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Hepatitis B Infection and Social Stigma: a study in Tehran

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Abstract

Introduction: Millions of chronic hepatitis B virus (HBV) affected people live around the world. Although, the progress in vaccination and treatment has been changed the picture of hepatitis B. According , hepatitis b health-related stigma as a barrier for health service use, still shows its important role. The current study aimed to understand the social knowledge and stigma of HBV in a selected community of Iran.

Methods: Based on a well-defined study design and through the cross-sectional hospital-based study, we recruited 860 hepatitis B affected people. After informing about the purpose of the research, each men or women that referred to these hospitals and were satisfied could enter the study. Interviews were carried out with individuals' informed consent. Stigma and knowledge questionnaire need to be finished independently within a 20-minues. We applied The EMIC stigma scale for evaluating the stigma. The mean, standard deviation and multiple linear regression models was used to analysis the data that carried out with SPSS 21 software.

Results: Overall, high educational attainment was associated with higher levels of happiness. We documented a statistical interaction between nativity status and education on happiness, indicating a weaker inverse association between educational attainment and happiness for immigrant than native-born individuals. The results remained similar using linear or Poisson regression models.

Conclusion: Similar to the US, the link between educational attainment and happiness also depends on nativity in Europe. Countries of host undervalue the educational attainment of immigrants. Future research should explore the role of labor market discrimination and other racialization and xenophobia on reducing the return of education for immigrants. Given the existing MDRs, and because diminished returns are a mechanism behind disparities, policymakers should go beyond equal SDOH and equalize the return of SDOHs. Policies such as equal pay and additional enforcement of antidiscrimination may help. The results are important given the anti-immigrant sentiment and nationalist movements in Europe and around the world.

Keywords: Education, income, immigrants, happiness, socioeconomic status, population groups, nativity

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Introduction

Asia is famous for hepatitis B endemicity. So that, Millions of chronic hepatitis B virus (HBV) affected people live in Asia[1,2]. These people usually become infected when during they were born or they got it through the close contact whit their family member in childhood[3]. In this way, they placed at greater risk of developing long-term complications such as hepatocellular carcinoma cases worldwide[4,5].

In Iran, the prevalence of being HBs antigen positive from 2.5%-7% in the 1980 received to 1.07%-5% in the 1990 and to 1%-2% in the 2000s. The prevalence rate was estimated as 1.7% in Iranian males and 1.2-2.3% in female. Based on the WHO categorization, Iran placed in the low-intermediate of prevalence. Health interventions such as infant and adolescents could control spread of disease[6-9]. So that It is right that, the progress in vaccination and treatment has been changed the picture of hepatitis B. However, according to the literature, hepatitis b health-related stigma as a barrier for health service use, still show its important role[10,11]. Globally, stigma has been identified as a significant barrier for screening, diagnosis and treatment of hepatitis B[9–12]. Stigmatized individuals with this infection can be denied health care as well as education, employment, and interaction with society[13] and therefore also severely harming the mental health and quality of life[14]. Negative attitudes can be expressed by any social relationship or Social sigma against these patients has a long history and in some communities its social burden equalized with leprous, HIV or syphilis.[12-15] Review on articles shows that these persons are alone and experience high degrees of stigma[16-18] Hepatitis b affected these days called as modern "lepers[16] or "HIV affected"[18] and hepatitis B infection can be shameful for both patients and their relatives.[16] For the first time, Goffman interfered stigma

as “the status in which people be separated of full social acceptance”[17] As the theory of stigma has been progressed, the researcher concluded that stigmatization might have both effects on the stigmatized person and social context[18] and some negative consequences such as devaluation of one's social identity can lead to interrupt persons position, particularly in his or her family[19] Indeed, it can lead to abstinence from participating in the society or following up the health seeking behaviors by the patients.[18, 19] The current study aimed to understand the social knowledge and stigma of HBV in a selected community of Iran.

Methods

Based on a well-defined design and through a cross-sectional hospital-based study, we started our work. We recruited the participants from hepatitis b research centers and educational related hospitals. In an expert panel that was held before data gathering, we reached a consensus to use a multistage stratified sampling method. At first, we divided Tehran’s city into three regions, based on what is covered by three medical universities in Tehran. In each region, the lists of hospitals were extracted. In the next step; we selected 3 hospitals in each of these areas by drawing lots. Finally, we selected our study participants based on the simple sampling method. After informing about the purpose of the research, every man or woman that referred to these hospitals and were satisfied could enter the study. Interviews were carried out with individuals’ informed consent. Stigma and knowledge questionnaire need to be finished independently within a 20-minues. We carried out this study with 860 participants. Sample size calculation for the questionnaire aspect was based on HBsAg prevalence rate, and this was arrived at using Fisher formula[22], n = z2p (1 – p)/d2 which puts the sample size at 721, and approximated to 800 cases. The code of ethic for this study was IR.SHMU.REC.1394.75.

The questionnaire and scoring

The EMIC stigma scale includes 15 questions and covered some domains that were affected by stigma such as disclosure of disease, avoiding, perceiving your value, shame, marriage and job. This tool is a generic questionnaire that was frequently used in measuring the perceived stigma of variable disease in the members of community. 5 points Liker score was used for rating the stigma level. Ebrahimi et al. evaluated the psychometric characteristic of this tool for hepatitis b affected people in Iran[24]. Internal consistency was measured using the Split-half reliability coefficient (R) and Cronbach’s alpha coefficient. The study participants completed the questionnaire themselves. Data were analyzed using SPSS version 18.0. The characteristics of participants analyzed with Descriptive statistics. HBV stigma score calculated by collecting true responses in 1to 4 Liker scale and total higher score relate to more burden of stigma. For calculating stigma items, responses were considered as (yes/no). Also, HBV knowledge degree was measure with simple collecting the correct answers in hepatitis B knowledge specific questionnaire Statistical Analysis

Data was analyzed with SPSS 21 Software. For comparing the base line data we used chi2 statistical test. Hepatitis B knowledge score was determined based on the frequency of true answers. The mean and standard deviation of each item of Perceived stigma was determined AND factor score s were compared with the mean of each sure. Also, multiple linear regression models were applied to factors associated with experienced hepatitis B stigma.

Result

Data was analyzed Finally, the 860 participants (39/88% males,60/11 females) were evaluated. (response rate 96.4 %).64% of them lived in Tehran and 36% came from the other states of Iran. The baseline data are shown in Table 1. The characteristics of the other study items showed in table 2-3 We formulated the effect of potential factors that could change the stigma burden (Table 4).

Table 1. The Characteristics of study population

Variable	N =860 Number (%)	P value
Age		
18–30 years	392(45/58)	0.23
+31 years	468(54/41)	
Gender		
Male	343(39/88)	0.063
Female	517(60/11)	
Educational status		
illiterate	54(6/27)	0.023
Primary	125(14/53)	
diploma	432(50/23)	
Higher	249(28/95)	
Occupation		
Housewife	124(14/41)	0.034
Government employee	213(24/76)	
Private employee	412(47/9)	
Unemployed	111(12/9)	
Marital status		
Single	213(24/76)	0.027
Married	564(65/58	
Divorced	83(9/65)	

Table 2: Hepatitis B knowledge.
The following statements about hepatitis B are true or false?

Statement	Correct answer (N/%)
Can be prevented by vaccination.	423/750(56.4)
Can be treated with medications.	412/845(43.75)
Can be disseminated by sexual intercourse.	354/843(41.98)
Can be transmitted by blood.	451/853(52.87)
Can be spread during childbirth.	723/820(88.17)
Can be spread by eating .	315/844(37.32)
Can be spread by sharing eating utensils.	387/832(46.51)
Can cause lifelong infection.	521/712(73.17)
Can cause advanced liver disease	534/620(86.12)
Can cause liver cancer	518/632(81.96)
Can be spread by someone who looks healthy	671/815(82.33)
Carriers can only be identified by a blood test	431/513(84.01)

Table3: Items, factor scores of perceived stigma among participants(N=860)

Hepatitis B stigma Items	Factor score	Mean(SD)
1) Would a person with Hepatitis B keep others from knowing, if possible?	0.64	3.2(1.6)
2) If a member of your family had Hepatitis B , would you think less of yourself, because of this person's problem?	0.54	1.2(0.56)
3) In your community, does Hepatitis B cause shame or embarrassment?	0.95	3.3(2.1)
4) Would others think less of a person with Hepatitis B?	0.88	2.63(1.14)
5) Would knowing that someone has Hepatitis B have an adverse effect on others?	0.84	3.1(1.43)
6) Would other people in your community avoid a person affected by Hepatitis B?	0.83	1.5(1.28)
7) Would others refuse to visit the home of a person affected by Hepatitis B?	0.87	1.6(3.1)
8) Would people in your community think less of the family of a person with Hepatitis B ?	0.65	1.1(2.16)
9) Would Hepatitis B cause problems for the family?	0.64	1.11(0.73)
10) Would a family have concern about disclosure if one of their members had Hepatitis B?	0.87	2.1(1.5)
11) Would Hepatitis B be a problem for a person to get married?	0.73	2.14(1.06)
12) Would Hepatitis B cause problems in an on-going marriage?	0.76	1.45(0.14)
13) Would having Hepatitis B cause a problem for a relative of that person to get married?	0.43	1.4(3.19)
14) Would having Hepatitis B cause difficulty for a person to find work?	0.53	2.1(1.6)
15) Would people dislike buying food from a person affected by Hepatitis B?	0.47	1.64(1.37)

Table 4: Factors associated with experienced hepatitis B stigma from multiple linear regression models

Characteristics	Unstandardized coefficient		Sig	95% CI for β	
	β	SE		LOWER	UPPER
Age					
18–30 years	12.4	4.23	0.003	7.6	9.13
+31 years	8.13	3.65			
Gender					
Male	2.3	0.7	0.1	3.4	5.9
Female	5.3	2.4		1.6	4.3
Educational status					
illiterate	17.23	2.12	0.017	4.7	7.67
Primary	12.3	3.8		3.91	8.14
diploma	11.19	3.2			
Occupation					
Housewife	10.33	6.4	0. 012	3.66	8.47
Government employee	8.12	5.1			
Private employee	9.1	4.3			
Unemployed	12.12	4.2			
Marital status					
Single	2.34	3.41	0.045	1.78	3.876
Married	1.2	1.17		2.14	4.18

Discussion

Data was analyzed Within three decades a lot of health interventions such as early diagnostic tests, treatment with new medications, vaccination promoted the status of hepatitis B affected people around the world.[11] Along with advances in knowledge and technology, travelling between countries was accelerated and hepatitis b is not the main concerns of Asia today. In addition, affected people may not be in a good situation even if their country.[14] Therefore, there is an important concern about the health status of these people, both in their own countries and those with immigrants.[12,13] Some of these concerns related to the stigma and its probable impacts on health that were undeniable.[8,16,19] this study aimed to evaluate the social knowledge and stigma of HBV in a selected community of Iran. According to the result, we found the high stigma amount among hepatitis affected people in Tehran. Moreover, this study showed that

there is a relationship between the stigma, knowledge of people, being single, unemployment and younger age of affected people. This study was as a trendy and important in the domain of HBV knowledge and stigma. We evaluated the perception of hepatitis B stigma in 860 participants (39.88%male /60/11% female) that were in the multi -state of age, marriage, education and occupation. It is right that the questionnaire evaluated the simple knowledge of disease among participants, it shows we have serious problem in this part. The total mean score of knowledge was 59.75. In some domains result indicated substantial knowledge deficits regarding how HBV is transmitted. Misinformation can play an important role in stigmatization and isolation. One of a common misconception was about spreading the disease via spoon, fork or the other similar things, which could have an effect on sharing food. There are a lot of studies that reported lack of information in their countries about hepatitis b nature, behavior, diagnostic, prevention and treatment. This result is true even in countries which are endemic for disease.[24-30]

Data was analyzed Total mean score of stigma in this study was 2.86 that was greater than 2, and indicates that there is strong stigmatized perception in our participants. Also in some domains such as shame or embarrassment, worthless considering, believe in adverse effect on others, community avoidance and refuse to get patients home, disclosure and marriage, the score of stigma was apparently heavier than the other domains. Similar with our results, a study in California showed that the major domains that can have a significant effect on stigma in hepatitis b affected persons are shame, disclosure and marriage[29]. Also in a study that conducted by Li et.al among Chinese people, the majority of participants had stigmatized perceptions. It is important to know, these populations belongs to the country that disease is endemic on it. These perceptions were highlighted in the questions that considered marriage, avoidance and disclosure.[10] According to the Ebrahimi et. al study, hepatitis B stigma continues to have a huge effect on the hepatitis B epidemic.[31] It acts in the ways of negative effects on hepatitis B affected people's lives such as their job; isolation from community's inability to participate in community, marriage and childbearing and adherence to national health programs[9]. In this regard, Stevelink et al reported the high degrees of stigma among these persons that can disturb their self-stem, reproductive social lives and follow the regular health cares [26]. These components were the age younger than 30, the illiteracy, being single, unemployment and low level of information about hepatitis B. In a study conducted in Ho Chi Minh of Vietnam, elements which were related to lower odds of stigma was living with spouses/partners, upper age rang, being employed, and the existence any other disease than hepatitis which linked with grater odds of stigma. ($p = 0.224$, $p < 0.001$). In a Japanese study conducted by Lee et.al, the correlation between the lack of knowledge and awareness about HBV was verified. The other survey that conducted in Japan recommended the promotion of knowledge relate to hepatitis to decrease the burden of stigma. As our study result showed, marital status interfered as an effective component in creating stigma. According to Valizadeh et al, married affected people were at lower risks of CHB-related stigma. It may occur because of possible empathy and support that occurs in family environment.

Data was analyzed in about unemployment and high level of stigma, Stuart stated that the relationships between discrimination and employment is heterogenic, so that stigma can lead to unemployment. But the work place and environment can be a situation for experiencing discrimination when the fact of infection become disclosed.

Review Highlights

What Is Already Known?

The review of literature showed that the hepatitis B affected people are alone and experience high degrees of social isolation which prevent them to follow their treatment.

What This Study Adds?

This study showed high degree of stigma among these types of patients. Also it shows the strong relation between the knowledge of patient and stigma perception.

Conflict of Interests

The authors have no conflicts of interest.

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