 2014). All the children born in all islands are compulsory to be vaccinated for hepatitis B within 24 hours after birth to prevent the child from getting infection from mother to baby (Ministry of Health, 2015). If the birth dose of hepatitis B vaccine is given within 24 hours after birth, it can prevent 80-90% of viral transmission from mother to baby (Elin Dahlström, 2013)

The HBV vaccine is gives to infants, children and adults as a protection against anti HBs, in above 90% of cases if the vaccination is scheduled properly. The hepatitis B vaccine is given in four dose series. The first dose is given at birth, the other doses is given with pentavalent vaccine which includes hepatitis B, DPT and Hib. The second dose is given at 2 months of age and the third dose is given at 4 month and the fourth dose is given at 6 month of age (Health protection agency, 2013). For the adults the vaccine is given in three dose series at 2, 4 and 6 month (HPA, 2013). People who are immune suppressed are less likely to develop protective concentration of anti- Hb (Shepard, Simard, Finelli, Fiore & Bell, 2006). It is known that the vaccination against HBV long last for at least 10-15 years if the vaccine is schedule is followed

correctly. However it is not known that the hepatitis B vaccine can give lifelong protection against HBV (Shepard, Simard, Finelli, Fiore & Bell, 2006).

The statistics on hepatitis b vaccine coverage in Maldives shows that the coverage is above 95% (Ministry of Health, 2014). However compare to past three years it shows slight decrease in receiving third dose of hepatitis B in each year. In 2012 the coverage was 99.7% in 2013 99.5% and 2014 99.5% (HPA, 2015). Since 1993 Maldives has developed a policy, that each child in Maldives must be vaccinated for hepatitis B within 24 hours after birth. Moreover the Education Ministry included vaccination as enforced to enter primary schools in Maldives (Ministry of Health, 2014).

Furthermore there are no researches carried out in Maldives to identify the knowledge and attitude of hepatitis B vaccination in Maldives. However a research carried out in Taiwan (Suet al., 2012) found that the performance of immunization program effectively reduces the prevalence of acute hepatitis b among young adults and adolescents (Suet al., 2012).

### **2.2.3 Hepatitis B: situation in the world**

In spite of the fact that since 1982 there is a vaccine against HBV that gives 90-100% protection against infection, there are in the world today more than 240 million people are living with chronic hepatitis B. The consequence of this is approximately 780 000 HBV related deaths every year around the world, where 650,000 deaths is cause by primary liver cirrhosis or liver cancer and 130,000 death is caused by acute HBV (WHO, 2012).

In addition HBV transmission is different in different geographical regions and countries depending on prevalent rate of HBV. In regions where the HBV prevalent is low the most common way of transmission is horizontal such as injecting drug from same needle, high-risk sexual behavior and receiving blood products. However the region with high prevalent rate the virus is transmitted mostly by vertical transmission early in child hood or prenatally from mother to baby (Dunford et al., 2012).

In a study conducted in Singapore (Tan et al., 2005) the authors interviewed 39 HBV infected individuals, family members that had HBV- related liver disease, to identify

health seeking behaviors of those infected with HBV infection. The authors want to know if their own livers were functioning normally, but were at the same time reluctant to find out the results of a test, in fear of it. The results show that the low compliance to follow up among the patient was due to a widespread of perception that there is no efficient cure to HBV. Also it shows that many patients refer traditional medicine instead of western medication.

In a study by Mohamed and co-workers (2012), knowledge, attitudes and practices among 483 chronically HBV infected people in Malaysia was investigated. The study showed that more than half of the participants felt concerned about the diagnosis and are worried about spreading the HBV infection to family and friends. A third of the participants felt uncomfortable to make their diagnosis public. About 11.6% reported that they would not tell their doctor or dentist about being HBV positive, while most of them would tell their family and friends. Many of the participants had changed their life-style habits after receiving the HBV diagnosis. A majority of those who had smoked and drunk alcohol reduced their intake-level and about half of the participants also improved food choices and increased their daily exercise level. A large increase about encouraging family members to get screened for HBV was also noticed after receiving the HBV diagnosis (Mohamed et al., 2012).

According to the fact that during the years 1974-2008 17.6 million people born in countries of intermediate or high prevalence of chronic hepatitis B have immigrated to the U.S., there is an increased burden of chronic hepatitis B in the country (Mitchell, Armstrong, Hu, Wasley & Painter, 2011). In the U.S. approximately 1.4 million residents are chronically infected with HBV (Weinbaum et al., 2009; Nguyen et al., 2010). More than half of the estimated chronic hepatitis B cases were from the Western Pacific region, from countries such as the Philippines, China and Vietnam. These were the main countries of birth for imported cases of chronic hepatitis B. Africa was the second largest region for imported cases of chronic hepatitis B.

According to systematic review (Rossi et al., 2012) migrants from East Asia, the Pacific and Sub-Saharan Africa represented a high seroprevalence of chronic hepatitis B, 10.3-11.3%, and migrants from Eastern Europe, Central Africa and South Asia were an intermediate seroprevalence. The seroprevalence of chronic hepatitis B was low among migrants from the Caribbean, Latin America, the Middle East and North Africa. Refugees and asylum seekers had higher seroprevalence of chronic hepatitis B compared to migrants. In addition more than 50 % of people are suspected to have HBV infection.

In a study made in Vietnam (Dunford et al., 2012) the authors studied the prevalence of HBV in five different geographical regions and eight different population groups, in total 8654 individuals. The groups consisted of commercial sex workers, blood donors, injecting drug users, military recruits, dialysis patients, pregnant women, recipients of multiple blood transfusions and elective surgery patients. The prevalence of HBsAg was highest among the injecting drug users (17.4%), followed by dialysis patients (14.3%). The lowest percentage prevalence of HBsAg was in the blood-donor group (5%). Duong, Nguyen, Henley and Peters (2009) found that in Vietnam there was a correlation between HBV infection and people who had undergone surgery, elderly people and persons with low education.

#### **2.2.4 Demographic factors**

Several studies show that hepatitis B virus can spread more rapidly in men than women. According to Brain J there are several factors which increases the risk of hepatitis B infection they include male gender and the age above 45 years and person sharing the households (Brian J. McMahon, 2004). In addition viral hepatitis surveillance conduct in Michigan department of community health, in Michigan male (49) have had hepatitis b infection more than females (32), also age above 40 years have high prevalence of HBV infection (michigon department of community health, 2013). A survey conducted by Adekeye and colleagues analyzed that males had the higher prevalence (15.9%) for HBV and 4.1% for HCV higher than the females with 4.9% for HBV (Adekeye, Chukwuedo, Zhakom, & Yakubu, 2013). Also in there study the distribution by marital status shows that the single and married subjects had equal prevalence, 10.2% for HBV. These studies show that the age and marital status of the person plays vital role in acquiring HBV.

### **2.2.5 Occupation**

To estimate the risk of HBV infection among hospitals workers a survey was carried out in U.S hospital by Hadler and colleagues, they measured the prevalence of infection in employees in five hospitals in different part of the country with 5,697 participants. From the survey they found that peoples who have more contact with blood have strong correlation to get infection (1.05 per 100 person years). More over the frequency of needle accident had an autonomous positive effect on infection rate for HBV ( Hadler, et al., 2015). Another research conducted in china by Liang and coworkers, to determine the prevalence of hepatitis B surface antigen (HBsAg), hepatitis B surface antibody (anti-HBs), and hepatitis B core anti-body (anti-Hb) in a representative population in China 14 years after introduction of hepatitis B vaccination of infants. Their findings also address that HBsAg risk in adults was associated with male sex, Western region, and certain ethnic groups and occupations ( Liang, et al., 2009). People who work in such occupation which increases the risk of getting HBV infection need to be aware of the disease transmission and who it is transmitted to person to person.

### **2.2.6 RISK FACTORS OF HEPATITIS B INFECTION**

There are several risk behaviors that can lead the person to get hepatitis B infection. Some of the risk factors associated with hepatitis b are being actively involved in sexual activities. This includes man having sex with men and having multiple sex partners. Also having unprotected sex with an infected parson also increases the risk of getting disease. Other risky behaviors which leads to hepatitis B infection include sharing needles with an infected person while using drugs, sharing personal items like razors tooth brush, occupation which leads to have contact with human's blood and body fluids (CDC, 2015). A research conducted in San Francisco, California to find out the Knowledge of hepatitis B risk factors and prevention practices among individuals chronically infected with hepatitis B in San Francisco, California by Nishimura and coworker's fond the knowledge about hepatitis B risk factors leads to change the behavior of the person. According to their research, 75% of the participants have no idea how the disease is developed and 41% of the population said they do nothing to prevent transmission ( Shallow , Stier, Shiono, & Nishimura, 2012).

### **2.2.6 RISK FACTORS OF HEPATITIS B INFECTION (CONT...)**

A research conducted to find out the Knowledge of Hepatitis B Virus Infection, Immunization with Hepatitis B Vaccine, Risk Perception, and Challenges to Control Hepatitis among Hospital Workers in a Nigerian Tertiary Hospital, result show that there is a need of improving knowledge on low perception of hepatitis B transmission, the perception that he/ she cannot get if they have exposed to certain risk behavior have to be change to improve the knowledge about hepatitis B ( Adekanle, Ndubub, Olowookere, Ijarotimi, & Ijadunola, 2014). This indicate even in health professionals who are mostly exposed to human blood and body fluid need to have adequate knowledge about the disease transmission and they need to know that they are at high risk of getting infection on their occupation.

### **2.2.7 Knowledge and attitudes about hepatitis B infection and vaccination**

In a study (Nguyen et al., 2010) carried out in the U.S. among Vietnamese-Americans, 1704 respondents participated in a computer-assisted telephone interviewing survey. The interviews included questions about knowledge, beliefs and communication regarding HBV testing. The study showed that 17.7% reported a family history of hepatitis B and 61.6% had been tested for hepatitis B. Only 26.5% reported that they had been vaccinated against HBV, which was disappointingly low. Knowledge about modes of transmission was high concerning sharing needles and childbirth, moderate concerning sharing toothbrushes and low concerning unprotected sex. A majority of the participants thought incorrectly about other possible ways of transmission, that food or respiratory droplets could transmit the disease.

Hwang, Huang and Yi (2010) investigated knowledge about HBV and predictors of HBV vaccination among 251 Vietnamese American college students. More than half of the participants were aware that HBV can be transmitted via unprotected sex and contaminated blood; though most of the participants' thought that HBV was transmitted through food and water. Less than one third knew that Asian Americans have higher risk of being infected with HBV than other people. About 87% had heard about HBV before and they had significantly greater knowledge compared to those who had not heard about the disease. The knowledge was also greater among those who had been screened for, or vaccinated against HBV, or had family members diagnosed with HBV or liver cancer.

The study also indicated that women had greater knowledge about HBV compared to men. About 43% of the participants reported being vaccinated against HBV (Hwang & Huang, 2010). Older participants or participants who were sexually active and/or knew someone with HBV were less likely to have been vaccinated (Hwang & Huang, 2010).

A study was carried out in China (Chao et al., 2010) to investigate the knowledge about HBV among 250 health professionals by handing out a questionnaire at the “China national conference on the prevention and control of viral hepatitis”. The results showed that even among highly educated health professionals the knowledge and education was deficient. One-third of the respondents did not know that it is common for chronic HBV infection to be asymptomatic or that it can lead to liver cancer, liver cirrhosis and premature death. The authors believe that this increases the risk of health professionals overlooking the significance of screening even those who are asymptomatic, and vaccinating those who need it. Mohamed and co-workers (2012) also found that factors associated with greater knowledge about HBV are high educational level or employment in professional jobs.

In Slonim and co-workers’ (2005) study, carried out in the U.S., 96 adolescents were individually interviewed and 17 063 adolescents and young adults filled in a questionnaire. The participants were European-Americans, African-Americans, multiracial, Native Americans, Asian and Pacific Islanders, and other races. The study showed that the most common barrier to hepatitis B vaccine acceptance was that the adolescents did not like getting shots (94%) and time-related barriers (50%), as they had to come back two more times to the clinic to get the remaining doses of vaccine. Almost two-thirds of the adolescents that were interviewed could not provide any correct information before their clinic visit about hepatitis B.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 RESEARCH DESIGN**

A cross sectional descriptive study with quantitative method is used in this study to find knowledge and attitude towards hepatitis b infection among the students in faculty of education in Maldives

#### **3.2 POPULATION SAMPLE COLLECTION**

The population for this study was taken from Maldives National University/ Faculty of Education. The total population of faculty of education is 1600. Systemic and simple random sampling was used to select the students from the classes. Approximately 35 students are allocated in each class. Volunteer two students were selected from each class to support in conducting survey in the faculty.

##### **3.2.1 Sampling size**

The sample size was calculated by using software called Rao soft. 95% confidence interval with 5.56% for margin of error and hepatitis b positive 0.45% was considered to calculate the actual sample size. Also the proportion of students who are vaccinated for hepatitis B 61.2% was considered. To prevent information loss from incomplete data and withdrawal of the participants from the study, the sample size was increased by adding 10%; the final sample size was 120 students. Simple random sampling technique was used to collect students from the faculty.

##### **3.2.2 Inclusion Criteria**

- Students aged between 20 to 39 years are included in the study.
- Non-medical students and only students who were studying at Faculty of Education.

### **3.2.3 Exclusion criteria**

- Students who were ages of 19 and below are excluded from the study.
- Students who have medical background are not included to this study because they will have the knowledge about the disease.

### **3.3 Instrumentation**

A questionnaire was divided into three parts part 1 include question related to social demographic factors. This part includes 13 questions, in the first question asked the participant about the age of the participant. The second question asked the participants gender, the third question specify the educational status of the participant and the fourth question answer the marital status of the participant. The living status was asked in the 5 question. The sixth question asked the participant whether he/she had heard about the disease and the seventh question has to be answered if the participant had heard about the disease so in this question the participant has to answer form which source the participant heard about the disease. The last question in this part asks about the vaccine status of the participant.

Moreover, the second part of the questionnaire is to find out the knowledge about hepatitis B infection. This part of the questionnaire has 13 questions. The questions asked in this part are close ended, in all the questions participants has to answer in yes, no and don't know. The first question asked in this part is to identify whether the participant know hepatitis B can run in family. The second question ask the participant to answer transmission of hepatitis B, whether the disease can be spread by coughing and the next question the participant need to answer whether the disease can be spread by staying in the same room. The questions from fourth to eleventh question is to find the participant knowledge about the risk factors of hepatitis B. these question include risk factors like, sexual transmission, transmission during birth, sharing house hold materials and sharing infected needles. In addition the twelfth and thirteenth question asked to find out the participants knowledge about the symptoms and signs of the hepatitis B infection. The fourteenth questions ask the participant about the complication of the disease.

Furthermore the 3<sup>rd</sup> part of the questionnaire analyzes the participant's attitude towards hepatitis B vaccination. This part includes 7 questions. A scale of choices has been given the likert scale was used to answer the question. The scale given to the participant are strongly agree, agree, disagree, strongly disagree and none.

### **3.4 Data collection procedure**

The trained students who were asked to collect data from each classroom according to selected list. After collecting data all the questionnaire was enveloped and also was sealed to maintain the confidentiality of the students. Moreover a consent and information letter was provided with each questionnaire and the written consent was taken from each of the student participated in the survey.

### **3.5 Validity and reliability**

Before collecting data the questionnaire was pre-tested. The pretesting sample of student was selected from faculty of sharia in law, Total of 10 students participated in pre-test. While pre-testing the questionnaire it was considered that the pre-testing group should have same characteristics. The characteristics include the sample group should be non-medical students, should be in between the age of 20 to 39 years. After per testing the questionnaire was revised in part I and part II and finalized.

### 3.5 Frame work of data analysis

Objectives	Questions	Source of data	Types of data	Technique of analysis
To determine how much the non-medical students know about hepatitis B transmission.	<ol style="list-style-type: none"> <li>1. Do people get Hepatitis B from genes (from genes means the capability of transmitting from parents to offspring)?</li> <li>2. Do people get Hepatitis B by coughing?</li> <li>3. Do people get Hepatitis B by having personal contact (like kissing sleeping) with infected person?</li> <li>4. Do people get Hepatitis B during birth?</li> <li>5. Do people get Hepatitis B by sharing spoons or bowls for food?</li> <li>6. Do people get Hepatitis B by eating food prepared by infected person?</li> <li>7. Do people Hepatitis B by eating foods that has been previously eaten by infected person?</li> <li>8. Do people get Hepatitis B by sharing tooth brush and razors with infected person?</li> <li>9. Do people get infection by holding hands with infected person?</li> <li>10. Does Hepatitis B cause liver cancer?</li> <li>11. If someone is infected with Hepatitis B but they look and feel healthy. Do you think that person can spread hepatitis B?</li> </ol>	questionnaire	Primary data	Statistical package for social science SPSS 17.0 was used to analyse the data.
To determine the attitude of the students towards hepatitis B infection.	<ol style="list-style-type: none"> <li>1. I don't sharing needles can cause hepatitis B infection.</li> <li>2. Healthy people do not need to be vaccinated for Hepatitis B infection.</li> <li>3. Hepatitis B infection can be caused by sharing needles with hepatitis B infection.</li> </ol>	questionnaire	Primary data	Statistical package for social science SPSS 17.0 was used to analyse the data.

	<p>4. Yellow fever is one sign of acute hepatitis B.</p> <p>5. Having a partner who has hepatitis b infection is not at all a problem.</p> <p>6. Everyone should be vaccinated for hepatitis B infection.</p> <p>7. I don't think I should be vaccinated for hepatitis b</p> <p>8. Everyone should test for hepatitis B infection.</p>			
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**Table 1 analytical frame work**

## CHAPTER 4

### Data analysis and result

#### 4.1 DATA ANALYSIS

In this study the Statistical Package for the Social Sciences, SPSS 17.0, was used to analyse the collected data. The questionnaire contained non-parametric data. All data in part I, demographic characteristics, was based on a nominal scale and was coded into numbers and then registered in the SPSS-program using descriptive statistics (Polit & Beck, 2008).

Part II and III were also based on nominal scales. In part II variables were ranked as follows: *yes (1)*, *no (2)* and *do not know (3)*, and in part III variables were ranked strongly agree (1), agreed (2), disagreed (3), strongly disagreed (4) and none (5). Results are presented using tables and text. The participation group consisted of 59 female students (49.2%) and 61 male students (50.8%). The respondents consisted of 96 students (80%) from faculty of education and 34 students (20%) from foundation studies.

A scale was used to calculate students' knowledge regarding hepatitis B infection. The students who gave correct answer to 0 to 2 questions are considered student do not have knowledge about hepatitis B, 3 to 5 questions poor knowledge, 6 to 8 questions have good knowledge and the students answered 9 to 10 or all the 11 questions correctly it is considered they have adequate knowledge about hepatitis B.

## **4.2 RESULT**

### **4.2.1 Demographic background of students in faculty of education and foundation studies**

The table 2 below shows the demographic background of students in faculty of education. The mean age of study group is 24.87 years. The median age of the study is 24 years. Their age ranged between 20 and 39 years. The majority of the students were 21 years old (18%), (13%) of the students are 20 years old. Least number of students is age from 31-38 years. Majority of the students is unemployed and few students are working in government office. Few students are self-employed and also working in private office. The other variable analyzed in the demographic background is student's marital status. Higher populations of the students are single and second higher populations of students are married. Mainstream of the students were living with their parents. The least number shows in the graph is students living with their friends. Most of the students have completed O level (36.7%). To find out educational status before they entered collage, multiple choice questions were asked to the students. The variables used for this question was completed grade 7, completed O level or A level and also completed diploma, bachelors or masters and above. The majority of the students (72.5%) had heard about hepatitis B virus infection. Also 27.8% of the student has not heard about hepatitis B infection. Most of the student (23.3%) has heard about the disease from internet. Furthermore students also had heard about hepatitis b infection from news, leaflets, through health professionals'. Fewer students have heard about hepatitis b from posters. In addition the majority of the students (49.2%) did not know whether they are vaccinated for HBV.

**Table 2 Demographic Background**

<b>Demographic characteristics</b>	<b>Number (n = 120)</b>	<b>Percentage (%)</b>
<b>Age</b>		
20	16	13.3
21	22	18.3
22	5	4.2
23	9	7.5
24	13	10.8
25	4	3.3
26	7	5.8
27	9	7.5
28	11	9.2
29	8	6.7
30	7	5.8
31	1	0.8
33	1	0.8
35	1	0.8
37	2	1.7
38	2	1.7
<b>Total</b>	<b>120</b>	<b>100</b>
<b>Gender</b>		
Male	61	50.8
Female	59	49.2
<b>Total</b>	<b>120</b>	<b>100</b>
<b>Job status *</b>		
Working in government office	23	19.2
Working in private office	14	11.7
Self employed	5	4.2
Unemployed	77	64.2
<b>Total</b>	<b>119</b>	<b>99.2</b>
<b>Marital status *</b>		
Single	50	41.7
Married	33	27.5
In a relation ship	31	25.8
Divorced	5	4.2
<b>Total</b>	<b>119</b>	<b>99.2</b>
<b>Living with</b>		
Parent	73	60.8
By my self	11	9.2
Friends	6	5.0
Other	30	25.0
<b>Total</b>	<b>120</b>	<b>100</b>

**Table 3 Demographic Background  
(cont....)**

<b>Education status *</b>		
Completed grade 7	2	1.7
O level	44	36.7
A level	20	16.7
Diploma	27	22.5
Bachelors	24	20.0
Masters and above	2	1.7
<b>Total</b>	<b>119</b>	<b>99.2</b>
<b>Heard about hepatitis B *</b>		
Yes	87	72.5
No	29	24.2
<b>Total</b>	<b>116</b>	<b>96.7</b>
<b>Heard from *</b>		
News	20	16.7
Internet	28	23.3
Leaflets	23	19.2
Posters	2	1.7
Health professionals	15	12.5
Other	11	9.2
<b>Total</b>	<b>99</b>	<b>82.5</b>
<b>Have received vaccine</b>		
Yes	34	28.3
No	27	22.5
Do not know	59	49.2
<b>Total</b>	<b>120</b>	<b>100</b>

\*Missing

#### **4.2.2. Knowledge about hepatitis B infection among the students in faculty of education.**

Majority of the students (59.2%) know that hepatitis B cannot be transmitted from genes. The graph above demonstrates the students' knowledge about hepatitis B infection transmission. The question asked to the students was, do people get hepatitis B from genes? And majority of the students gave correct answer to the question. Also the student's knowledge was tested to identify whether they have knowledge that the disease is not air born and it cannot be transmitted by coughing. About half of the students (77.5%) answered correctly that the disease cannot be transmitted by coughing. Moreover 55% of the students have knowledge that hepatitis B can be transmitted by having personal contacts like kissing sleeping with infected person. 44.2 % of the students said that disease cannot be through personal contact. In addition 41.7% of the students correctly answered that hepatitis B can be transmitted from mother to baby. However majority of the students (58.3%) of the students do not know the disease can be transmitted from mother to baby.

Furthermore 83% of the students said the disease cannot be transmitted if they share the house hold tolls like spoons and bowels with infected person, only 15% of the students said that the disease can be spread if they share house hold tolls with HBV infected person. 75% of the students said people will not get hepatitis b if eat food which was prepared by an infected person. But 23% said the disease can be transmitted. Moreover the students 69% have less knowledge that the disease can be transmitted if the person eats foods that were pre-chewed by hepatitis b infected person.

The majority of the students (60%) know that disease can be transmitted can be transmitted by sharing personal items like tooth brush and razors. Only 39.2% said the disease cannot be transmitted when they share personal items with infected person. When the students were asked that do people get HBV by sharing needles with infected person, 54.1% said yes to the question and 44.2% said no. 84.2% of the students said the disease cannot be transmitted if they hold hand with an infected person. And 15% said the disease can be spread if person hold an infected person's hand.

Last but not the least 65.8% said hepatitis b cannot cause liver cancer. This shows that the majority of the students have wrong knowledge about the complication of hepatitis b infection. The majority of the patient has misunderstood that an infected person who is carrier of hepatitis b infection can spread disease. Majority of the students said an infected carrier cannot spread disease. This shows that a student has less knowledge regarding disease complication.

**Table 4 knowledge about hepatitis B infection**

<b>Knowledge</b>	<b>Number (n= 120)</b>	<b>Percentage (%)</b>
<b>People get HBV from genes</b>		
Correct answer	71	59.2
Wrong answer	49	40.8
<b>Total</b>	120	100
<b>People get HBV by coughing</b>		
Correct answer	93	77.5
Wrong answer	27	22.5
<b>Total</b>	120	100
<b>People get HBV by having personal contact with infected person *</b>		
Correct answer		
Wrong answer	66	55.0
<b>Total</b>	53	44.2
	119	99.2
<b>Get HBV during birth</b>		
Correct answer	50	41.7
Wrong answer	70	58.3
<b>Total</b>	120	100
<b>Get HBV by sharing house hold items *</b>		
Correct answer	100	83.3
Wrong answer	19	15.8
<b>Total</b>	119	99.2
<b>Get HBV by eating food prepared by infected person*</b>		
Correct answer	91	75.8
Wrong answer	28	23.3
<b>Total</b>	119	99.2
<b>Get HBV eating food which was pre-chewed by an infected person *</b>		
Correct answer		
Wrong answer	36	30.0
<b>Total</b>	83	69.2
	119	99.2
<b>Get HBV by sharing personal items*</b>		
Correct answer	72	60.0
Wrong answer	47	39.2
<b>Total</b>	119	99.2
<b>Get HBV by sharing infected needle*</b>		
Correct answer	65	54.2
Wrong answer	53	44.2
<b>Total</b>	118	98.3

**Table 5 knowledge about hepatitis B infection (cont...)**

<b>Get HBV by holding hands*</b>		
Correct answer	101	84.2
Wrong answer	18	15.0
<b>Total</b>	119	99.2
<b>HBV causes liver cancer</b>		
Correct answer	54	45.0
Wrong answer	66	55.0
<b>Total</b>	120	100
<b>Infected asymptomatic carrier can transmit the disease to others *</b>		
Correct answer		
Wrong answer	40	33.3
<b>Total</b>	79	65.8
	119	99.2
<b>Missing *</b>		

#### **4.2.3. Attitude towards hepatitis B infection**

The table 5 below shows students attitude toward hepatitis B infection. The students have agreed (22.5%) also disagreed (22.5%) that having a partner who is having hepatitis b is not at all a problem. Also they has strongly dis agreed (21%) with the statement. 28.3% of the student agreed also 28.3% of the students dis agreed that sharing needles can cause hepatitis B infection. 20% of the students disagreed that sharing needles can cause hepatitis b infection.

In addition majority of the students strongly dis agreed that vaccination should be given to the children's under 2 years. Also 22.5 % dis agreed the argument. Only 11.7 % of the student has agreed the argument that the vaccination should be given to the children's under 2 years. Majority of the students has strongly agreed that hepatitis B test has to be done before marriage. The majority of the student agreed with the statement that everyone need to be vaccinated for hepatitis b infection. The majority students strongly disagreed with the statement that "I don't think I should be vaccinated for hepatitis B infection". Last but not the least, to find out the attitude on testing a statement was given to the students that "everyone should test for hepatitis b infection". Majority of the student strongly agreed to the statement, 63% of the strongly agreed that everyone should test for hepatitis B infection. This result shows that students have positive attitude towards hepatitis b infection.

**Table 6 Attitude toward hepatitis B infection**

<b>Attitude statements</b>	<b>Number (n =120)</b>	<b>SA</b>	<b>A</b>	<b>DA</b>	<b>SDA</b>	<b>N</b>	<b>Percent age (%)</b>
<b>I don't think sharing needle can cause hepatitis B *</b>	119	25	27	27	26	14	99.2
<b>Having partner who has hepatitis B is not at all a problem *</b>	119	34	11	25	34	14	99.2
<b>Vaccine should only be given to children under 2 years *</b>	119	19	21	34	23	22	99.2
<b>I think hepatitis B test should be done before marriage*</b>	119	60	24	12	9	14	99.2
<b>Everyone should be vaccinated for hepatitis B infection*</b>	119	64	19	10	16	10	99.2
<b>I don't think I need to be vaccinated for hepatitis B *</b>	119	26	5	27	46	15	99.2
<b>Everyone should be vaccinated for hepatitis B *</b>	119	76	13	9	11	10	99.2

**Missing \***

**SA= Strongly Agreed, A= Agreed, DA= Dis Agreed, SDA= Strongly Dis Agreed, N= None**

## **CHAPTER 5**

### **Discussion and conclusion**

#### **5.1 Summary of main findings**

The result of the study show that the student has good knowledge about hepatitis b, but the knowledge they have is not adequate to change the behavior. A scale was used to rate the knowledge about hepatitis B infection among the students. The rate was given like if students answered 3 to 5 question correctly in part II of the questionnaire, student has poor knowledge about hepatitis B infection. If the students answered 6 to 8 questions correctly it was considered that the student has good knowledge about the disease. Also if the students answered 9 to 10 question or the entire 11 question correctly the students has adequate knowledge about the disease. More than 80% of the students have answered correctly to 6 to 8 questions. Among the participated students 36.7% has completed O level before joining the faculty. This can be a reason why the students have good knowledge about hepatitis b. Moreover majority of the students (72.5%) have heard about hepatitis B infection before the study was carried out. It was found that many of the students (28%) have heard about the disease from internet. It is also found that many of the students gave correct answer to many questions. More than half of the students knew that sharing food with an infected person cannot transmit HBV. Also students (59.2%) have knowledge, that hepatitis B cannot be transmitted from genes. However majority of students (65.8%) misunderstood that hepatitis B can causing liver cancer. Secondly students (58.3%) answered wrong to the question; do people hepatitis b during birth. More than half of the students (72%) answered correctly that hepatitis b can be transmitted by sharing personal items like tooth brush and razors. Also the students (55%) answered correctly that hepatitis b can be transmitted by having personal contacts like sleeping kissing with infected person.

## **5.2. DISCUSSION**

### **5.2.1 Knowledge about hepatitis b infection**

Majority of the students (72.5%) have heard about hepatitis b infection. Secondly the students have heard about hepatitis B (28%) from internet. According to the study by Hwang and co-workers (2010) factors such as being screened and/or vaccinated against HBV and to have heard about HBV is connected with a greater level of knowledge. This could explain why in this study, so many students have heard about HBV also it shows that more than half of the students answered correctly for majority of the questions. Another research carried out by Elin Dahlström and Ellinor Funegård Viberg to find about knowledge and attitude towards hepatitis B in Vietnam university students, shows that majority of the students had heard about the hepatitis B infection (Dahlström & Viberg, 2013). Another factor that is correlated with greater knowledge about HBV is having a high educational level or being employed in a professional job (Mohamed et al., 2012). In this study 36.7% of the student completed O level before joining the faculty, this could be the reason why the students have good knowledge about the disease.

However the majority of the students who are studying in the faculty are unemployed. Students have correct knowledge (62.8%) that hepatitis B cannot be transmitted form genes. Also the majority of the students (62.5%) knew that the disease cannot be transmitted by coughing. However students were not sure that hepatitis B cannot be transmitted if they stayed at same room with an infected person. This considered that there is a gap in knowledge since the disease cannot be transmitted if someone stayed at room with an infected person. In addition 55% of the students knew that having personal contact like kissing or having sexual relation with an infected person can transmit the disease. The result differs from other research. A research conducted for Vietnam students in Vietnam by Elin Dahlström and Ellinor Funegård Viberg show that the majority of the students have less knowledge about hepatitis B infection (Dahlström & Viberg, 2013). On the other hand there is a huge population (44.2%) who also said answered that disease cannot be transmitted having personal contact with an infected person. We can't deny this population because this considered one third of total population. This elaborate that there is serious gap of knowledge since HBV can be transmitted through sexual relationships is one of the most common ways of transmission (WHO, 2012).

More over participated students (58.3%) are not sure that hepatitis B can be transmitted to the baby during birth, this result is similar to the research conducted in Vietnam by Elin Dahlström and Ellinor Funegård (Dahlström & Viberg, 2013), whereas a research conducted in Hong Kong shows 67% respondents has answered correctly that disease can be transmitted during birth (Leung, et al., 2010). This considers that the students need to gain adequate knowledge about hepatitis B infection. Since form 1993 the vaccine is given to infant to prevent mother to child transmission (HPA, 2015), but also the population need to understand how the disease can be transmitted and why the vaccination are given to the child during birth.

Likewise majority of the population knew that the disease can be transmitted by sharing personal items like razors and tooth brush(60%) and sharing infected needles (54.2%), similar result has been showed in a reach conducted in Vietnam by Elin Dahlström and Ellinor Funegård Viberg also a research conducted in Us immigrant from Vietnam by Nguyen and coworkers (2010). However a research conducted by (Leung, et al., 2010) shows different result that population has insufficient knowledge on disease transmission from sharing personal items and sharing infected needles. More over students are less aware (65.8%) that hepatitis B can cause liver cancer as the complication of the disease. also the students are les aware that an asymptomatic patient can transmit disease. the result are similar with a research conducted in Vietnam university students by Elin Dahlström and Ellinor Funegård Viberg shows 24% did not know that HBV can cause liver cancer. Also the other research conducted in Vietnam by Taylor and coworkers also showed similar result that majority of the population has less knowledge that the disease can cause live cancer (Taylor, Jackson, Chan, Kuniyuki, & Yasui, 2002).This results shows that students do not understand the seriousness of the disease and complication of the disease.

### **5.2.2 Attitude toward hepatitis B infection**

Attitude towards hepatitis b vaccination among the students 73% of the students think that they need to be vaccinated for hepatitis B. Majority of the students said they don't know whether they are vaccinated for hepatitis. It is important that students to know about hepatitis b vaccination schedule so that they could get vaccination shots for hepatitis b. In the study by Slonim and co-workers (2005) adolescents reported time-related barriers as one of the most common reasons for not getting vaccinated which could be one of the reasons not to complete the vaccination schedule. According to the study by Ma and co-workers (2007) people are more probable to get vaccinated against HBV if they have confidence in that vaccine is protective. The statistic that shows majority of the students believe that they will receive the vaccine specifies that they know that the vaccine is safe and effective. Furthermore the attitude toward hepatitis b transmission majority of the students believe that if they share needles with an infected person there is a chance of getting disease. This shows that the students' behavior can be changed if they know about the transmission of disease.

### **5.2.3 Discussion on methodology**

The use of a random sample was a good way to investigate the knowledge and attitudes among many students in a time-efficient way. The information letter and the questionnaire were pretested and changes were brought according, which made it easier for the participants to understand the questions. At least one of the students who were trained for the questionnaire was present when the participants filled in the questionnaire. The students were, apart from the information letter, also orally informed that participation was voluntary and anonymous.

The questionnaire that was used was based on a study by Elin Dahlström and Ellinor Funegård Viberg (2013) and had good validity. Some changes have been made to the questionnaire to simplify the meaning of some questions. For example in the question numbered 11, 12, 13 in part II, was simplified briefly so the students can understand what was asking to them. When using the expression “Does”, it implicates that HBV either always cause liver cancer or never, which is not true and can give the respondent the wrong impression about the disease. Many question in part III was changed so that the students can understand the questionnaire. The format of the questionnaire also was changed after pretesting with the students of the same age group.

### **5.3. Implications**

This study is the first study that has been conducted to find students’ knowledge and attitude towards hepatitis b infection in male’ Maldives. And it shows that more education is needed among the population to increase the awareness among the population about hepatitis b infection and the importance of vaccination among the population. According to McPhee and his coworkers’ educational campaign and educational sessions are effective methods to change the behavior of people. By providing awareness we can remove the gap between the students’ knowledge and common misconception about the disease.

#### **5.4 limitations**

The limitations of the study were 10 students were missed from target population. These students' was not in the study sample. Besides while filling the questionnaire students were sitting near to the other as the classroom was small. This can interrupt the result of the study. Also the students were asked to fill the questionnaire without talking to each other, however many of the students were talking each other while completing the questionnaire. This could affect the participants answer and resulted in unwise knowledge and attitudes towards hepatitis B.

#### **5.5 Direction for future research and recommendation**

There should be further researches to be conducted to find out the knowledge attitude and practice toward hepatitis b infection and vaccination general population in Maldives to find out the prevalence of disease in Maldives. Also the research should be conducted to those who are in high risk group like drug users and pregnant women. More over further research has to be conducted to find out the association between the hepatitis B knowledge and attitude with the age group. Moreover alliance amongst the University, Ministry of Health, Ministry of Islamic Affairs, and Ministry of education should be built across the nation to implement broad programs of research, to help prevention, treatment and special education to aware the population about the disease.

## **5.6 Conclusion**

The majority of the students participated in the study at faculty of education had heard about HBV, and more than half of the students said they don't know whether they are vaccinated against HBV. Most of the questions had a majority of correct answers but the result also showed some gaps of knowledge among the students considered as serious. The result from this study will be used to plan an intervention program for primary prevention of this disease, such as a health education program for young adults.

Improved education about HBV is necessary for university students to increase their knowledge about HBV. This will hopefully also increase the amount of university students getting vaccinated against HBV. Future studies about Maldives national university students' knowledge about HBV infection and attitudes towards HBV vaccine would be of great importance to chart the need for education about HBV. Also with the result we can further research on knowledge and attitude towards hepatitis B infection and vaccination to the general population of the Maldives to find out prevalence of disease in the population.

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Maldives and Male' population taken from cencus priliminary report, 2014

Some of the data are collected from health protection agency, communicable disease department, on 29/3/2015

Population of feculty of education collected from admistration of feculty of educatio. The information was provided by seniror administrative officer Ms. Fareesha on 20/4/2015.

## Appendix 1 Information letter

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

### Information letter

Dear participants

My name is Fathaath Hassan. I'm a student in faculty of health sciences doing bachelors of primary health care. I'm here to do my dissertation on knowledge and attitude towards hepatitis b infection among non-medical students. The target group for my research is students who are in non-health background. This research is done only for the study purpose. The information provided in this questionnaire is only used in my project. This information will not be published in source.

The aim of the study is to investigate the students' knowledge about hepatitis B infection and attitudes towards the hepatitis B infection and vaccination. We also want to investigate if there is a difference in knowledge and attitudes between male and female students. We believe that increased knowledge about hepatitis B infection, the vaccine and how it is transferred is important to decrease the transmission of this disease.

What I would like you to do

I would like you to fill in a questionnaire that takes approximately 5 minutes. Your participation in this study is voluntary; your answers are anonymous and will be handled confidentially. By filling in this questionnaire you help to contribute valuable information concerning the present knowledge about, and attitudes towards hepatitis B infection and vaccine among students in non-health background. If you for any reason would not like to participate in this study, you do not have to fill the questionnaire,

Thank you

Sincerely

Fathaath Hassan

## Appendix 2 Consent letter

### Consent letter

I have read the information letter. I don't have any problem filling the questionnaire for this research. Also I don't have any problem in giving my personal information to do this research.

Participant signature..... Date .... / ..... / .....

## Appendix 3 Questionnaire

### KNOWLEDGE ABOUT HBV HEPATITIS B INFECTION AND ATTITUDE TOWARD HEPATITIS B VACCINATION AMONG NON MEDICAL STUDENTS

Please answer the questions in the questionnaire by making “X” to the answer you choose.

#### Part 1: socio demographic Factors:

1 Age (years) .....

2 Gender

1. Male

2. Female

3 Educational Status

1. Completed grade 7

3. A Level

5. Bachelors

2. O Level

4. Diploma

6. Masters and above

4 Marital status

1. Single

3. in a relation ship

2. Married

4. Divorced

5 Job status

1. Working in government

3. Self employed

2. Working in private office

4. Unemployed

6 With whom do you live?

1. Parents

3. Friends

2. by my self

4. Other (specify).....

7 Have you Heard about hepatitis B (HBV) infection?

1. Yes

2. No

#### IF YES ANSWER QUESTION 8, OR GO TO QUESTION 9

8 From where you heard about Hepatitis B infection

1. News

3. Leaflets

5. Health professionals

2. Internet

4. Posters

6. Other

9 Have you got Hepatitis B vaccination?

1. Yes

2. No

3. Do not know

**ANSWER QUESTION 10 IF YOU ARE VACCINATED FOR HEPATITIS B, OR GO TO NEXT PART.**

When you get vaccinated

10 .....

**(√) tick the answer**

<b><u>Part II: Knowledge about HBV infection and Vaccination</u></b>			
	<b>YES</b>	<b>NO</b>	<b>DO NOT KNOW</b>
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

<b><u>Part III: Attitudes toward HBV infection and vaccination</u></b>		<b>STONGLY AGREE</b>	<b>AGREE</b>	<b>DISAGRE E</b>	<b>Y DISAGRE</b>	<b>NONE</b>
23	I don't think sharing needles can cause hepatitis B infection.					
24	Healthy people do not need to be vaccinated for hepatitis B infection.					
25	hepatitis B vaccine only should be given to children under 2 years old					
26	Hepatitis b vaccine should only be given to children under 2 years.					
27	yellow fever is one sign of acute hepatitis B.					
28	Having a partner who has hepatitis b infection is not at all a problem.					
29	I think hepatitis B test should be done before marriage.					
30	Everyone should be vaccinated for hepatitis B infection.					
31	I don't think I should be vaccinated for hepatitis b					
32	Everyone should test for hepatitis B infection.					