

Risk Perceptions and Behavioral Intentions of First Year University Students for Hepatitis B

İlk Yıl Üniversite Öğrencilerinin Hepatit B için Risk Algıları ve Davranışsal Yaklaşımları

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ABSTRACT

This investigation examined knowledge of HB disease and HB immunization status of university students.

This descriptive cross-sectional study was conducted with 2693 (male 53,2%,female 46,2%) first year students in Kırıkkale University. Their knowledge and behaviours on HB disease and vaccination were investigated via self-filled questionnaires.

Mean age of 2639 students was 20.89±4.24 years (min: 17, max: 56). Among all, 70,6% of the students answered the question "Do you know Hepatitis B?" as "yes". When transmission routes were asked, only 0,8% could wrote more than 2 ways and 47,3% mentioned that they do not know any way for transmission. Gender differences in knowledge were observed (p=0,0000). As age was increased, answering the question as "yes" was increased, where 36 – 45 years age group had the highest (92,5%) rate among all (p=0.010). Among all, only 48,3% of the students mentioned that they were vaccinated against HB, where 27,8% didn't know whether they were vaccinated or not. More students from faculties related with health such as; Medical, veterinary, health sciences and dentistry faculty mentioned that have knowledge on HB and more students were vaccinated against HB comparing to the other faculties.

It is once more well documented that, youngs are not aware of the risk they could face in future. Because of the low risk perception they do not use the given health service. Much more is needed to be done to increase the risk perception of Hepatitis B and other communicative diseases.

Keywords: Hepatitis B, vaccination, university, students

ÖZET

Bu çalışma üniversite öğrencilerinin Hepatit B hastalığı bilgisini ve Hepatit B aşı durumunu incelemek amacıyla yapılmıştır.

Bu tanımlayıcı kesitsel çalışma, 2693 (Erkek %53,2, Kadın %46,2) Kırıkkale Üniversitesi birinci sınıf öğrencileri ile yürütülmüştür. Hepatit B hastalığı ve aşısı ile ilgili davranışları kendi kendine doldurulan anket yoluyla incelenmiştir.

2639 öğrencinin ortalama yaşı 20,89 ± 4,24 (minimum: 17, maksimum: 56 dk) yıl idi. Tüm öğrencilerin %70,6 'sı' Hepatit B'yi biliyor musun?" sorusunu "Evet" olarak cevapladı. Bulaşma yolları sorulduğunda, sadece %0,8'i en fazla 2 yol yazdı ve % 47,3 ise geçiş için herhangi bir yol bilmiyorum diye ifade etti. Bilgi'de cinsiyet farklılıkları gözlemlendi (p = 0,0000). Yaş artıkça sorulara 'evet'cevabı verme oranı arttı ve en yüksek 'evet 'cevabı 36-45 yaşlar arandıydı (%92,5) (p=0.010). Öğrencilerin %48,3'ü Hepatit B'ye karşı aşılandığını ifade ediyorken, %27,8 aşılanıp aşılanmadığını bilmediğini ifade etti. Sağlık gibi ilgili fakültelerinden Medical, Veteriner, sağlık bilimleri ve diş hekimliği fakültesi gibi daha fazla öğrenci; Hepatit B için daha fazla bilgiye sahip olduğunu ifade etti ve diğer fakültele karşılaştırıldığında bu öğrenciler daha fazla aşılanmıştı.

Çalışma bir kez daha göstermiştir ki, gençler gelecekte karşılaşılabilecekleri risklerin farkında değiller. Düşük risk algısı nedeniyle, kendilerine verilen sağlık hizmeti kullanmıyorlar. Hepatit B ve diğer konuşulan hastalıkların risk algılamasını artırmak için çok fazla yapılması gerekenler vardır.

Anahtar Kelimeler: Hepatit B, aşılama, üniversite, öğrenciler

INTRODUCTION

Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus (HBV). It is a major global health problem and the most serious type of viral hepatitis. It can cause chronic liver disease (1) and puts people at high risk of death from cirrhosis of the liver and liver cancer. About 2 billion people worldwide have been infected with the virus and about 350 million live with chronic infection. An estimated 600 000 persons die each year due to the acute or chronic consequences of hepatitis B (2,3).

Hepatitis B is endemic in China and other parts of Asia. Most people in the region become infected with HBV during childhood. In these regions, 8% to 10% of the adult population are chronically infected. Liver cancer caused by HBV is among the first three causes of death from cancer in men, and a major cause of cancer in women. High rates of chronic infections are also found in the Amazon and the southern parts of eastern and central Europe. In the Middle East and Indian sub-continent, an estimated 2% to 5% of the general population is chronically infected. Less than 1% of the population in western Europe and North American is chronically infected (3). Although HBV is a major health disparity affecting the community, still youngs show low awareness and knowledge about HBV vaccination, transmission, and epidemiology.

Vaccination is one of the most important public health interventions. Effective vaccines against HBV are available. As immunization programmes have become more successful and several major infectious diseases have become rare events, the attention to adverse events following immunization has increased (4).

Turkey is long known as a country with intermediate endemicity for hepatitis B (a hepatitis B prevalence of 5,5%) and universal infant immunization for hepatitis B started in 1998 in Turkey (4,5). Therefore, the first year university students were not vaccinated in infancy and childhood. This group of students were vaccinated during the last year of the high school. However, the last doses could not be applied. The Turkish Council of

Higher Education asked all universities to vaccinate their first year students.

By the end of the second term a vaccination campaign against Hepatitis B was established in the Kırıkkale University campus. All students were informed about the health hazards of the disease, preventive measures and vaccination via posters, bill-boards and e-mails. Vaccines were supplied from the provincial health directory free of charge and students were asked to apply for vaccination on specifically established days and times for each faculty/vocational schools. In addition to posters and/or e-mails, deans, school directors and lecturers also announced the time and places of vaccination to their students.

This investigation was prepared to discuss the attitudes and knowledge of the first year university students on Hepatitis disease, determine the current Hepatitis B vaccination status and discuss the approach of the students to the mentioned campaign. This paper also evaluated the effects of gender, age and existence of a hepatitis patient in the family on students' knowledge on Hepatitis B disease and vaccination status.

MATERIALS AND METHOD

This descriptive, epidemiological, cross-sectional study was established in Kırıkkale University between the dates of January and June 2010. The study was conducted at 10 faculties and 3 vocational high schools of the Kırıkkale University after approval was obtained from the university rector and faculty deans/health vocational school directors. The study was conducted according to the rules outlined in the Declaration of Helsinki. A structured, self-filled questionnaire of knowledge and behaviours on Hepatitis B disease and vaccination (See on Appendix 1) were prepared by the researchers and distributed to all faculties and health vocational schools. The research assistants were attended to all first classes of the university after having the permission of the class lecturer, informed all students about the aim of the study and distributed the self-field questionnaires to those students who agreed

to participate. The study group was composed of 2693 [1442 male (53,2%) and 1251 female (46,2%)] first year university students in Kırıkkale University. A structured, self-filled questionnaire of knowledge and behaviours on Hepatitis B disease and vaccination were answered by all students.

After the questionnaires had been completed, they were checked, coded and the data analyzed on a computer using SPSS 16.0 software package. The definitions were provided as number and percentage for discrete variables, and mean and standard deviation for continuous variables and chi-square was used to search for statistical significance, with significance defined as $p < 0.05$.

RESULTS

The mean age of 2639 students was 20.89 ± 4.24 years (min: 17, max: 56, median: 20.00). Knowledge of the study group about Hepatitis B according to personal characteristics is demonstrated on Table 1. Among all, 70,6% of the students answered the question “Do you know what Hepatitis B?” as yes. However, when the transmission routes were asked, only 0,8% could write more than 2 ways for transmission, 51,9% wrote only 1-2 ways and 47,3% mentioned that they do not know any way for transmission (Table 2). Gender differences in knowledge were observed. 77,7% of the girls and 67,4% of the boys mentioned that they know what Hepatitis B is ($p=0,0000$).

Table 1: Knowledge of the study group about Hepatitis B according to personal characteristics

		Do you know Hepatitis B?						
		Yes		No		Don't know		Total
		n	%	n	%	n	%	n
Gender	Female	948	77,7	272	22,3	316	25,3	1220
	Male	953	67,4	460	32,6	429	29,9	1413
		X²: 34.335		P<0.001				
Age	17-25	1763	72	687	28			2450
	26-35	45	76,3	14	23,7			59
	36-45	49	92,5	4	7,5			53
	46+	13	72,2	5	27,8			18
		X²: 11.359		P<0.05				
Faculty/ Vocational school	Health (Dentistry, Medicine, veterinary medicine, Health Science)	184	76,3	57	23,7			241
	Other faculties	445	69,9	192	30,1			637
	Vocational Schools	34	75,6	11	24,4			435
		X²: 3.964		P>0.05				

As age was increased, answering the question as “yes” was increased, where 36 – 45 years age group had the highest (92,5%) rate among all, and the difference was significant ($p=0.010$).

Among all, only 48,3% of the students mentioned that they were vaccinated against Hepatitis B, where 27,8% didn't know whether they were vaccinated or not (Table 3). Only 14,8% of the students had the third dose of the vaccine, 14,1% had two doses and 9,7% had only one dose of the Hepatitis B vaccine. More young students (17-25 years) were vaccinated than the older ones (over 36 years of age) and the difference was significant ($p=0.000$). In addition, more girls (54%) were vaccinated than the boys (43,2%)

($p=0.000$). Having a hepatitis patient in the family increased the vaccination status of the students (Table 3).

More students from faculties related with health such as; Medical, veterinary, health education and dental faculty mentioned that have knowledge on Hepatitis B and were vaccinated against Hepatitis B compared to other faculties (Table 3) . At the end of the year a campaign was designed for all first year students. All students were informed about Hepatitis B via posters/e-mails and were asked to apply for vaccination on specifically established days and times in each faculty. However among 2300 students who needed to be vaccinated only 158 were applied and had the vaccine

Table 2: Knowledge of the study group about transmission routes of Hepatitis B according to personal characteristics

		Do you know the transmission routes of Hepatitis B?							
		Know 1-2 routes		Know more than 2 routes		Don't know		Total	
		n	%	n	%	n	%	n	
Gender	Female	663	57,0	14	1,2	487	41,8	1372	
	Male	560	47,4	7	0,5	715	52,1		
		X²: 28.844		P<0.001					
Age	17-25	1208	51,3	19	0,8	1128	47,9	2355	
	26-35	34	57,6	1	1,7	24	40,7	59	
	36-45	42	77,8	1	1,9	11	20,4	54	
	46+	12	66,7	0	0,0	6	33,3	18	
		X²: 19.309		P=0.004					
Faculty/ Vocational school	Health (Dentistry, Medicine, veterinary medicine, Health Science)	157	67,4	4	1,7	72	30,9	233	
	Other faculties	289	49,1	2	0,3	298	50,6	589	
	Vocational Schools	23	51,1	0	0,0	22	48,9	45	
		X²: 29.798		P<0.001					
Did you have Hepatitis B Vaccine?	Yes	756	61,2	17	1,4	463	37,5	1236	
	No	280	46,5	2	0,3	320	53,2	1372	
	Don't know	283	40,3	2	0,3	418	59,5	703	
		X²: 1.026		P<0.001					

Table 3: Hepatitis B vaccination Status of the study group according to personal characteristics and Hepatitis B knowledge

		Did you have Hepatitis B Vaccine?						Total
		Know 1-2 routes		Know more than 2 routes		Don't know		
		n	%	n	%	n	%	n
Gender	Female	674	54	257	20,6	316	25,3	1247
	Male	620	43,2	386	26,9	429	29,9	1435
		X²: 32.254		P<0.001				
Age	17-25	1237	49,5	569	22,8	691	27,7	2497
	26-35	14	23,7	20	33,9	25	42,4	59
	36-45	14	26,4	28	52,8	11	20,8	53
	46+	4	20	12	60	4	20	20
		X²: 55.846		P<0.001				
Faculty/ Vocational school	Health (Dentistry, Medicine, veterinary medicine, Health Science)	151	62,1	57	23,5	35	14,4	243
	Other faculties	312	47,6	146	22,3	197	30,1	655
	Vocational Schools	19	44,2	11	25,6	13	30,2	43
		X²: 25.010		P<0.001				
Did you have Hepatitis B Vaccine?	Yes	756	61,2	17	1,4	463	37,5	1236
	No	280	46,5	2	0,3	320	53,2	1372
	Don't know	283	40,3	2	0,3	418	59,5	703
		X²: 1.026		P<0.001				
Do you know Hepatitis B disease?	Yes	737	67,1	168	15,3	193	17,6	1098
	No	536	34,7	468	30,3	541	35,0	1545
		X²: 2.704		P<0.001				
Is there a family member with Hepatitis disease?	Yes	78	56,9	28	20,4	31	22,6	137
	No	1157	48,4	592	24,8	641	26,8	2390
	Don't know	58	37,9	23	15,0	72	47,1	153
		X²: 34.575		P<0.001				

DISCUSSION

Common modes of transmission of HBV in developing countries are: 1-Perinatal (from mother to baby at birth), 2-Early childhood infections (inapparent infection through close interpersonal contact with infected household contacts), 3-Unsafe injections practices 4-Blood transfusions 5-Sexual contact. In many developed countries (e.g. those in western Europe and North America), patterns of transmission are different than those mentioned above. Today, the majority of infections in these countries are transmitted during young adulthood by sexual activity and injecting drug use. The hepatitis B virus is 50 to 100 times more infectious than HIV. And it is preventable with a safe and effective vaccine (3).

Universal early childhood vaccination has been one of the most important ways to lower the prevalences of Hepatitis B. In high endemicity area, universal vaccination has been shown able to decrease the carriage rate in the population. As it was started to be applied in the United States in 1991, immunization rates has increased up to 86% in 1996 in the US (6). In addition, this is the first vaccine able to decrease the incidence of childhood cancer (6).

Young adults are at risk for Hepatitis B infection. Little is known about their attitudes and beliefs concerning Hepatitis B, which are determinants of getting immunized (7). In the present study, only 70,6% of the students answered the question "Do you know what Hepatitis B?" as "yes". When transmission routes were asked, only 0,8% could write more than two ways for transmission. Among all, only 48,3% of the students mentioned that they were vaccinated against Hepatitis B, where 27,8% didn't know whether they were vaccinated or not. Only 14,8% of the students had all three doses. A study from Karachi, Pakistan showed that 79% of the medical students reported that they were vaccinated for hepatitis B and 70,6% of them were completely vaccinated (3 doses) (8). Though our results revealed more students from health related

faculties (Dentistry, Medicine, Veterinary Medicine, Health Science Faculty) than other faculties were vaccinated (62,1% and 47,6%, 44,2% respectively) in our study, still it is very low comparing with the above study.

Al-Jabri, et al. (9) investigated the awareness of medical and non-medical students of HBV infection at Sultan Qaboos University between 2001 to 2003. The majority of the students (75%) were aware that HBV is a common cause of hepatitis and 50,7% of them think that HBV infection is preventable. They concluded that the majority of students showed some knowledge regarding HBV transmission, risk behaviors and prevention. However, there are still misconceptions regarding the attitudes, which reflect a false perception of the disease among students. This calls for well-structured health education programs stressing on such misconceptions.

Ashri NY (10) explored Saudi dental patients' awareness of HBV and hepatitis C virus (HCV) infections and showed that, approximately 50% were aware that it could affect the liver function and lead to death. It was also found that there is an increase in the awareness and knowledge of HBV and HCV with the increase in the level of education and with higher income. Results of the present study revealed that, knowledge on Hepatitis B disease and the vaccination status was very low even among university students in Turkey. Epidemiological studies on viral hepatitis in Turkey are not a rarity. However our study is important to emphasize the gaps on knowledge even among university students. In addition, it is once more well documented that, youngs are not aware of the risk they could face in future. Though vaccination is free of charge and it was ready for them at the university campus, because of the low risk perception great portion of the students did not use the given health service. At the end of the term a vaccination campaign was designed for all first year students in Kırıkkale University. All students were informed about Hepatitis B via posters/e-mails and were asked to apply for

vaccination on specifically established days and times for each faculty/vocational schools. However among 2300 students who needed to be vaccinated only 158 were applied and had the vaccine. Similar with our study, Gonzales, et al (7) investigated risk perceptions and behavioral intentions concerning Hepatitis B among a convenience sample of 1070 young adults, 18-24 years old who participated in a Hepatitis B campaign that aired a prevention-based advertisement in movies. They have also mentioned that, the campaign did not produce any significant effects. They reported that most young adults do not perceive themselves to be at risk for Hepatitis B, but perceive other people to be at risk.

In conclusion, it is evident that, much more is needed to be done to increase the risk perception of Hepatitis B and other communicative diseases in our population in order to take the disease under control. Health institutions and Universities should design effective intervention programmes to increase knowledge about HBV infection and adhering to universally-accepted precautions are needed. Targeted community-wide awareness-raising campaigns and health care worker education is required to improve knowledge of HBV. Results of the present study have implications not only developing vaccination programs but other measures of prevention for hepatitis B in Turkey as well as in other countries with similar conditions.

Appendix1: Questionnaire used in the study

KIRIKKALE UNIVERSITY STUDENTS HEPATITIS B VACCINATION STATUS QUESTIONNAIRE

Dear students as to complete your Hepatitis B vaccination we have to clarify your vaccination status. Missing vaccines will be applied by the community health center of the university. In addition we aim to identify the knowledge of the students about Hepatitis B disease and vaccine. Please fill the form completely

Thank you

.....**Faculty**

.....**Department**

Name.....

School Number.....

Birth date.....

Gender: Male Female

Do you know what Hepatitis B is?

- a) Yes b) No

Could you write at least two transmission routes of Hepatitis B?

a) I do not know

.b)

Have you ever received any information about Hepatitis B disease?

- a) Yes b) No

Is there any hepatitis patient in your family?

- a) Yes b) No c) I do not know

Have you ever received any dose of Hepatitis B vaccine?

- a) Yes b) No c) I do not know

If your answer is yes.....how many doses of the vaccine was applied?

- a) Once c) 1-2 times c) 3 times d) 4 times e) I do not know

At what school your vaccines were applied?

- a) Preschool
b) Primary school (1-8. classes)
c) High school
d) University

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