

Research Article

The Readiness Rate of Couples Referred To the Premarital Counseling Center for Hepatitis B Virus Infection Testing in Yazd-Iran (2012)

Jamshid Ayatollahi¹, Mohammad Ali Bagheri Nasab Sarab², Seyed Hossein Shahcheraghi^{1*} and Mahshad Shabani Shahrabaki³

¹Infectious Diseases Research Center, Shahid Sadoughi University of Medical Sciences, Iran

²School of Medicine, Shahid Sadoughi University of Medical Sciences, Iran

³Medicine Faculty, Shiraz University of Medical Sciences and Health Services, Iran

*Corresponding author: Seyed Hossein Shahcheraghi, Infectious Diseases Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran, Tel: +98-913-2531389; Email: shahcheraghi@gmail.com

Received: May 21, 2015; Accepted: July 23, 2015;

Published: August 03, 2015

Abstract

Background: Hepatitis B is a liver disease that results from infection with the Hepatitis B Virus (HBV). It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Hepatitis B is usually spread when blood, semen, or another body fluid from a person infected with the hepatitis B virus enters the body of someone who is not infected. HBV infection is a worldwide problem. Hepatitis B infection is associated with serious complications, including liver failure, cirrhosis, and hepatocellular carcinoma. In the present study the willingness rate of couples referred to the counseling center for testing premarital HBV infection was investigated in Yazd.

Patients and Methods: In this descriptive study, a random sampling was done among couples referred to Yazd clinic (Akbari clinic). These cases were 1000 men and 1000 women referred to marry. Finally, the data was analyzed using SPSS software and chi-square statistical method.

Results: From 2000 couples, in total, 62.6% of them were compliant with testing premarital HBV. They were included 51.7% under 20 years, 63.8% between 20 to 29 years, and 68.5% above 29 years. There was a significant difference between the age groups about readiness for hepatitis B virus infection testing before marriage (p -value: 0.000), but this difference was not statistically significant about sex groups (p -value: 0.395).

Conclusions: The findings show relatively high readiness of our cases for hepatitis B virus infection testing before marriage, thus, according to the will of the couples screening premarital hepatitis B infection is very important in the early diagnosis and prevention of transmission of disease.

Keywords: Hepatitis B virus; Premarital; Couples

Introduction

Hepatitis B is a prevalent disease that involves many people around the world and is a main public health problem in many parts of the world [1-4]. This contagious disease can transmit through mother to her neonate or by body secretions and means of blood products [4-7]. That is one of global health problems and between 350 and 400 million persons is appraised to travail from this infection [4-7].

Persons infected with HBV may also develop chronic HBV infection, which can lead to cirrhosis or hepatocellular carcinoma [1,7]. Hepatitis B infection is the 10th leading cause of death worldwide, and results in 500,000 to 1.2 million deaths per year caused by chronic hepatitis, cirrhosis, and Hepatocellular Carcinoma (HCC) [7-9].

The prevalence of HBV infection continues to be highly variable, ranging over 10% in some Asian and Western Pacific countries to under 0.5% in the United States and northern European countries [6-8].

North America has a low level of hepatitis B infection. The

estimated total number of HBs Ag carriers based on blood donor studies is 0.2% in the United States [9,10]. Hepatitis B prevalence is estimated to be 0.5% to 1% in Canada [10].

It is appraised that HBV infection has involved about 1.5 to 2.5 million persons in Iran, and some of mentioned cases are carriers that may transmit infection to others [11-13]. The investigation of HBV prevalence in Iran shows significant differences in provinces of our country, according HBV infection rates and the highest prevalence rate were observed in Golestan (6.3 %) [14,15].

The researches in Iran show that HBV carriers and cases of positive HBc Ab (antibody to the hepatitis B core antigen) include 1.3–8.69% and 22–37% of the population, respectively [11-15]. Development of knowledge about vaccination program and risk factors of HBV infection since 1993 about vaccination of high risk groups and young children could be the cause of low prevalence of HBV infection [13-17].

Hepatitis B screens and epidemiological studies are important for the identification of preventive strategies as well as early diagnosis of infected patients [16,17].

This study aimed to investigate the willingness rate of couples referred to the counseling center for premarital hepatitis B virus infection testing in Yazd.

Patients and Methods

In this cross-sectional and descriptive study, a random selection was among young couples referred to Yazd clinic (Akbari clinic). These cases were 1000 men and 1000 women referred to marry.

The willingness rate of couples was investigated through a questionnaire. Completing the questionnaire was voluntary.

This study assessed the willingness rate of young couples aged less than 20 years, 20-29 years and above 29 years referred to the counseling center for premarital hepatitis B virus infection testing in Yazd.

Statistical analysis

The SPSS (Version 22) was used in analyzing the data. Descriptive, chi-square statistics were used for data analysis. All statistical tests were carried out at 5% (or 0.05) level of significance.

Results

Of 2000 participants, 632 cases (63.2%) men, 620 (62%) women and in all, 1252 (62.6%) of participants were in favor of HBV testing. There was not a statistically significant difference between the two groups ($P=0.395$).

Of 2000 participants, 783 cases (78.3%) men, 765 (76.5%) women and in all, 1548 (77.4%) of participants believed that their husband/wife should know the result before marriage if the test result was positive. There was not a statistically significant difference between the two groups ($P=0.629$). From a total of participants, 696 cases (69.6%) men, 762 (76.2%) women and in all, 1458 (72.9%) of participants were willing to know the status of their fiancé test. There was a statistically significant difference between the two groups ($P=0.003$). Also, 412 cases (41.2%) men, 324 (32.4%) women and in all, 736 (36.8%) of participants were willing to marry with their fiancé if their fiancé test result was positive. There was a statistically significant difference between the two groups ($P=0.000$). From a total of participants, 713 cases (71.3%) men, 749 (74.9%) women and in all, 1462 (73.1%) of participants would like their family to know the result if their test result was positive. There was not a statistically significant difference between the two groups ($P=0.188$). Also, 576 cases (57.6%) men, 532 (53.2%) women and in all, 1108 (55.4%) of participants believed that asymptomatic people needed for premarital hepatitis B testing. There was not a statistically significant difference between the two groups ($P=0.141$).

Of 2000 couples, 154 cases (51.7%) under 20 years, 924 cases (63.8%) between 20 to 29 years, and 174 cases (68.5%) above 29 years and overall, 1252 cases (62.6%), were willing to premarital hepatitis B testing. There was a statistically significant difference between age groups regarding their willing ($p=0.000$). Also, 216 cases (72.5%) under 20 years, 1138 cases (78.6%) between 20 to 29 years, and 194 cases (76.4%) above 29 years and overall, 1548 cases (77.4%), believed that their husband/wife should know the result before marriage if the test result was positive. There was not a statistically significant difference between age groups ($p=0.147$). Also, 162 cases (54.4%) under 20 years, 880 cases (60.8%) between 20 to 29 years, and 164

cases (64.6%) above 29 years and overall, 1206 cases (60.3%), were willing to premarital hepatitis B testing in their fiancé. There was a statistically significant difference between age groups ($p=0.016$).

Of 2000 couples, 218 cases (73.2%) under 20 years, 1050 cases (72.5%) between 20 to 29 years, and 190 cases (74.8%) above 29 years and overall, 1458 cases (72.9%), were willing to know the status of their fiancé test. There was a statistically significant difference ($p=0.001$). Also, 114 cases (38.3%) under 20 years, 520 cases (35.9%) between 20 to 29 years, and 102 cases (40.2%) above 29 years and overall, 736 cases (36.8%), were willing to marry with their fiancé if their fiancé test result was positive. Here, there was not a statistically significant difference between age groups ($p=0.160$).

In the present study from 2000 couples, 228 cases (76.5%) under 20 years, 1048 cases (72.4%) between 20 to 29 years, and 186 cases (73.2%) above 29 years and overall, 1462 cases (73.1%), would like their family to know the result if their test result was positive. There was not a statistically significant difference between age groups ($P=0.276$). Also, 130 cases (43.6%) under 20 years, 820 cases (56.6%) between 20 to 29 years, and 158 cases (62.2%) above 29 years and overall, 1108 cases (55.4%), believed that asymptomatic people needed for premarital hepatitis B testing and there was a statistically significant difference between age groups ($P=0.000$).

Percentages of positive responses to questions by gender and age have been showed in Tables 1&2.

Discussion

HBV infection is a contagious disease that involves many people around the world and is a main public health problem in many parts of the world [4-9]. The vaccine is 95% effective in preventing HBV infection [4-9]. This study aimed to assess the willingness rate of couples referred to the family regulation premarital counseling center for premarital hepatitis B virus infection testing. In the present study, confirmation of premarital HBV infection testing was higher in men. In total, 62.6% of couples were compliant with testing premarital HBV.

In a study, of 1342 couples, 1316 persons returned the questionnaires (response rate: 98.1%). Overall, 73.2% of participants were compliant with HBV infection screening. Male sex and higher level of education were related to more positive attitudes towards HBV testing. Many couples would apprise their spouse and families about a positive test result (90.5% and 74.3%, respectively) [18].

In another study was revealed that HBs Ag prevalence was 5.7 per cent and anti-HBs antibody was 20.9 percent. Prevalence of hepatitis B infection was not found to be significantly associated with age group ($N=1798$; $P=0.4$) and sex (female 1033, male; 765 $P=0.3$) [19].

Another study was conducted to assess knowledge and attitude of unmarried female students in King Abdul-Aziz University (KAU) towards Premarital Screening (PMS) program. Regarding attitude, almost all students (99.1%) agreed on the importance of PMS. After the educational program, students' knowledge about PMS was markedly improved. The total number of students enrolled in the pre-test amounted to 1563 female KAU students, their ages ranged from 17 to 27 years with a mean of 20.3 ± 5.59 years. In the Post-test, 1549 of students accepted to participate (acceptance rate = 99.1%) [20].

Table 1: Positive responses (%) to questions based on gender.

	Total	Men	Women	<i>P value</i>
Are you ready to be tested for hepatitis B?	62.6	63.2	62	0.395
If your test result were positive, would you like your husband/wife to know the result?	77.4	78.3	76.5	0.629
Have you the willingness for testing your husband/wife?	60.3	57.6	63	0.047
If your husband/wife's test result were positive, would you like to know the result?	72.9	69.6	76.2	0.003
If your test result were positive, would you still want to marry your fiance /fiance'e?	36.8	41.2	32.4	0.000
If your test result were positive, would you like your family to know the result?	73.1	71.3	74.9	0.188
Is it necessary to do test for disease in an asymptomatic person?	55.4	57.6	53.2	0.141

Table 2: Positive responses (%) to questions based on age.

	Total	<20	20-29	>30	<i>P value</i>
Are you ready to be tested for hepatitis B?	62.6	51.7	63.8	68.5	0.000
If your test result were positive, would you like your husband/wife to know the result?	77.4	72.5	78.6	76.4	0.147
Have you the willingness for testing your husband/wife?	60.3	54.4	60.8	64.6	0.016
If your husband/wife's test result were positive, would you like to know the result?	72.9	73.2	72.5	74.8	0.001
If your test result were positive, would you still want to marry your fiance /fiance'e?	36.8	38.3	35.9	40.2	0.160
If your test result were positive, would you like your family to know the result?	73.1	76.5	72.4	73.2	0.276
Is it necessary to do test for disease in an asymptomatic person?	55.4	43.6	56.6	62.2	0.000

In a study, screening program of HBV was performed. In this program the provinces (7 out of 30) of Iran were investigated. This study revealed that outbreak of HBV infection in Iran is appraised to be 2.14 percent, in men and women 2.55 percent and 2.03 percent respectively. Approval of premarital HBV testing in males was about 25% higher than females [21].

Conclusion

This study showed relatively high readiness of our cases for premarital hepatitis B virus infection testing, thus testing the will of the couples screening premarital hepatitis B infection is very important in the early diagnosis and prevention of transmission of disease.

References

- Zhang C, Zhong Y, Guo L. Strategies to prevent hepatitis B virus infection in China: immunization, screening, and standard medical practices. *Biosci Trends*. 2013; 7: 7-12.
- Hadziyannis SJ, Vassilopoulos D. Hepatitis B e antigen-negative chronic hepatitis B. *Hepatology*. 2001; 34: 617-624.
- McMahon BJ. Natural history of chronic hepatitis B - clinical implications. *Medscape J Med*. 2008; 10: 91.
- Custer B, Sullivan SD, Hazlet TK, Iloeje U, Veenstra DL, Kowdley KV. Global epidemiology of hepatitis B virus. *J Clin Gastroenterol*. 2004; 38: S158-168.
- Shepard CW, Simard EP, Finelli L, Fiore AE, Bell BP. Hepatitis B virus infection: epidemiology and vaccination. *Epidemiol Rev*. 2006; 28: 112-125.
- Magdzik WW. Hepatitis B epidemiology in Poland, Central and Eastern Europe and the newly independent states. *Vaccine*. 2000; 18 Suppl 1: S13-16.
- Luksamijarulkul P, Thammata N, Tiloklurs M. Seroprevalence of hepatitis B, hepatitis C and human immunodeficiency virus among blood donors, Phitsanulok Regional Blood Center, Thailand. *Southeast Asian J Trop Med Public Health*. 2002; 33: 272-279.
- André F. Hepatitis B epidemiology in Asia, the Middle East and Africa. *Vaccine*. 2000; 18 Suppl 1: S20-22.
- Tanaka J. Hepatitis B epidemiology in Latin America. *Vaccine*. 2000; 18 Suppl 1: S17-19.
- Minuk GY, Sun DF, Greenberg R, Zhang M, Hawkins K, Uhanova J, et al. Occult hepatitis B virus infection in a North American adult hemodialysis patient population. *Hepatology*. 2004; 40: 1072-1077.
- Ghanaat J, Sadeghian A, Ghazvini K, Nassiri MR. Prevalence and risk factors for hepatitis B virus infections among STD patients in northeast region of Iran. *Med Sci Monit*. 2003; 9: CR91-94.
- Alavian SM, Fallahian F, Lankarani KB. The changing epidemiology of viral hepatitis B in Iran. *J Gastrointest Liver Dis*. 2007; 16: 403-406.
- Zali MR, Mohammad K, Noorbala AA, Noorimayer B, Shahraz S. Rate of hepatitis B seropositivity following mass vaccination in the Islamic Republic of Iran. *East Mediterr Health J*. 2005; 11: 62-67.
- Fathimoghaddam F, Hedayati-Moghaddam MR, Bidkhorri HR, Ahmadi S, Sima HR. The prevalence of hepatitis B antigen-positivity in the general population of Mashhad, Iran. *Hepat Mon*. 2011; 11: 346-350.
- Alavian SM. Ministry of Health in Iran is serious about controlling Hepatitis B. *Hepat Mon*. 2007; 7: 3-5.
- Euler GL, Copeland J, Williams WW. Impact of four urban perinatal hepatitis B prevention programs on screening and vaccination of infants and household members. *Am J Epidemiol*. 2003; 157: 747-753.
- Lavanchy D. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. *J Viral Hepat*. 2004; 11: 97-107.
- Adibi P, Hedayati S, Mohseni M. Attitudes towards premarital screening for hepatitis B virus infection in Iran. *J Med Screen*. 2007; 14: 43-45.
- Kurién T, Thyagarajan SP, Jeyaseelan L, Peedicayil A, Rajendran P, Sivaram S, et al. Community prevalence of hepatitis B infection and modes of transmission in Tamil Nadu, India. *Indian J Med Res*. 2005; 121: 670-675.
- Ibrahim NK, Al-Bar H, Al-Fakeeh A, Al Ahmadi J, Qadi M, Al-Bar A, et al. An educational program about premarital screening for unmarried female students in King Abdul-Aziz University, Jeddah. *J Infect Public Health*. 2011; 4: 30-40.
- 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: 281-294.