

Knowledge, Attitude and Practice towards Hepatitis B Virus among Medical Students in Tabuk City, Saudi Arabia

Saeed Awadh Al Asmari¹, Shelian Juweed Alnoms¹, Faisal Dahial Dahash¹,
Abdul Wahab Aliasseri¹, Abdul Majeed Mohammedal Shehri¹, Faisal Hammad Alatawi¹,
Wafah Ammad Albalawi¹ Hyder Osman Mirghani²

¹Medical students, Faculty of Medicine, University of Tabuk, ²Medical Department, Faculty of Medicine, University of Tabuk, Saudi Arabia

Correspondence: Saeed Awadh Alasmari, e-mail: dr.abdurhman777@outlook.sa

ABSTRACT

Background: Medical students are at high risk of hepatitis B during their training, and are expected to be future doctors to acquire proper knowledge and attitude about the virus.

The aim of the work: The present study aimed at assessing knowledge, attitude, and practice regarding hepatitis B virus among Saudi medical students.

Materials and Methods: This cross-sectional study conducted among 147 clinical phase medical students during the period from May 2017 to April 2017. A self-administered questionnaire (five components and 46 choice questions with yes/no or yes/no/don't know) was used to assess knowledge (16 queries), attitude (18 items), symptoms and signs (6 questions), prevention (4 questions), and treatment (two issues). The Statistical Package for Social Sciences (IBM, SPSS, version 20, New York) was used for data analysis. The data were presented as percentages and mean \pm SD unless otherwise specified. A P-value of <0.05 was considered significant.

Results: Out of 147 medical students (51% males), their age was 22.90 ± 1.2 years, the student's overall knowledge was $70.54 \pm 26.51\%$, the knowledge regarding symptoms and complications was $83.9 \pm 9.11\%$, while the prevention, treatment, and attitude scores were $67.17 \pm 20.96\%$, $51.7 \pm 32.66\%$, and $53.52 \pm 26.11\%$ respectively.

Conclusion: The students in Tabuk had a negative attitude towards hepatitis B virus in spite of the fair knowledge, their knowledge regarding the virus prevention and treatment were suboptimal.

Keywords: Hepatitis B virus, knowledge, attitude, practice, medical students, Saudi Arabia

INTRODUCTION

Hepatitis is an inflammation of the liver, most commonly caused by a viral infection, There are five main hepatitis viruses, referred to as types A, B, C, D and E.^[1] Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus. It is a major global health problem. It can cause chronic infection and puts people at high risk of death from cirrhosis and liver cancer. The World Health Organization (WHO) estimated that about 240 million people have been infected with HBV world widely^[2]. It is found that 1.5 million people were killed by hepatitis B globally. Hepatitis B infection is common in the Middle East countries compared to the United States and Europe, the prevalence varies from 0.6 in Iraq to 8% in Sudan^[3]. Prevalence of HBV varies greatly from place to place, depending on the mode of transmission and other epidemiological factors^[4]. Factors that increase the risk of infection include unprotected sexual contact with an infected person, sharing needles and drug injection equipment, sharing personal items with an infected person, having direct contact with the blood of an infected person, touching open wounds or needle sticks, and contact during childbirth^[1]. Hepatitis B is the most

common form of hepatitis in Saudi Arabia with the genotype HBV/D1 was found to be the most prevalent^[5]. A study conducted in Jazan^[6], Saudi Arabia reported a prevalence of 1.9% among premarital clinics with the males more affected than females. Hepatitis B is a cause of discrimination to those who are carriers or infected with the virus, people are not accepting a gift, shake hands, allowing their kids to play with, and unwilling to their children's marrying hepatitis B patients or carriers^[7].

Medical students are an essential sector of the community, they are the doctors of the near future, they are at risk of having blood-borne infections including hepatitis B, they should be provided with the appropriate knowledge, and attitude to prevent and manage hepatitis B virus in the community. Thus, this research was conducted to assess the knowledge, attitude, and practice among the medical students in Tabuk, Saudi, Arabia.

SUBJECTS AND METHODS

This cross-sectional study was carried out among the clinical phase medical students during the period from May 2017 to April 2018. One hundred and seventeen students from a total of 210 were

approached (70% response rate). A structured self-administered questionnaire was used, the questionnaire consisted of five components and 46 choice questions with three items (Yes, no, Don't know), 16 questions assessed the knowledge, six for symptoms and complications of hepatitis B virus, four questions for the prevention of the virus, two questions for the pharmaceutical treatment, and eighteen questions were used to assess the attitude of the medical students towards the virus. The questionnaire was modified from previous literature [1,8] and approved by a family physician and an internist.

The students were regarded as having good knowledge if they scored $\geq 70\%$ and poor if $< 70\%$ [9], the negative attitude was present if the students scored $< 70\%$ in attitude component of the questionnaire, and positive attitude for a score $\geq 70\%$. The ethical committee of Medical College approved the research, and the Statistical Package for Social Sciences (IBM, SPSS, version 20, New York) was used for data analysis, and the data were presented as percentages and mean \pm SD unless otherwise specified. A P-value of < 0.05 was considered significant.

RESULTS

Participants (51% males), 32.7% were 6th class, 32.7% 5th class, while the 4th class medical students constituted 34.7% of the study sample. **Table 1**

In the present study, 98% of the medical students knew that a virus causes hepatitis B, 80.3% of the students reported that mosquitoes could not spread hepatitis B, 76.9% said that hepatitis B could not be spread through close personal contact such as kissing or talking, while 97.3% knew that hepatitis B could be spread through sharing injecting equipment, such as needles and operation tools. It is interesting to note that only 31.3% of the medical students knew that sharing dishes with HBV positive patients cannot cause the spread of the virus, and less than a half of students did not know that a lot of visiting dental doctors increases a person's chances of contracting hepatitis B. Table 3 demonstrates the student's knowledge regarding hepatitis B virus.

Regarding symptoms and complications of hepatitis B virus: The majority (77.6%) reported that the symptoms of hepatitis appear soon after the virus entrance to the body, 95.2% said that hepatitis B could lead to cirrhosis, 89.8% knew that an individual can have hepatitis B antibodies without being currently infected with the virus, 84.4% knew

that hepatitis B is associated with an increased risk of liver cancer, 82.3% reported that a person can be infected with hepatitis B and not have any symptoms of the disease, while 70.1% of the students answered incorrectly that always after the entrance of HBV to the body symptoms appear (Table 3).

Table 4 presents the prevention of hepatitis B virus in which: 38.8% said that people with hepatitis B should be restricted from working in the food industry, 86.4% knew that a vaccine is available for the virus, nearly two thirds (64.6%) reported that special diet is recommended for patients with Hepatitis B, while 78.9% believe that Hepatitis B test is to be done before marriage.

In the current study, only a minority (28.6%) knew about the medical treatment regarding hepatitis B virus, and 74.8% knew that People with hepatitis B should avoid alcohol intake (Table 5).

The current data showed that: only 25.9% reported that there is no need to test patients for HBV before they receive health care, 50.3% said that patients with HBV should be given the last appointment for the day, only 31.3% reported that health professionals who are HBV positive should not give health care services to patients, while only 4.1% said that they would prefer to wear two pairs of gloves when treating a bleeding person with HBV. Table 6 illustrates the attitude of medical students towards hepatitis B virus.

In the current study, the medical students knowledge regarding hepatitis B virus ranged from 12-98% with a mean of 70.54 ± 26.51 , the Symptoms and complications ranged from 70.1-95.2% (mean \pm SD = 83.9 ± 9.11), the prevention was 67.17 ± 20.96 , the treatment ranged from 28.67 to 74.8% with a mean \pm SD (51.7 ± 32.66), while attitude ranged from 4.1 to 85.70% ($53.52 \pm 26.11\%$), (Table 7).

Table 1. Sex and class of the study group (No=147)

Character	No%
Class	
6 th	48 (32.7%)
5 th	48 (32.7%)
4 th	51 (34.7%)
Sex	
Males	75 (51%)
Females	72 (49%)

Table 2. Hepatitis B Knowledge among the study group

Character	No%
Hepatitis B is caused by a virus	144 (98%)
Hepatitis B can be spread by mosquitoes	118 (80.3%)
Hepatitis B can be spread through close personal contact such as kissing or talking	113 (76.9%)
Hepatitis B can be spread through sharing injecting equipment, such as needles and operation tools	143 (97.3%)
Hepatitis B can be transferred from mother to fetus	127 (86.4%)
Hepatitis B is spread through blood-to-blood contact	143 (97.3%)
A lot of visiting to dental doctors increases a person's chances of contracting hepatitis B	69 (46.9%)
Hepatitis B is spread through the air in an enclosed environment	121 (82.3%)
Sexual transmission is a common way hepatitis B is spread	105 (71.4%)
Some people with hepatitis B were infected through unsterile tattooing	141 (95.9%)
Some people with hepatitis B were infected through blood transfusions	137 (93.2%)
Sharing dishes with HBV positive patients can cause the spread of the virus	46 (31.3%)
HBV can spread from one person to another in the family	93 (63.3%)
Once you have had hepatitis B, you cannot catch it again because you are immune	83 (56.5%)
HBV can be transferred through Colonoscopy or Endoscope tools	19 (12.9%)
HBV can be transferred through mother's milk to the infant	57 (38.8%)

Table 3. Symptoms and complications of hepatitis B

Character	Correct answer (No %)
After the entrance of HBV to the body symptoms appear soon	114 (77.6%)
Hepatitis B can lead to cirrhosis	140 (95.2%)
An individual can have hepatitis B antibodies without being currently infected with the virus	132 (89.8%)
Hepatitis B is associated with an increased risk of liver cancer	130 (88.4%)
A person can be infected with hepatitis B and not have any symptoms of the disease	121 (82.3%)
Always after the entrance of HBV to the body symptoms appear	103 (70.1%)

Table 4. Prevention of hepatitis B

Character	Correct answer (No %)
People with hepatitis B should be restricted from working in the food industry	57 (38.8%)
There is a vaccine for hepatitis B	127 (86.4%)
A special diet is recommended for patients with Hepatitis B	95 (64.6%)
Hepatitis B test is done before marriage	116 (78.9%)

Table 5. Treatment of hepatitis B

Character	Correct answer (No %)
There is a pharmaceutical treatment available for hepatitis B	42 (28.6%)
People with hepatitis B should avoid alcohol intake	110 (74.8%)

Table 6. Student's attitude towards hepatitis B

Character	Correct answers (No %)
All patients should be tested for HBV before they receive health care	37 (25.2%)
Patients with HBV should be given the last appointment for the day	74 (50.3%)
Health professionals who are HBV positive should not give health care services to patients	46 (31.3%)
I should give the same standard of care to patients with HBV as I do for other patients	98 (66.7%)
I try not to spend much time when I give services to HBV positive patients	104 (70.7%)
I feel that I do not have the skills needed to effectively and safely treat patients with HBV	58 (39.5%)
I would prefer to wear two pairs of gloves when treating a bleeding person with HBV	6 (4.1%)
I do not like treating people with HBV	91 (61.9%)
It's not disgusting for me to have contact with HBV positive patients	90 (61.2%)
I often use additional infection control precautions when treating patients with HBV	118 (80.3%)
I am willing to treat people with HBV	94 (63.9%)
Testing outpatients for HBV is not necessary	25 (17%)
Following infection control guidelines will protect me from being infected with HBV at work	124 (84.4%)
The possibility that I will be infected with HBV at work is low	37 (25.2%)
Education is effective in improving knowledge on Hepatitis B	124 (84.4%)
HIV is easier to catch than Hepatitis B	47 (32%)
HBV positive patients should stay away from other family members to avoid infection	117 (79.6%)
I think Hepatitis B test should be done before marriage	126 (85.7%)

Table 7. Student's knowledge, attitude, and practice regarding hepatitis B virus

Character	Range	Mean± SD
Knowledge	12-98	70.54±26.51
Symptoms and complications	70.1-95.2	83.9±9.11
Prevention	38.8-86.4	67.17±20.96
Treatment	28.67-74.8	51.7±32.66
Attitude	4.1-85.70	53.52±26.11

DISCUSSION

In the present study, the student's knowledge in general and regarding symptoms and complications was good, their attitude towards hepatitis B virus was negative, and they had suboptimal knowledge regarding the treatment and prevention. The excellent knowledge reported in the present survey was similar to a study conducted among University students in Pakistan^[10], Ghahramani et al reported a weak knowledge.^[11] in their study published in Shiraz. The attitude regarding hepatitis B virus was suboptimal, in the present study, 74.8% of the students believed that all patients should be tested for HBV before they receive health care. 49.7% said that patients with HBV should be given the last appointment for the day, and 95.9% reported that they would prefer to wear two pairs of gloves when treating a bleeding person with HBV. The current findings were better compared to those found by Mansour-Ghanaei et al.^[8] who concluded that 83.3% of the patient should be tested for the virus before healthcare, 29.2% believed that those with hepatitis B should be given the last appointment, and 77.6% said that they would wear two pairs of gloves when testing a bleeding patient with hepatitis B virus. Our findings pointed to the big gap in the attitude of medical students towards hepatitis B virus; urgent intervention is needed. Implementing educational programs and reinforcement of the positive attitude in the curriculum to prevent undesirable behavior and avoiding the transmission of the negative attitude to the community could be helpful.

The presence of the excellent knowledge and negative attitude in the present study was reported by a study conducted in Saudi Arabia^[12] and is in contradiction to Joukar et al.^[13] who concluded a correlation between the knowledge and attitude. In the current study, 38.8% believed that people with hepatitis B should be restricted from working in the food industry, 64.6% said that special diet is recommended for patients with Hepatitis B, and 86.4% knew that there is a vaccine for the virus

with total knowledge of $67.17 \pm 20.96\%$. The current knowledge regarding the prevention was lower compared to a study conducted in Ethiopia [14]. They reported a rate of $>80\%$. The present finding regarding the prevention is alarming as the medical students are at a high risk of hepatitis B virus during their training, measures to raise the level of awareness and to complete the vaccination schedule are highly recommended. In the present study, only 28.6% knew that there is a pharmaceutical treatment of the virus and 74.8% of the students said that patients with hepatitis B should avoid alcohol intake. There is a need for more education focusing on the management of hepatitis B virus.

The study limitations were small size of the study sample, the reliance on a self-administered questionnaire which was more prone to subjectivity, the study was conducted at a single Medical College, so generalization cannot be insured.

CONCLUSION

The knowledge and generally and regarding the symptoms and complications is fair, the medical students in Tabuk had a negative attitude towards hepatitis B virus, and a suboptimal knowledge was evident regarding the prevention and treatment. Further larger multi-center studies assessing the vaccination status .have to be undertaken .

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