

Study on the frequency of hepatitis B and C infection in chronic psychiatric patients in Hamedan in 2006-2007

Mojgan Mamani,¹ Seyyed Hamid Hashemi,² Amin Niayesh,³ Ali Ghaleiha,⁴ Mehrdada Hajiloeei⁵
Department of Infectious Diseases,^{1,2} Student Research Center,³ Department of Psychiatry,⁴ Department of Dental Pathology,⁵ Hamedan University of Medical Sciences, Hamedan, Iran.

Abstract

Objective: To study on the frequency of hepatitis B and C infections in chronic psychiatric patients in Day Night Patient Care Centres in Hamedan in 2006-2007.

Methods: This is a cross sectional study done on 170 patients with chronic mental disorders admitted in patient care institutions of Hamedan in 2006-2007. Positive tests for HCV-Ab were confirmed by RIBBA test.

Results: Of 170 patients, 56% were males and 44% were females, (age range 15-71 years). Hepatitis B and C infection was found only in males, with Hepatitis B in 1.8% patients. All of Hepatitis B cases two thirds of Hepatitis C cases were institutionalized in one of the centers.

Conclusions: Overall frequency of Hepatitis B and C infections in chronic psychiatric patients in care centers is more than the general population and centralization of these cases in one center causes transmission of infection if the standard precautions are not observed (JPMA 59:505; 2009).

Introduction

People with severe mental illness represent approximately 2.6% of the US population.¹ Criteria for severe mental illness include presence of a major mental illness, chronicity, and pervasive impairment of function.²⁻⁵ Such impairments are most often present in schizophrenia spectrum disorders (e.g., schizophrenia, schizoaffective disorder), bipolar disorder, and major depression, which together represent the preponderance of severe mental illness.⁶

Along with their psychiatric impairment, persons with severe mental illness are at an increased risk for several co morbid conditions as substance use disorder.⁷ They are also likely to be overrepresented in high-risk categories for infection, not only for HIV but also other pathogens with similar routes of transmission, as hepatitis B virus (HBV) and hepatitis C virus (HCV) In general, people with severe mental illness appear to have increased rates of sexually transmitted diseases (STDs) they are likely to engage in high-risk behaviours such as using injection drugs, having multiple sexual partners and high-risk partners, infrequently using condoms, engaging in same-sex sexual activity, trading sex for money or drugs, and engaging in sex while using psychoactive substances.⁸⁻¹⁰

These risk factors, along with poverty, a characteristic of people with severe mental illness, raises the concern that this population is also at elevated risk for HBV and HCV infection.

Intensive search has shown no published data on the prevalence of HBV and HCV in people with severe mental illness in Iran.

The aim of this study was to estimate the frequency of hepatitis B and C virus in chronic psychotic patients in Hamadan in 2007.

Patients and Methods

In a descriptive study with permission from Welfare Organization of Hamedan Province, blood smears of all patients in every care centers (170 patients) were taken (5cc). Then serum smears were carried to laboratory for studying and HBs Ag and HCV Ab tests were done in ELIZA. In HCV Ab positive patients RIBBA test was done for confirmation.

Results

This survey was done on 170 chronic psychiatric patients. Of the total 95 (56%) were males and 75 (44%) were females with majority 41 (36%) being between 36-45 years age.

Schizophrenia was the most prevalent disease in 84 (49%) patients and 7 (4%) had behaviour disorders.

Marital status showed that 110 (65%) patients were single and 35 (19%) were divorced.

Of 170 patients, 2 (1.2%) had Hepatitis B Infection and 3 (1.8%) had Hepatitis C Infection. All patients with Hepatitis B Infection and two thirds of Hepatitis C infected patients were in one of the

Table: Relative frequency of infection to Hepatitis B and C and risk factor in chronic psychiatric patients in Hamedan Province.

Center Number	Rank	Type of Hepatitis	Addiction	Injection Drug Abuse	Blood transfusion	History of Prison	Tatto	Major Operation
1	1	B	*				*	
1	2	B	*			*	*	
1	3	C				*		
1	4	C						
2	5	C						*

institutions (Table).

Hepatitis B patients were in age group of 36-45 years and Hepatitis C patients were all more than 55 years age. All of the HBV patients had the history of addiction and tattoo and half of them had a history of living in prisons. Among patients with HCV, one had a prison history, another had undergone a major operation and one patient had unknown risk factors. All patients with HBV were married while 2 with HCV were single and one was divorced.

Discussion

In the present study 2 patients were infected with HBV and 3 with HCV.

In Freudenreich's study in an outpatient Clinic in US, prevalence of HCV was 8.2%,¹¹ while in Japan, 9.1% Schizophrenic patients were infected with HCV; this figure was considerably high when compared to blood donors.¹²

Reports indicate that patients with mental illnesses have a high prevalence of HBV infection¹³⁻¹⁶ and the prevalence of this infection in psychiatric patients varies substantially in different countries. In Brazil 22.4% psychiatric patients were positive for HBV infection,¹⁷ in Spain it was 81.3%, in Northern Ireland 4.5%,^{18,19} in USA 23.4%,²⁰ and in Taiwan it was 18.1% in institutionalized psychiatric patients.²¹ A study from Singapore showed 12.7% psychiatric patients to be positive for HBsAg, 63.4% HBV surface antibody (HBsAb), and 69% HBV core antibody.²²

In Mexico 7.1% patients in a psychiatric hospital were positive for HBV and this was higher when compared with blood donors.²³ In another study in Portugal, 1.6% of psychiatric Patients were positive for HBsAg.²⁴

The small prevalence of HBV and HCV in the present study, when compared with other studies is presumably due to lower prevalence of Hepatitis in Iran. General prevalence of HBV and HCV in one center was probably due to shortfalls in observing standard precautions in patient care.

In the present study, all HBV and HCV infections

were seen in males, which is similar to Saeed Saleh's study in Amman 71.5% of HCV infections were reported in males.²⁵

In Taiwan, prevalence of Hepatitis B and C was more in males,¹³ which could be due to restricting female psychiatric patients.

All HB infections were in age group of 36-45 years and about HC, all patients were more than 55 years old. In a Mexican study on chronic psychiatric patients, aging was presented as a risk factor for Hepatitis B infection.²³ In another survey which was done between 1989 and 1992 in an Italian psychiatric hospital, prevalence and incidence of HBV, HCV and HIV were studied in patients and staffs of hospital. No case of HIV was found. Prevalence of HBV and HCV in psychiatric patients was respectively 0.99% and 0.24%, and this number was more than blood donor groups.²⁸

Chronic psychiatric patients in Day Night care centers with consideration of type of their psychiatric illness and lack of knowledge about the risks of infectious diseases and not observing standard precautions, are prone to Hepatitis infection. Tattoo, addiction, prison history and history of major operation were introduced as risk factors for Hepatitis B infection that are also mentioned in other articles. With considering specific conditions of our patients and the reality that some of the patients had no reliable source for information, probable risk factors cannot be identified.

Conclusion

Overall frequency of Hepatitis B and C infections in chronic psychiatric patients in care centers is more than the general population. Centralization of most Hepatitis B and C infections in one center can implicate transmission of this infection among chronic psychiatric patients due to not observing standard precautions.

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