

Assessment of Hepatitis B Awareness among Medical Students and Interns at King Khalid University

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ABSTRACT

Introduction: Hepatitis B virus (HBV) is a double-stranded circular DNA virus and member of the Hepadnaviridae family of viruses. Hepatitis B virus (HBV) infection is a serious global health problem, with two billion people infected worldwide and 350 million suffering from chronic HBV infection. At least one million people die annually from HBV related chronic liver disease. Healthcare professionals are at an increased risk of acquiring blood-borne infectious diseases. These individuals are prone to needle-stick injuries during procedures, leading to inadvertent inoculation of infected blood.

Methodology: A cross-sectional study was conducted among medical Students and interns at King Khalid University to assess their knowledge about HBV and vaccination status.

Results: A total of 170 participants complete the questionnaire, 57.1% were male, and 42.9 % were female. 65.9% of male and 39% of female participants receive the HBV vaccine. Only 39.1% of male and 24.3% of female participants received all 3 doses of the vaccine.

Conclusion: Medical students had a low to low average level of compliance with the HBV vaccination program, regardless of their knowledge and awareness of the disease and vaccination.


Keywords: Hepatitis, Cirrhosis, Liver, Saudi Arabia.

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INTRODUCTION

Hepatitis B virus (HBV) is a double-stranded circular DNA virus and member of the Hepadnaviridae family of viruses.^{1,2}

Hepatitis B virus (HBV) infection is a global health problem, with two billion people infected worldwide.³ Approximately one million people die annually from HBV related chronic liver disease.⁴

Symptoms of acute hepatitis B infection may begin as non-specific symptoms such as: anorexia, headache, nausea, vomiting, and malaise. About 30% of the patient may develop jaundice.

Manifestations of chronic hepatitis B infection range from an asymptomatic carrier state to chronic hepatitis, cirrhosis, and hepatocellular carcinoma. Extrahepatic manifestations also can occur with both acute and chronic infection. Method of HBV transition includes direct blood contact, vertically from mother to child, and via unprotected sexual intercourse. Risk factors associated with this infection include blood transfusions, hemodialysis, intravenous drug abuse, tattoos and dental procedures.⁵

About 20% of Chronically infected patients with HBV develop cirrhosis and about 5% have developed HCC.⁶ Also they are at

higher risk of dying prematurely due to HBV-related cirrhosis and HCC.⁷ Hepatitis B is estimated to be the cause of 30% of cirrhosis and 53% of HCC worldwide.⁸ Also of note, hepatitis B virus has been linked to membranous glomerulonephritis.⁹ Given HBV and its ability to affect multiple organ systems including the liver and kidney, chronic infection is of particular concern.

HBV infection is a preventable infection. Safe and effective HBV vaccine is available.¹⁰ Healthcare worker are at a high risk of acquiring blood-borne infectious diseases.¹¹⁻¹³ These individuals are prone to needle-stick injuries during procedures, leading to inadvertent inoculation of infected blood.⁵

METHODOLOGY

This is a cross-sectional study was conducted among medical Students and interns at King Khalid university. The questionnaire contained questions about demographic data, items regarding the knowledge about hepatitis B virus causative agent, mode of transmission, prevention and vaccination status of study participants.

Ethical Consideration

Study was explained to participant and informed consent was taken from the participant.

Statistical Analysis

The collected Data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) statistical program version 19.

RESULTS

A total of 170 participants complete the questionnaire, 57.1% were male, and 42.9 % were female, this study includes medical interns (44.1%), 6th year (37.1%) and 5th year (18.8%) medical students, 24.1% were married, majority of the participants are non-smoker (72.9 %). (Table1)

As shown in Table 2, 65.9% of male and 39% of female participants receive the HBV vaccine. Only 39.1% of male and 24.3% of female participants received all 3 doses of the vaccine.

In all different academic level less than 40 % of the participants receive full 3 doses of HBV vaccine. (Figure 1)

The study revealed a good level of knowledge about hepatitis B among the participants, around 89.4% of participants are aware of hepatitis B infection, 95.3% knew that hepatitis B caused by a viral agent.

The most common methods of HBV transmission indicated by the participants are blood transfusion (89%), Sexual intercourse (64%) and through mother to her child (40%). (Figure 2)

97% and only 90% of the participant (female and male) believe that health care providers are more borne to get hepatitis via cross infection ,97% believe that hepatitis B can be prevented and 90% and 82% of male and female participants believe that hepatitis B vaccination protect against infection . (Figure 3)

According to hepatitis related complication most common complication identified by the participants are cirrhosis (88.2%), liver disease (48%) and Liver cancer (40%). (Figure 4)

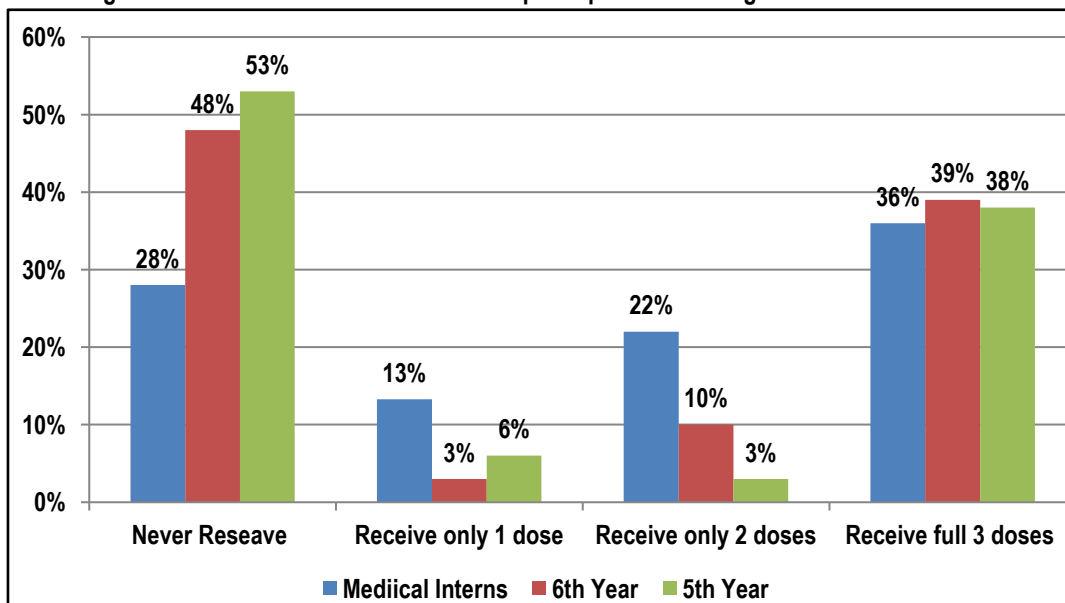
Table1: Descriptive characteristics of the participants

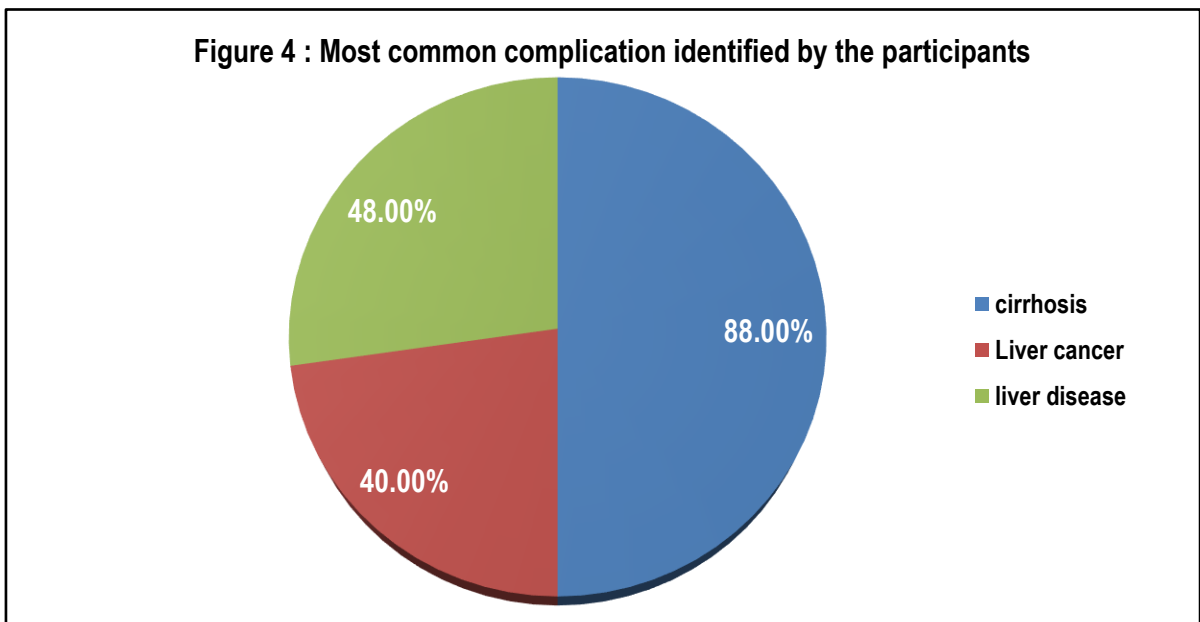
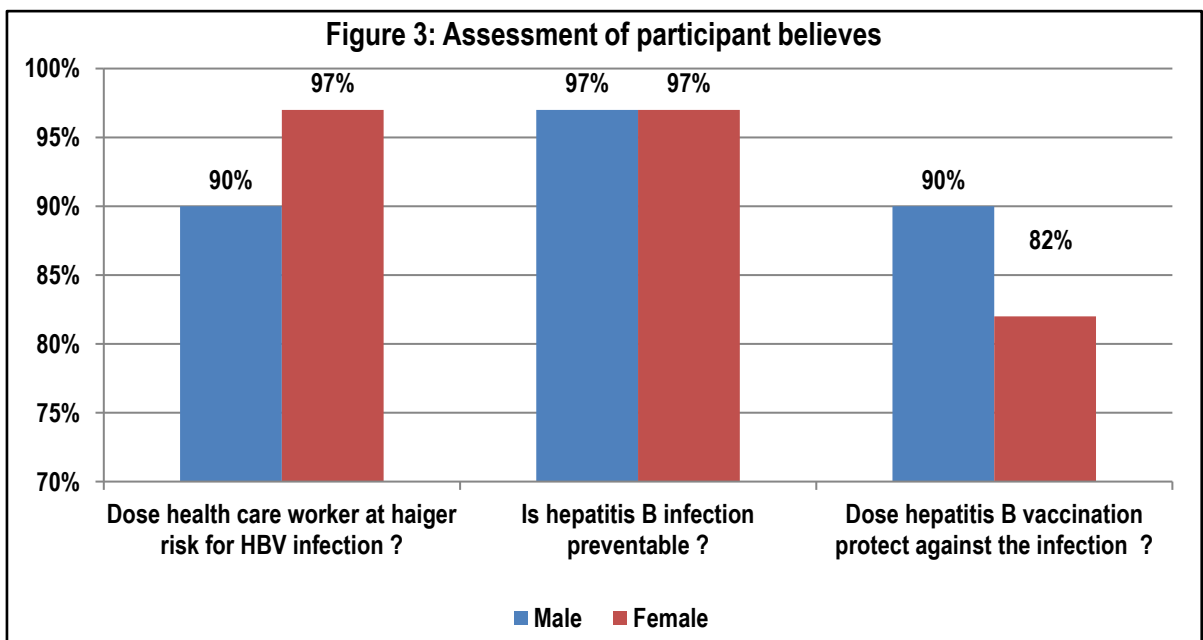
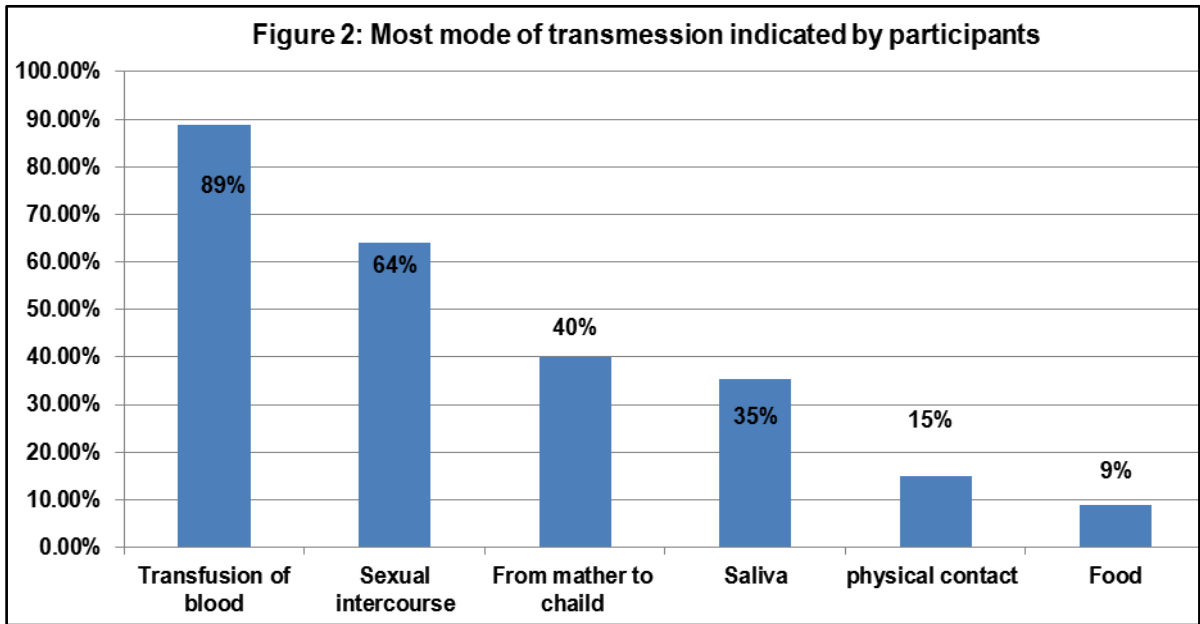
| | | Number | Percentage |
|-----------------------|----------------------------|--------|------------|
| Gender | Female | 73 | 42.9% |
| | Male | 97 | 57.1% |
| Marital status | Single | 129 | 75.9% |
| | Married | 41 | 24.1% |
| Academic Level | Interns | 75 | 44.1% |
| | 6th Year | 63 | 37.1% |
| | 5th Year | 32 | 18.8% |
| Smoking | Non Smoker | 124 | 72.9% |
| | Smoker | 32 | 18.8% |
| | X-Smoker | 14 | 8.2% |

Table 2: Descriptive of vaccination status according to the gender.

| | Male (Total of 97) | Female (Total of 74) |
|------------------------------------|-----------------------|-------------------------|
| Never receive HBV vaccine | 33 | 35 |
| Only 1 dose of HBV vaccine | 8 | 6 |
| Only 2 dose of HBV vaccine | 18 | 6 |
| Full 3 doses of HBV vaccine | 38 | 18 |

Figure 1: Shown vaccination status of the participants according to their academic level.





DISCUSSION

This study showed that participants has good knowledge and awareness about hepatitis B, routes of transmission, and modes of preventions. Only less than 40% received the 3 doses of hepatitis B vaccine, which makes the remaining 60% vulnerable to the disease. However, the survey also shows that most of the students (89.4% %) were aware of hepatitis.

According to Al-Ghamdi study on medical students, anti-HBs levels were low in many students. Therefore, testing medical students for anti-HBs levels may be warranted as they represent a high-risk population (14). An important issue about the medical students' knowledge about this life-threatening infection and the need of further HBV education. Therefore, steps such as education about importance of HBV vaccination are required.

CONCLUSION

Medical students had a low to low average level of compliance with the HBV vaccination program, regardless of their knowledge and awareness of the disease and vaccination. Steps such as education about importance of HBV vaccination are required to improve the health states and to the increase compliance rate among medical students.

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