ORIGINAL ARTICLE

Evaluation of the Awareness about Hepatitis among Ardabil Medical University Students in 2016

Anahita Zakeri[1], Roghayeh Aslanian[2], Vahid Abbasi[3], Jafar Mohammadshahi[4]

[1]Department of Internal Medicine, Ardabil University of Medical Science, Ardabil, Iran, [2]Faculty of Medicine, Ardabil University of Medical Science, Ardabil, Iran, [3]Department of Neurology, Ardabil University of Medical Science, Ardabil, Iran, [4]Department of Infection Disease, Ardabil University of Medical Science, Ardabil, Iran

ABSTRACT

Introduction: Hepatitis is one of the five infectious diseases in the world that yearly one million people die and nearly 2 million sufferers from it. Hepatitis B virus (HBV) is the most important cause of liver disease and the major cause of death from hepatitis in Iran. The purpose of this study was to investigate the knowledge about hepatitis among medical students of Ardabil University of Medical Sciences in 2016. **Methodology:** This study was a descriptive cross-sectional study that has been done on 150 students were selected randomly from Ardabil University of Medical Sciences students in 2016. The data collected by a questionnaire consisted of 25 questions. The collected data were analyzed using statistical methods in SPSS version 16. $P < 5\%$ was considered significant. **Results:** Of all students, 56% were female, and the rest of them were male with an average age of 20 years. The average of student knowledge was 11.06. Nursing and health students had the highest and IT students had the lowest level of knowledge. 61.3% of students referred to the use of a common syringe as an agent for the transmission of hepatitis and 62% believed that the level of knowledge of people in the community could prevent the transmission of HBV infection to individuals. **Conclusion:** The results present study showed that students' knowledge about HBV was moderate and because of medical personnel is at high risk of infection due to their occupational status. Hence, promoting their level of knowledge about HBV is essential.

Key words: Ardabil, awareness, hepatitis B, medical students

INTRODUCTION

Hepatitis B virus (HBV) infection is a global problem that about 2 billion people are affected and between 350 and 400 million people are suffering from it. In terms of the prevalence of hepatitis virus infection in the world, there are three regions. Areas with a prevalence of contamination <2% included the Americans, Northern Europe, and Australia, areas with a moderate prevalence of contamination in range 2–6% including major parts of Asia, eastern parts of South America, and North Africa, areas with a high prevalence of contamination up 8% included Southeast Asia, Alaska, and Africa. Iran is classified as an area with moderate prevalence.[1-3]

Studies show that the prevalence of HBV infection in different regions of Iran is between 1.2 and 9.7% and about 1.5–2.5 million people are infected with HBV infection in Iran.[3]

HBV infection in most of the cases it is acute and self-healing and 5–10% of patients suffered from chronic hepatitis. Patients with chronic hepatitis may be inactive and are considered to be healthy carriers or are active in intensifying liver damage, which, if left untreated, progresses to complications such as liver cirrhosis and liver cancer. HBV infection is a contagious disease that its complications in 80% of cases occur as hepatic cirrhosis and primary liver cancer and its extra liver complications include arthralgia and

Address for correspondence:
Roghayeh Aslanian, Biochemistry unit of Ghaem Hospital, Ardabil University of Medical Science, Ardabil, Iran. E-mail: r.aslaniyan@yahoo.com

Table 1: Relationship between sex and knowledge level

Knowledge level sex	Week	Moderate	Good	*P*-value
	n (%)	*n* (%)	*n* (%)	
Male	27 (32.1)	50 (59.5)	7 (8.3)	0.014
Female	25 (37.9)	26 (39.4)	15 (22.7)	
Total	52 (34.7)	76 (50.7)	22 (14.7)	

Table 2: Mean of knowledge level of students by field

Fields	*n*	Mean±SD	*P*-value
IT	11	6.54±3.9	0.001
Operation room	11	13.2±5.3	
Anesthesia	10	9.1±5.9	
Dentistry	10	7.8±2.5	
Health	29	14.1±6	
Medicine	19	9.1±6.3	
Midwifery	8	12.1±4.1	
Nursing	20	14.4±4.3	
Pharmacology	22	9.1±7.5	
Radiology	10	10.8±5.5	
Total	150	11.1±6.1	

SD: Standard deviation

renal failure. The main ways of transmission of HBV include the blood and body fluids of infected people, sexual contact, and transmission of perinatal during delivery from a mother infected with the baby. The use of contaminated injectors, hemodialysis, acupuncture, circumcision, and personal is the other transmission ways. HBV infection can be prevented by vaccination, which protects 95% of people. At present, according to the WHO recommendations, 90 countries use hepatitis B vaccine in their immunization programs.[4,5] Since 1993, vaccination of infants with hepatitis B vaccine was included in the country program vaccination, and infants are vaccinated against hepatitis 3 times. Healthcare workers exposed to various patients, including patients with hepatitis, need to be aware of hepatitis B, transmission ways and health care methods, prediction ways and providing training to patients which will provide the necessary education to the community while protecting themselves. The aim of this study was to investigate the awareness about hepatitis among medical students of Ardabil University of Medical Sciences in 2016.

METHODS

This study was a descriptive cross-sectional study that has been done on 150 students were selected randomly from Ardabil University of Medical Sciences students in 2016. The

Table 3: Frequency of correct response to answers about hepatitis B knowledge

Questions	*n* (%)
The prevalence of Hepatitis B is high in our country	63 (42)
The important transmission factors for the transmission of viral hepatitis are blood, sexual contact, fluid, and body fluids	86 (57.3)
The HBV virus is an RNA virus	64 (42.7)
The HBV virus has more transmission and infectivity than HIV	49 (32.7)
Control methods for infection with hepatitis B and AIDS are the same	37 (24.7)
The transmission of hepatitis B to the body is contaminated by saliva	48 (32)
I have informed about the hepatitis B vaccination program	60 (40)
The hepatitis B vaccine is live and inactive	37 (24.7)
HBV infection can be transmitted from the patient to patient	77 (51.3)
The use of gloves can prevent the transmission of HBV from the patient to patients in the hospital	57 (38)
The level of knowledge of people in the community can prevent the transmission of HBV infection to individuals	93 (62)
The risk of having a medical staff in the HBV virus is greater than the HIV virus through needle ingestion	49 (32.7)
Hepatitis B can cause cancer	48 (32)
Hepatitis B can be transmitted through hemodialysis	50 (33.3)
Hepatitis B can be transmitted through the perforation of the ear	69 (46)
Hepatitis B can be transmitted through breast milk	63 (42)

(contd...)

Table 3: Frequency of correct response to answers about hepatitis B knowledge

Questions	*n* (%)
Hepatitis B can be transmitted through circumcision	79 (52.7)
Hepatitis B can be transmitted during the tattoo process	78 (52)
Hepatitis B can be transmitted through blood transfusion and blood products	89 (59.3)
Hepatitis B can be transmitted through the use of a common syringe	92 (61.3)
Hepatitis B can be transmitted through the organ transplant	77 (51.3)
Hepatitis B can be transmitted during dental surgery	77 (51.3)
Hepatitis B can be transmitted through the use of common personal supplies such as toothbrushes	78 (52)
Hepatitis B can be transmitted through sex	75 (50)
Jaundice is one of the symptoms of hepatitis B infection	69 (46)

HBV: Hepatitis B virus

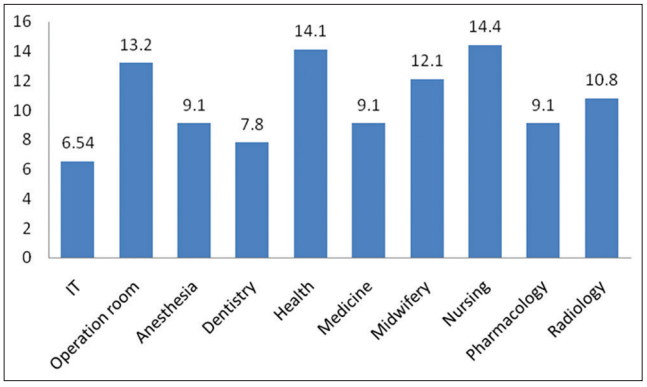

Figure 1: Mean of knowledge rate of students about ways of hepatitis B transmission

data collected by a questionnaire consisted of 25 questions. The collected data were analyzed using statistical methods in SPSS version 16. $P < 5\%$ was considered significant.

RESULTS

In this study of 150 students, 56% were female, and the rest were male with an average age of 20 ± 2 years in range 17–24 years. The relationship between student's knowledge and gender was significant. The level of awareness for 59.5% of women and 39.4% of men was in moderate level [Table 1]. 77.3% of students were in age groups 17–20-year-old and there was no relationship between age and knowledge level of the students. Of all students, 12.7% were in medicine [Figure 1]. The highest level of knowledge in the field of nursing and health and the lowest level related to IT which was statistically significant. The level of knowledge in 50.7% of students was in moderate level, and 14.7% was in a good level, and the average level of students' knowledge of students was 11.5% [Table 2]. 42% of students referred that the prevalence of hepatitis B infection in the country is high, 62% believed that the level of knowledge of people in the community could prevent the transmission of HBV infection to other individuals, and 61.3% of them was considered the use of a common syringe as a factor in the transmission of hepatitis B infection [Table 3]. The average level of students' knowledge about the ways of HBV transmission was 3.83 that the difference between knowledge rate and type of field was statistically meaningful. There was no relationship between gender and age with knowledge about the ways of disease transmission [Figure 1]. The mean of students' knowledge about the type of hepatitis vaccine and the information about the vaccination program was 4.10, the similarity of the control methods of HBV and AIDS was 2.11, the type of HBV and its transmission and infectivity in compared with AIDS was 3.97 that among all fields the difference was meaningful [Table 4].

DISCUSSION

Increasing the knowledge level of students and health-care staff about hepatitis can reduce the prevalence of the disease in the future. In the present study, the knowledge of students was in moderate level, but the nursing and hygiene students had the highest, and the IT students had the lowest level of knowledge. The average score of students' knowledge was 11/06, which was lower than in some studies.[6-8] In the present study, 59.5% of the girls had a moderate level of knowledge that significantly was above the level of knowledge of the boys. Opposite to the present study, there was no meaningful relationship between gender and knowledge level in some studies.[3, 6,7] A study in the United States showed that age, education level, and affliction of a family member are related to the rate of response, but in the current study, there was no relationship between knowledge and age which not in line with other studies.[6,9]

The results showed that the highest level of knowledge about the ways of transmission of HBV related to nursing and health students, and the lowest level was related to the dental students.

Since nursing and midwifery personnel are related to pregnant women and infants, their awareness of the ways of transmission of hepatitis B can be a preventative factor in the transmission of hepatitis B to infants. The average of

Table 4: The knowledge level of students about HBV vaccination in compared with AIDS by field

Fields	Type of hepatitis B vaccine and informed about vaccination program	The type of hepatitis virus and its infectivity as compared to AIDS	The similarity of control methods for hepatitis B and AIDS
IT	3.8±1.3	4.3±1.3	2±0.63
Operation room	4±1.2	3.6±1.4	2.1±0.9
Anesthesia	4.3±1.6	4.5±1.8	2.5±0.5
Dentistry	3.6±0.8	2.8±0.6	1.8±0.9
Health	3.3±1.1	3.6±1.4	1.7±0.8
Medicine	4.7±1.1	4.3±1.3	2.3±0.7
Midwifery	4±1.7	3.5±1.3	2.3±0.7
Nursing	4.3±1	4±0.8	1.95±0.8
Pharmacology	4.6±1.5	4.6±1.4	2.6±0.6
Radiology	4.6±0.7	4.1±1.4	2.3±0.7
Total	4.1±1.3	4±1.4	2.1±0.8
P-value	0.004	0.02	0.001

HBV: Hepatitis B virus

students' knowledge about the ways of hepatitis transmission was 3.83 that lower than in some studies.[5,6]

Most students believed that the knowledge of the society people could prevent the transmission of HBV infection to other individuals. The results of a study showed that the knowledge of the staff in a health center about HBV was increased from 44% before training to 50% after training which related to the increasing the knowledge and information of the staff.[10] Common use of syringe, blood transfusion and products, sexual contact, blood, fluid, and body fluids of infected person were the most important ways of transmitting the disease in this study which in line to other studies.[3,5,8]

The average level of knowledge of the students in this study about the type of hepatitis B vaccine and the vaccination program was 4.1, and medical students had the highest level of knowledge. Studies have shown that medical students, dentistry, nursing, laboratory sciences, health care, and other healthcare-related subjects should be vaccinated before the first contact with blood.[4] 38% of the students believed that using gloves as a preventive agent for the transmission of hepatitis from patients to staff. Some studies have shown that the use of gloves among hospital staff is more common than wearing glasses and go but in the study of Alavian *et al*. in Iran, glasses and masks were more common than gloves.[11] 32.7% of students said that the risk of having HBV infection by the medical staff is more than the HIV through needle ingestion, in a study 46.5% of the patients had a history of Needle steak and 9.6% had a history of injury with angioplasty catheter. Occupational injuries caused by sharp injuries increase the risk of transmission of dangerous infections such as hepatitis B, C, and HIV among the treatment staff.[12] 51.3% of students reported dental surgery as one of the ways to transmit hepatitis B. Studies have shown that dermatological injuries in dental students are more common than other students and dentistry field is the sixth high-risk occupation in terms of HBV transmission.[13,14] The results of some studies show that the knowledge of dental students about HBV is relatively acceptable, but in the present study, the knowledge of dental students was in the last rank which was probably due to the low level of students' academic semester in this study compared to other studies.[3,11,15]

CONCLUSION

The results of this study showed that the level of Ardabil medical students' knowledge about hepatitis B was in moderate level, and most of the students believed that the prevalence of hepatitis B in the country was high and the knowledge of the community could prevent the transmission of infection and hospital staff is at high risk of transmission due to occupational status. Hence, retraining of health center staff and raising their knowledge level about hepatitis B can be essential in future. Doing more studies in this topic on big sample of students in higher semesters and other faculties can be effective.

REFERENCES

1. Leung CM, Wong WH, Chan KH, Lai LS, Luk YW, Lai JY, *et al.* Public awareness of hepatitis B infection: A population-based telephone survey in hong kong. Hong Kong Med J 2010;16:463-9.
2. Khan N, Ahmed SM, Khalid MM, Siddiqui SH, Merchant AA. Effect of gender and age on the knowledge, attitude and

practice regarding hepatitis B and C and vaccination status of hepatitis B among medical students of Karachi, Pakistan. J Pak Med Assoc 2010;60:450-5.
3. Alavian SM, Hajarizadeh B, Ahmadzad-Asl M, Kabir A, Bagheri-Lankarani K. Hepatitis B virus infection in Iran: A systematic review. Hepat Mon 2008;8:281-94.
4. François G, Hallauer J, Van Damme P. Hepatitis B vaccination: How to reach risk groups. Vaccine 2002;21:1-4.
5. Ozer A, Miraloglu M, Ekerbicer HC, Aloglu N, Cevik F, Celik M. Hepatitis B knowledge levels of turkish nursing and midwifery students. TAF Prev Med Bull 2011;10:139-44.
6. Jafari M, Saeedi S, Chahardoli B, Paknezhad H, Amani H. Investigating the awareness level of Iranian medical students about hepatitis B. Razi J Med Sci 2017;24:10-6.
7. Golrokhi MM, Haghshenas MR. Evaluation of the awareness about hepatitis B among dental students of mazandaran university of medical sciences. TJPM 2015;1:45-51.
8. Farid A, Noushin JN, Sajjad B. A survey of knowledge and attitude in the final year students of dental schools in tehran regarding hepatitis b infection control and its related risk factors, 2013-14. Q J Med Counc IRI. 2016;34:113-8.
9. Brailo V, Pelivan I, Škaričić J, Vuletić M, Dulčić N, Cerjan-Letica G. Treating patients with HIV and hepatitis B and C infections: Croatian dental students' knowledge, attitudes, and risk perceptions. J Dent Educ 2011;75:1115-26.
10. Tabeshian A. Evaluation of health education on awareness, attitude and operation of Najafabad health care staffs on the prevention of hepatitis B. Paramed Sci Mil Health 2017;11:23-9.
11. Alavian SM, Mahboobi N, Mahboobi N, Savadrudbari MM, Azar PS, Daneshvar S, *et al*. Iranian dental students' knowledge of hepatitis B virus infection and its control practices. J Dent Educ 2011;75:1627-34.
12. Adib-Hajbaghery M, Lotfi MS. Behavior of healthcare workers after injuries from sharp instruments. Trauma Mon 2013;18:75.
13. Mahboobi N, Agha-Hosseini F, Mahboobi N, Safari S, Lavanchy D, Alavian SM. Hepatitis B virus infection in dentistry: A forgotten topic. J Viral Hepat 2010;17:307-16.
14. Cottone J. The global challenge of hepatitis B: Implications for dentistry. Int Dent J 1991;41:131-41.
15. van der Eijk AA, Niesters HG, Götz HM, Janssen HL, Schalm SW, Osterhaus AD, *et al*. Paired measurements of quantitative hepatitis B virus DNA in saliva and serum of chronic hepatitis B patients: Implications for saliva as infectious agent. J Clin Virol 2004;29:92-4.

How to cite this article: Zakeri A, Aslanian R, Abbasi V, Mohammadshahi J. Evaluation of the Awareness about Hepatitis among Ardabil Medical University Students in 2016. J Community Prev Med 2018;1(2):1-5.