The Effect of a Training Program on the Knowledge of Hepatitis B

HEPATİT B BİLGİ DURUMUNA BİR EĞİTİM PROGRAMININ ETKİNLİĞİ

Nurhan İNCE*

* Dept. of Public Health, Medical School of istanbul University, istanbul, TURKEY

Summary

purpose: Hepatitis B virus infection is a very important health problem all over the world. The percentage of occurrence differs according to the country's wealth. The spread ways are horizontal and vertical, respectively. In order to protect the virus to be spreaded, the health service personnel should avoid risky contacts and be aware of the importance of immunoprophlaxy. In our research we focused on the Hepatitis B knowledge level and immunity level of students of physical therapy and rehabilitation school.

Material and Methods: Our study was performed with the 100 of 113 students and designed as before-after interventional study in April 2000. Participants answered the questionnaire under the control of the observer. Four weeks after the training on this subject the same questionnaire was given. The knowledge level of participants was discussed by using statistical methods.

Result: Hepatitis B vaccinated students were 29% of the participants before the training, and after the training, 33% of them were fully immunised. 4% of participants defined the whole society as risky before the training, but they defined 67% after the training ($p<10-6$). 26% of participants knew the hepatitis B symptoms correctly before the training, this increased to 81%($p<10-6$).

Conclusion: Education on the blood-born diseases protection must be given to the health services personel, and especially their knowledge of Hepatitis B must regularly be updated.

Key Words: Hepatitis B, Knowledge Level, Training, Blood - bora disease

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Özet

Amaç: Hepatit B virus infeksiyonu tüm dünyada önemli bir sağlık sorunudur. Görülme sıklığı ülkelerin gelişmişliğine göre değişmektedir. Başlıca yayılımı vertikal ve horizontaldir. Virüsün toplumdaki yaygınlığını önlemede sağlık personelinin bulaşmaya neden olabilecek riskli temaslardan kaçınması ve immünoproflaksinin önemli olduğu görüşü ile; araştırmamızda hastayla bire bir yakın temasla çalışan Fizik Tedavi ve Rehabilitasyon Yüksek Okulu Öğrencilerinde Hepatit B bilgi düzeylerini ve bağışıklanma durumlarını öğrenmek amaçlanmıştır.

Materyel ve Metod: Çalışma before-after interventional çalışma olarak Nisan 2000 tarihinde toplam 113 öğrencinin 100'ü ile gerçekleştirilmiştir. Katılımcılara gözlemci denetiminde anket uygulanıp konuya ilişkin eğitim verilmiştir. Eğitimden dört hafta sonra aynı anket tekrarlanmıştır. Katılımcıların eğitim öncesi ve soması bilgi düzeyleri ayrı ayrı ve de karşılaştırmalı olarak yorumlanmış, uygun istatistik metodlarla da irdelenmiştir.

Bulgular: Hepatit B aşıları tamamlanmış öğrenci sayısı eğitim öncesi %29, eğitim sonrası %33 idi. Eğitim öncesinde %4 katılımcı riskli grup olarak tüm toplumu tanımlarken, eğitim sonrası bu oran %67'ye yükselmiştir. Hepatit B semptomlarını doğru bilen katılımcı oranı eğitim öncesinde %26, eğitim sonrası %81'dir (Mc Nemar ki-kare: 49.42 $p<10$ (-6)).

Sonuç: Sağlık çalışanlarına kanla bulaşan hastalıklarla ilgili eğitim mutlaka verilmelidir. Özellikle de Hepatit B ile ilgili bilgileri düzenli aralıklarla güncellenmelidir.

Anahtar Kelimeler: Hepatit B, Bilgi durumu, Eğitim, Kanla bulaşan hastalıklar

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Correspondence: Nurhan iNCE
Dept. of Public Health
Medical School of Istanbul University
Istanbul, TURKEY

Hepatitis B virus (HBV), with its chronicle nature, fulminant course, characteristics causing carcinoma and leading to delta hepatitis, is a severe community health problem giving rise to both loss of labour force and deaths by threatening the health

of individuals as well as of community, with vertical and horizontal infectious feature (1,2).

Infection of Hepatitis B takes place, in principal, parenterally, vertically and through blood. There are more than 2 million individuals encountering HBV and 250 million chronic porters on earth. One million people die of this disease every year (2).

Approximately 5% of our population are porters of hepatitis B, on the 9th rank of death reasons as announced by WHO (3,4).

According to the studies so far, since 1% of healthcare workers are infected by HBV every year, it could be assumed to be a professional disease to be protected by vaccination (5,6). The frequency of HBV among health care workers in our country is about 8% (3.5-16.4) (6). Hepatitis B was accepted to be a professional disease by WHO and ILO in 1992 (7).

This study aimed to evaluate the knowledge about Hepatitis B, the impact of the training programme to the knowledge and whether the Physical Therapy and Rehabilitation School students who are individually working in close touch with patients are fully immunised or not.

Material And Method

This study was performed in April 2000 as a before-after interventional study. 100 of 113 students of 3rd and 4th classes of Physical Therapy and Rehabilitation School were involved in the study. A questionnaire compromising 9 questions (the age and gender of participants, whether they are fully immunised of Hepatitis B, the definition and kinds of viral hepatitis, the risky people for Hepatitis B, how it is infected and major findings) relating to their knowledge about Hepatitis B and whether they are fully immunised or not, was conducted under the control of supervisors. Students were given a theoretical and practical training, twice in a week, each session 45 min, which has basic information relating to the subject. The training programme compromised of a brief definition and kinds of viral hepatitis, the infection pathways, risky groups, protective measures, major disease symptoms. The training programme aimed to emphasise the fact that, for Hepatitis B, the whole society, but primarily health care personnel are under risk. After 4 weeks from the training meeting, the same questionnaire was applied. The replies except those that the porters do not consist the risky group and that Hepatitis B is not infected by means of blood+via respiratory and toilets+excrements were accepted to be correct (table 2, 3). The information levels of the participants prior to and after training programme were interpreted separately and comparatively and examined by means of appropriate statistical models, percentage and Mc Nemar Chi-square test.

Results

Out of 100 participants, 31% male and 69% female, between 18 and 22 years old. Those who are fully immunised (3 doses and above) before and after the training are shown in Table 1.

When the participants were asked to describe the risky group for Hepatitis B prior to the training programme, only 41% could clarify their knowledge. While 4 (4%) students stated that whole community was at risk, this rate increased to 67% after training programme. Other replies are summarised in Table 2.

The knowledge of the participants about infection ways prior to and after training programme are shown in Table 3. While the number of participants who described the pathways of infection as sexual transaction and blood were 20 prior to the training programme. After the training, the number increased to 58, i.e., three folds. It was declared that 25% (n:25) of the participants thought that Hepatitis B could completely be treated and 9% (n:9) of them put forward that there was no way to do it, prior to training programme.

Table 1. Fully immunisation of participants prior to and after training programme

	Prior to training		After training	
Fully Immunised*	N	%	N	%
Yes	29	29.0	33	33.0
No	71	71.0	67	67.0
Total	100	100.0	100	100.0

* Three and more doses

Table 2. Description of risky individuals for hepatitis B

	Prior to training		After training	
Groups under risk*	**N**	**%**	**N**	**%**
Healthcare workers	**19**	**19**	**10**	**10**
Healthcare. Work.+ multip. Sex**	**1**	**M**	**17**	**17**
Porters	**10**	**10**		
Narcotic abusers + multiple sex	**1**	**1**	**4**	**4**
Whole society	**4**	**4**	**67**	**67**
Immunosuppressive usage	**6**	**6**	**2**	**2**
Unanswered	**59**	**59**	**-**	**-**
Total	**100**	**100**	**100**	**100**

***The replies except that the porters do not consist the risky group were accepted to be correct.**
****Having multiple partners.**

Table 3. Infection pathways of hepatitis B

	Prior to training		After training	
Infection ways*	N	%	N	%
Blood + oral	10	10	1	1
Blood + respiration	6	6	1	1
Body secretions + skin	7	7	-	-
Toilet + salivary	1	// §diîn	1	1
Blood	14	14	seen	4
Blood + sexual transaction	20	20	58	58
From mother to baby + blood + sexual transaction	-	-	35	35
Unanswered	42	42	-	-
Total	100	100.0	100	100.0

Table 4. Knowledge of hepatitis B disease symptoms

	Prior to training		After training	
Knowledge of disease	N	%	N	%
Correct knowledge	26	26	81	81
Incorrect knowledge	3	3	7	7
Insufficient knowledge	20	20	11	11
Unanswered	51	51	1	1
Total	100	100.0	100	100.0

Tireness/weakness, nausea/vomit, lack of appetite/disgusted with food, dense urine/paling of eyes are considered as symptoms of disease for correct answers criteria, the rate of participants who knew at least three correct answers was 26% (n:26). This rate was found to be 81% (n:81) after training programme. Those who knew only one or two of these criteria were supposed to have insufficient knowledge (8) (Table 4).

Discussion

Infection ways and frequency of Hepatifis B vary country to country. The rate of H B V porters in West Europe and Australia is between 0.2 and 0.9%», and in China, Southeast Asia and Africa between 8 and 15% and infection is gained perinatally or in early infantry. In Middle East, Eastern Europe and South America, this rate is between 2 and 7%o. And Turkey takes place in this group, so-called moderate endemic. Two subjects are of great importance to prevent the diffusion of H B V in the society. One of them is general measures for healthcare workers in particular to avoid risky touches that may lead to infection. Another important subject for protection is immunoprophylaxis.

Groups Recommended Hepatitis B Vaccination Before Contact

• Healthcare workers; doctors, dentists, nurses, laboratory care workers etc.

• Some patient groups; patients who require frequent blood and blood products transfusion, patients and care workers of hemodialysis units, those with mental retardation and their nurses etc.

• Societies with high Hepatitis B infection incidence; intravenously drug addicts, homosexuals and heterosexuals having multiple sex partners (9).

Vaccination is very important to prevent the diffusion of Hepatitis B in the society. The disease has been paid efforts to be taken under control in more than 100 countries since 1982 by using more than hundred million doses (10).

Because of geographically epidemiological differences, two types of vaccination programmes were developed. In places where endemic was high, all those newly bora were included in vaccination programme. This method has been introduced for long in China, Thailand and Indonesia. And in countries with low risk like France, only risk groups were taken in vaccination programme. But, since the expected decrease in the incidence of Hepatitis B infection did not realise with this strategy, WHO proposed to include all infants and

adolescents in vaccination programme, changing its policy in 1991, and also to vaccinate all newly born babies since 1997, within the framework of national vaccination programmes of individual countries. With this programme, it is targeted to decrease the number of Hepatitis B porters by 80% in 2001 (9, 11).

The Hepatitis B vaccine is rather immunogenic. But, this characteristics loses importance in elderly people, obesity and smokers. That's why, those who are under professional risk for Hepatitis B must be vaccinated (12, 13).

Despite about half of the students in the study group are considered to be graduated in 2 months and the other half in 1 year, it is striking that the rate of those fully immunised is only 29%. The rate increased to 33% after the training (Table 1). After training programme, on one hand, while the participants are furnished with risky groups for Hepatitis B, infection ways and symptoms of the disease, the fact that there was no increase in the rate of vaccination drove attention, on the other hand. The reason was simply that the vaccination which used to be covered by Medico-Social Centre free of charge formerly became chargeable from 01.04.2000. High vaccination charges seemed difficult for students to afford.

Koksal et al, in a study with 600 cases where knowledge and attitudes of healthcare workers and intern students regarding vaccination to be protected against B type viral hepatitis were investigated, found the rate of vaccination against Hepatitis B to be 21.8%. It was quite interesting that those who were new in profession had higher rate of vaccination. The reasons of non-immunisation were shown as the lack of time (53%) and too many bureaucratic formalities (47%) (14).

With regard to the fact that the rate of encountering HBV is 40 to 60% and that of porters 4 to 8% in Turkey, all community might be assumed to be at risk of this disease (15). Prior to training programme, only 4% (n:4) of participants described whole society under risk. After the training programme where it was emphasised that whole society was under risk, regarding the priorities of healthcare workers, this rate raised to 67% (n:67). The difference is statistically significant ($p<10(-6)$). Prior to and after training programme, the knowledge that healthcare workers compose also another risk group changed positively. And this change was found statistically significant (p:0.04550).

Prior to the training programme, 42% of the students had no knowledge about HBV. After training programme, the fact that the knowledge about that blood and sexual transaction played an important role in infection reached to 58% from 20%, and that students remembered the impact of blood, infection from mother to baby and sexual transaction, in the rate of 35% after training while they were not mentioned prior to training was evaluated as the effectiveness of the training programme. This effectiveness was found to be statistically significant ($p<10(-6)$). In London Teaching Hospital where exposures to diseases infected through blood are investigated, it was found that 83% of 236 cases occurred through injection and cutting devices and 7% through infected patients wastes. It was stated that 32% of cases obviously occurred through preventable reasons (16). The fact that almost one third of cases obviously developed through preventable reasons showed that the first step of preventing was to be aware of infection ways. In the study, one of the most dramatic knowledge changes was correlated with infection ways.

The increase of correct knowledge rate about disease findings prior to training from 26% to 81%, and the decrease of insufficient knowledge from 20% to 11% must be the result of training programme, according to our point of view. The difference was found to be highly significant ($pl0(-6)$).

Today, we have effective protection measures against HBV infection at our disposal, and their application when needed is of great importance. Therefore, healthcare workers, beside whole community, should be provided audio-visual and practical training programmes for protection against all diseases infected through blood, primarily Hepatitis B.

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