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Stigmatization of Hepatitis C by Medical Sciences Students and Healthcare Providers: A Descriptive-Analytical Epidemiological Study

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Abstract

Background: Hepatitis C is among the greatest global health challenges. It is a major risk factor for serious liver diseases. Stigmatization of hepatitis C by healthcare providers is one of the main barriers to its early diagnosis and effective treatment. The aim of this study was to assess hepatitis C knowledge and stigmatization among the students and the staff of Birjand University of Medical Sciences, Birjand, Iran.

Methods: This descriptive-analytical epidemiological study was undertaken on 200 students, 100 nurses, 50 physicians, and 50 administrative staff affiliated to Birjand University of Medical Sciences, Birjand, Iran. A researcher-made hepatitis C knowledge and stigmatization questionnaire was used for data collection. The collected data were entered into the SPSS software (v. 18) and analyzed using the one-sample t-test and Pearson correlation analysis at a significance level of less than 0.05.

Results: Participants were 278 women (69.5%) and 122 men (30.5%). The mean score of hepatitis C stigmatization was 82.33 $\pm$ 12.81 (out of a total possible score range of 28 - 140). This score was significantly lower than the possible mean score of the stigmatization questionnaire. Most participants obtained a low stigmatization score (63.8%) and a high knowledge score (66%). Hepatitis C stigmatization by participants was inversely correlated with their hepatitis C knowledge ($r = -0.2$; $P < 0.001$). Compared to other healthcare providers, physicians obtained the lowest hepatitis C stigmatization score and the highest hepatitis C knowledge score.

Conclusion: People with greater knowledge about hepatitis C are less likely to stigmatize patients with hepatitis C. Therefore, educational interventions are needed to improve healthcare providers' knowledge about hepatitis C in order to reduce the risk of hepatitis C stigmatization by them.

Keywords: Hepatitis C, Knowledge, Stigmatization, Healthcare Providers

1. Background

Viral hepatitis is among the major health problems in the world. The most common and most serious types of viral hepatitis are hepatitis B and C. The prevalence of hepatitis B and C in Iran is 1.2% - 5% and 0.6%, respectively (1-3). Moreover, the prevalence of hepatitis B in Birjand, Iran, is 1.6%, on average (3, 4).

Hepatitis C turns to a chronic condition in more than 80% of the cases. It can lead to serious complications such as cirrhosis and hepatocellular carcinoma. Hepatitis C treatment in 1995 was successful only in about 6% of patients, while this rate is currently as high as 99% (5).

Patients with certain types of health problems are at risk for stigmatization. Stigma is a negative belief and attitude towards a certain group of people. Patients with infectious diseases such as acquired immunodeficiency syndrome (AIDS), hepatitis B, and hepatitis C have always been subjected to stigmatization (5). The stigma of hepatitis C has three main components, namely a history of injection drug abuse, the risk for infection transmission, and the tendency to chronicity and asymptomaticity (6). On average, 50% of patients with hepatitis B and C suffer from stigmatization, characterized by strange feelings transferred by colleagues, family members, and even healthcare providers and thereby, reduced quality of life (7). A study showed that the stigmatization of hepatitis C is more severe than the stigmatization of hepatitis B (8). Stigmatization causes social isolation of the stigmatized people and unfair behaviors toward them. Moreover, it affects their self-confidence, quality of life, and the tendency for seeking help and receiving treatments and increases the risk of infection transmission. Besides the afflicted patients, stigmatization can also negatively affect healthcare providers (5). However, strong relationships between stigmatized patients and healthcare providers can alleviate the negative effects of stigma through improving patients'

confidence (9).

Previous studies reported that hepatitis-related stigmatization happens due to different factors such as lack of knowledge about hepatitis and its transmission routes and popular misconceptions about patients with hepatitis (7-12). Accordingly, education is the most important factor for stigma alleviation (13).

There is no information about hepatitis C stigmatization by the students and the staff of Birjand University of Medical Sciences, Birjand, Iran. Therefore, this study was conducted to fill this gap. The aim of the study was to assess hepatitis C knowledge and stigmatization among the students and the staff of Birjand University of Medical Sciences, Birjand, Iran.

2. Methods

This descriptive-analytical epidemiological study was undertaken in the spring and the summer of 2017 in Birjand University of Medical Sciences as well as in two affiliated hospitals. The study population was all students and staff of the university. Given the lack of a similar study on university students and staff, the sample size was calculated with a stigmatization prevalence of 50% and an estimated error of 0.1. Therefore, the sample size calculation formula ($n = ((Z_{1-\alpha/2}) P (1 - P)) /(0.1 \times P)^2$) determined that 385 persons were needed. In order to compensate for probable withdrawals, the sample size was increased to 400.

Sampling was done randomly; to this end, all students and staff were listed and a random sample was recruited from each group. The number of university students in the study setting was almost equal to the number of university staff; thus, a half of the sample size was allocated to students and a half to the staff. Accordingly, eighty students from the faculty of medicine, forty from the faculty of nursing, forty from the faculty of health, and forty from the faculty of nursing were recruited. On the other hand, the number of nurses and midwives in the study setting was twice the number of other staff. Therefore, 100 nurses and midwives, 50 physicians and dentists, and 50 administrative staff (25 from the Health Administration and 25 from the Treatment Administration) were recruited. Nurses were recruited from different hospital wards including general surgery, orthopedic, urology, neurosurgery, pediatric, obstetric, neurology, and cardiac care wards.

Data were collected using a two-subscale researcher-made questionnaire. The first subscale assessed students' and staff's knowledge about hepatitis C. The possible answers to the 21 items of the knowledge subscale were "Agree", "Disagree", and "Have no idea". The total score of this subscale ranged from 0 to 42. Scores 0 - 20, 21 - 30, and 31 - 42 were respectively interpreted as limited knowledge, moderate knowledge, and great knowledge about hepatitis C. The second part of the questionnaire was related to hepatitis C stigmatization by assessing students' and staff's negative attitudes towards patients with hepatitis C, social and familial isolation, fear over infection transmission, possibility of negligence in healthcare settings, occupational stigma, and fear over providing healthcare services to patients with hepatitis C. The 28 items of this subscale were related to the three components of hepatitis C testing, patient rights, and infection management. The possible answers to the stigmatization items were "Completely agree", "Agree", "Have no idea", "Disagree", and "Completely disagree". The total score of this subscale was 28 - 140 interpreted as follows: 28 - 70: low stigmatization, 71 - 105: moderate stigmatization, and 106 - 140: severe stigmatization. The questionnaire was developed using the existing questionnaire on acquired immunodeficiency syndrome and hepatitis B stigma assessment (10, 11, 14-17). The validity of the questionnaire was assessed and confirmed by five specialists in infectious diseases, while its reliability was evaluated via the test-retest method. For reliability assessment, twenty students and staff were asked to complete the questionnaire twice with a two-week interval. The test-retest correlation coefficient for the knowledge and the stigmatization subscales were 0.98 and 0.94, respectively. Each participant was asked to personally complete the study questionnaire.

The data were entered into the SPSS software (v. 18.0). The one-sample t-test was used to compare students and staff respecting the mean scores of hepatitis C stigmatization. Moreover, Pearson correlation analysis was conducted to evaluate the correlation between knowledge and stigmatization.

Each participant was personally provided with information about the study asking to provide a written informed consent. The Ethics Committee of Birjand University of Medical Sciences approved the ethical considerations of the present study under No. ir.bums.REC.1396.66.

3. Results

Study participants comprised 200 students, 100 nurses, 50 physicians, and 50 administrative staff, 400 in total. They were 278 women (69.5%) and 122 men (30.5%). Half of the participants (200 cases) were married and half were single or divorced (200 cases). The mean score of participants' hepatitis C knowledge was 26.84 ± 4.79, which is significantly greater than the possible mean score of the knowledge subscale of the questionnaire ($P < 0.05$). On the other hand, the mean score of participants' hepatitis C stigmatization was 82.33 ± 12.81, which is significantly

lower than the possible mean score of the stigmatization subscale of the questionnaire ($P < 0.05$; Table 1).

Most participants (66%) had a moderate knowledge about hepatitis C. Physicians and medical students obtained the highest hepatitis C knowledge scores (Table 2). On the other hand, most participants (63.8%) obtained low stigma scores. The lowest stigma scores were obtained by physicians and medical students (Table 3). In other words, physicians and medical students had the highest level of hepatitis C knowledge and the lowest level of hepatitis C stigmatization. The Pearson correlation analysis showed a significant inverse correlation between knowledge and stigmatization ($r = 0.20$; $P < 0.001$).

4. Discussion

This study aimed to assess hepatitis C knowledge and stigmatization among the students and staff of Birjand University of Medical Sciences, Birjand, Iran. The findings revealed that medical sciences students and healthcare providers had a great hepatitis C knowledge and limited stigmatization of the disease. To the best of our knowledge, no study has yet assessed the stigmatization of hepatitis C in Iran and therefore, we were unable to compare our findings with previous studies. However, a study on AIDS stigmatization showed that despite a great knowledge about AIDS, most senior medical students had negative attitudes towards it and highly stigmatized afflicted patients. That study reported education as the most important strategy to prevent stigmatization (13). Two other studies also reported high levels of the stigmatization of AIDS by physicians and healthcare providers (12, 18). Comparison of our findings with the findings of these three studies reveals that healthcare providers stigmatized hepatitis C less than AIDS. This is probably due to the fact that people usually have greater fear and more negative feelings about AIDS than about hepatitis. Moreover, AIDS is mostly transferred sexually, while hepatitis C is mostly transferred through infected blood and body secretions.

Our findings also indicated that the highest level of hepatitis C knowledge and the lowest level of hepatitis C stigmatization were among physicians and medical students. Two earlier studies also reported that physicians had the highest level of hepatitis C knowledge compared to other healthcare providers (12, 19). Another finding of the present study was the significant inverse correlation of knowledge with stigmatization. Previous studies also showed that a greater level of knowledge is associated with a lower stigmatization of patients with hepatitis B and C (7, 8, 10) and AIDS (12).

4.1. Conclusion

The findings of the present study showed that hepatitis C stigmatization by medical sciences students and healthcare providers is inversely correlated with their knowledge about the disease. In other words, medical sciences students and healthcare providers who have higher levels of knowledge about hepatitis C are less likely to stigmatize afflicted patients. Given the negative effects of stigmatization on patients' health and the quality of healthcare services provided to them, educational interventions are needed to improve hepatitis C knowledge among healthcare providers to reduce the risk of stigmatization by them.

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Table 1. Comparison of Participants' Mean Scores of Hepatitis B Knowledge and Stigmatization With Their Possible Mean Scores

	Mean ± SD	The Possible Mean Score	The Results of the One-Sample T Student
Knowledge	26.84 ± 4.79	21	T = 24.39, P < 0.001
Stigmatization	82.33 ± 12.81	84	T = 2.59, P = 0.01

Table 2. Medical Sciences Students' and Healthcare Providers' Knowledge About Hepatitis C

Participants	Physician	Nurse	Administrative Staff	Student					Total
				Medical	Dental	Nursing	Health	Total	
Knowledge									
Limited	2	12	6	5	2.5	22.5	10	9	8.5
Moderate	44	75	68	50	72.5	72.5	87.5	66.5	66
Great	54	13	26	45	25	5	2.5	24.5	25.5
Total	100	100	100	100	100	100	100	100	100

Data are presented as No(%).

Table 3. Medical Sciences Students' and Healthcare Providers' Stigmatization of Hepatitis C

Participants	Physician	Nurse	Administrative staff	Student					Total
				Medical	Dental	Nursing	Health	Total	
Stigmatization									
Low	82	60	76	65	66.3	35	57.5	58	63.8
Moderate	18	27	18	32.5	27.5	35	25	29.5	26
Severe	0	13	6	2.5	6.2	30	17.5	12.5	10.2
Total	100	100	100	100	100	100	100	100	100

Data are presented as No(%).

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