



## Ruhsal Bozukluğu Olan Hastalarda Hepatit B ve Hepatit C Görülme Sıklığı

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Received: 22.10.2016; Revised: 09.01.2017; Accepted: 10.01.2017

### Abstract

**Objective:** It is estimated that Hepatitis B (HBV) and Hepatitis C (HCV) diseases have high morbidity, affecting more than 400 million people in the world. Turkey is considered as a semi-pandemic region for these infections.

**Methods:** In this study, our aim is to determine the seroprevalance of HBV and HCV in psychiatric hospitalized patients which is thought to be the risk group and to support the literature in terms of protective precautions in the progressed stages. Our study was performed between February-2014 and January 2015 in Diyarbakır Selahaddin Eyyubi State Hospital psychiatry clinic. The patient's files were investigated retrospectively, the results of serological tests (HBsAg, AntiHBS and AntiHCV) and socio-demographical data (age, sex, diagnoses and living areas) were used.

**Results:** HBSAg positivity was 1.7% in schizophrenia patients, 0,8% in bipolar affective disorder patients, 0.4% in retarded patients and 0,3% in depression patients. A statistically significant relationship was found between schizophrenia and HBSAg.

**Conclusion:** Similar precautions against viral hepatitis with high transmission rates should be applied in the chronic, disabled psychiatric patients just like the normal population. Active immunization will be useful in the schizophrenia group patients having relatively more risk. Extensive studies should be performed to obtain detailed and accurate data.

**Keyword:** Mental Disorders, Hepatitis B, Hepatitis C.

DOI: 10.5798/dicletip.298596

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## Incidence of Hepatitis B and C Infections in Patients of Mental Disorders

### Özet

Giriş: Hepatit B (HBV) ve C (HCV) hastalıkları, dünyada 400 milyondan fazla kişiyi etkilediği tahmin edilen, yüksek morbiditeye sahip hastalıklardır. Bu enfeksiyonlar açısından Türkiye, yarı endemik bölge olarak gösterilmektedir. Yaptığımız bu çalışmada riskli grupta olduğu düşünülen yatarak tedavi gören psikiyatri hastalarındaki HBV ve HCV seroprevalansını belirlemek ve ileri dönemde hastalarımızda koruyucu amaçlı neler yapılabileceği hakkında literatüre katkıda bulunmaktadır.

Yöntemler: Çalışmamız Şubat-2014 ile Ocak 2015 tarihleri arasında Diyarbakı ili Selahaddin Eyyubi Devlet Hastanesi psikiyatri kliniğinde yatarak tedavi gören hastaların dosyalarının geriye doğru incelenerek serolojik testlerin sonuçları (HBsAg, AntiHBS ve AntiHCV) ve sosyodemografik verileri (yaş, cinsiyet, tanılar ve yaşam yerleri) kullanılarak yapılmıştır. Bulgular: Psikiyatrik tanılar ile hepatit serolojileri karşılaştırıldığında HBsAg pozitifliği şizofreni hastalarında %1,7, bipolar affektif bozukluk hastalarında %0,8, zeka geriliği olanlarda %0,4 ve depresyon hastalarında %0,3 olarak bulundu. Şizofreni ile HBsAg pozitifliği arasında istatistiksel olarak anlamlı bir ilişki tespit edildi.

Sonuç: Kronik ve yeti yitimi ile seyreden psikiyatrik hastalıklarda bulaş riski yüksek viral hepatitler açısından toplumla benzer önlemler alınması, görece daha fazla risk barındıran şizofreni grubu hastalarda aktif bağışıklama yapılması faydalı olacaktır. Daha detaylı ve kesin verilere ulaşabilmek için geniş tabanlı çalışmalara ihtiyaç vardır.

**Anahtar kelimeler:** Ruhsal Bozukluk, Hepatit B, Hepatit C.

### INTRODUCTION

It is estimated that Hepatitis B (HBV) and Hepatitis C (HCV) diseases have high morbidity, affecting more than 400 million people in the world [1].

In the acute exacerbation and chronic periods, HBV and HCV diseases might lead to serious workforce loss, and mortal diseases, such as hepatocellular carcinoma, cirrhosis [2]. The economical burden associated with hepatitis diseases increases with treatment costs as well as workforce loss and early deaths. The progression of the disease stage increases treatment costs. In Germany, annual cost per patient in early stage of chronic hepatitis B is 3.000 Euro, and 5 times more in the hepatic cancer stage [6].

Turkey is considered as a semi-pandemic region for these infections [3]. It has reported that in our country HBV surface antigen (HBsAg) positivity is 1.7%-21%, anti-HCV positivity is 1-2.4% (mean 1.7%) in several studies [4-5]. In East and Southeast Anatolian regions, the incidence of HBsAg positivity is higher as compared to other regions [6-7].

When the serological diagnostic tests are commonly used for hepatitis infections, the follow-up and treatment periods make a breakthrough, viral contamination ways are identified and protection methods are found to prevent transmission to more people [8].

In the chronic psychiatric diseases, the decrease of self-care, non-protecting from contamination, unprotected intercourse, substance abuse may occur and increase the transmission of hepatitis viruses in this group as compared to the normal society [10].

In this study, our aim is to determine the seroprevalance of HBV and HCV in psychiatric hospitalized patients which is thought to be the risk group and to support the literature in terms of protective precautions in the progressed stages.

### METHODS

Our study was performed between February-2014 and January 2015 in Diyarbakır Selahaddin Eyyubi State Hospital psychiatry clinic. The patient's files were investigated retrospectively, the results of serological tests (HBsAg, AntiHBS and AntiHCV) and socio-

demographical data (age, sex, diagnoses and living areas) were used. The serological test was performed with R Elisa method.

For the statistical analysis, SPSS (Statistical Package for Social Sciences for Windows) 18.0 program was used. The study datas were summarized in tables, chi-square ( $\chi^2$ ) was used for definitive statistical methods (standard deviation, mean, percent) as well as comparison of statistical datas. The results were considered as statistically significant in the 95% confidence interval in the  $p < 0.005$  level.

### RESULTS

The datas of 721 patients were included in the study. 53.1% of them were male, 46.9% were female. The mean of their age was  $34,1 \pm 12,36$  (Table 1). 63.1% ( $n=453$ ) of them live in urban areas, 36.9% of them live in rural areas, ( $n=265$ ). No significant relation was found between living place, and HBV as well as HCV serology.

**Table 1:** Age means by gender

	<b>Women</b>	<b>Men</b>	<b>Total</b>
	( $n=338$ )	( $n=383$ )	( $n=721$ )
	Ort $\pm$ SS	Ort $\pm$ SS	Ort $\pm$ SS
<b>Age</b>	36,0 $\pm$ 13,05	32,3 $\pm$ 11,45	34,1 $\pm$ 12,36

HBsAg positivity was 3.2% in the included patients. HBsAg positivity was 2.1% in women, 4.2% in men. AntiHBs positivity was identified in the 40.4% of the whole patients ( $n=291$ ), 42.6% ( $n=144$ ) in women, 38.4% ( $n=147$ ) in men (Table 2).

AntiHCV positivity was identified in 0.8% of the patients ( $n=8$ ), ( $n=1$ ) 0.3% in women, ( $n=5$ ) 1.3% in men. No significant relationship was found between gender and HBsAg, AntiHBS and AntiHCV positivity.

HBSAg positivity was 1.7% in schizophrenia patients, 0.8% in bipolar affective disorder patients, 0.4% in retarded patients and 0.3% in

depression patients. A statistically significant relationship was found between schizophrenia and HBSAg.

When the relationship between AntiHBS positivity and diagnosis were investigated, the percentages were as follows: in schizophrenia patients 20.9%, ( $n=151$ ), bipolar affective disorder patients 11,2 ( $n=81$ ), substance-induced psychosis patients 1.5% ( $n=11$ ), retarded patients 0.7% ( $n=5$ ), depression 6.0% ( $n=43$ ) (Table 3).

### DISCUSSION

According to WHO data, the preventable hepatitis virus diseases cause high rates of morbidity and mortality [11]. The governments apply several vaccine and transmission control programs for the diseases with high incidences, however its incidence could not be decreased adequately in our country and world [12].

Several studies were performed in the world in the risky psychiatric patient groups, and significant differences were found among the countries.

As compared to the previous studies, the recent studies showed significant decreases in the incidences of HBV and HCV. In a study performed by Cividini et al. between 1992 and 1993 including total of 1180 patients with psychosis, dementia and mental retardation, HBSAg positivity was 9.6% Anti HCV positivity was 6.7% [13].

In a recent study performed by Carmo et al. with 2087 psychiatric patient data, AntiHCV was significantly higher in the psychotic patients, substance users and dementia patients as compared to the normal population, and AntiHCV serology positivity was 2.53% in all patients. This high ratio becomes meaningless in terms of the decreased rates of HCV positivity within years [14].

**Table 2:** The association between gender and Hepatitis Serology

	<b>Total</b> (n=721) n %	<b>Women</b> (n=338) n %	<b>Men</b> (n=383) n %	<b>p <math>\chi^2</math></b>
<b>HBSAg</b>				
<b>Negative</b>	698 96,8	331 97,9	367 95,8	0,137 0,108
<b>Positive</b>	23 3,2	7 2,1	16 4,2	
<b>AntiHBS</b>				
<b>Negative</b>	430 59,6	194 57,4	236 61,6	0,255 0,249
<b>Positive</b>	291 40,4	144 42,6	147 38,4	
<b>AntiHCV</b>				
<b>Negative</b>	715 99,2	337 99,7	378 98,7	0,136 0,222
<b>Positive</b>	6 0,8	1 0,3	5 1,3	

In our country, an Anti HCV positivity study performed by Polat with 245 psychiatric patients found that the rate was 3.3% [15]. However, a more recent study with 1343 patients found that AntiHCV positivity was 1.8% [16]. In our study with 721 patients, 0.8% of the patients had AntiHCV positivity.

According to HBSAg studies, just like AntiHCV, the positivity rates decreased within years. In a study performed by Dinwiddie et al. with 1556 psychiatric patients, HBSAg positivity was 27.8% [17]. However, in a more recent study with 350 psychiatric patients, HBSAg positivity was 10% [18].

Several studies have been performed in Turkey showed that seropositivity decreased from 11.8% [15] to 2.7% within years in the hospitalized psychiatric patients [16]. In line with the literature, HBSAg positivity was 3.2% in our study.

In our study, HBSAg positivity in schizophrenia patients was statistically significantly higher as compared to other disorders. The decreased self-care due to the dissociative identity of schizophrenia patients, evolution induced unprotected conscious [19] may explain the high rates of positivity in this patient group. We consider that the decreased rates of AntiHBS and AntiHCV positivity [20] in our country might be the result of the vaccine policies and education programs as well as strict precautions against transfusion.

According to the current data, the hepatitis serology of the psychiatric patients other than schizophrenia are not different from normal population, so similar precautions will be useful in this group. For schizophrenia patients, more frequent active vaccine methods by primary care physician, more attention to family information may help to decrease the present rates in this patient group.

**Table 3:** The association between serological markers and diagnosis

	<b>Schizophrenia</b> n %	<b>Bipolar Affective disorder</b> n %	<b>Substance-induced psychosis</b> n %	<b>Retarded patients</b> %	<b>Depression</b> %
<b>HBSAg Positive*</b>	12 1,7	6 0,8	0 0	3 0,4	2 0,3
<b>AntiHBS Positive</b>	151 20,9	81 11,2	11 1,5	5 0,7	43 6,0
<b>AntiHCV Positive</b>	2 0,3	3 0,4	0 0	0 0	1 0,1

\*p<0,05

We consider that the limitations of our study are as follows: our patient files did not contain family hepatitis history and blood transfusion status, and the numbers of substance induced psychosis and retarded patients were few.

### CONCLUSION

In conclusion, similar precautions against viral hepatitis with high transmission rates should be applied in the chronic, disabled psychiatric patients just like the normal population. Active immunization will be useful in the schizophrenia group patients having relatively more risk. Extensive studies should be performed to obtain detailed and accurate data.

**Declaration of Conflicting Interests:** The authors declare that they have no conflict of interest.

**Financial Disclosure:** No financial support was received.

### REFERENCES

1. Johnson DF, Leder K, Torresi J. Hepatitis B and C infection in international travelers. *J Travel Med.* 2013 May-Jun;20:194-202. doi: 10.1111/jtm.12026. Epub 2013 Apr 4. Review. PubMed PMID: 23577866.
2. Akhan S. Kronik Hepatit B Virusu İnfeksiyonunun Yönetimi *Klimik Dergisi* 2014;27(Özel Sayı 1):2-18.
3. Akarca US. Chronic hepatitis B. A guideline to diagnosis, approach, management, and follow up 2007. *Turkish Association for the Study of Liver. Turk J Gastroenterol* 2008;19:207-30.
4. Balık D, Üstüner I, et al. Rize bölgesinde yaşayan gebe kadınlarda HBsAg, AntiHBs ve Anti-HCV seroprevalansı *Dicle Medical Journal.* 2013;40:254-7.
5. Öncül A, Aslan S, Pirinççoğlu H, Özbek E. Determination of HBV, HCV, HIV, VDRL seropositivity and vaccination rates in Diyarbakır State Hospital workers *Deneyisel ve Klinik Tıp Dergisi - Journal of Experimental and Clinical Medicine* 29;2012:280-4.
6. Değertekin H, Yalçın K, Yakut M, Yurdaydın C. Seropositivity for delta hepatitis in patients with chronic hepatitis B and liver cirrhosis in Turkey: a meta-analysis. *Liver Int.* 2008;28: 494-8. doi: 10.1111/j.1478-3231.2008.01673.x.
7. Değertekin B. Hepatit B patogenezi, doğal seyri ve kliniği. *Türkiye Klinikleri Gastroenterohepatoloji Özel Dergisi.* 2010;3:45-52.
8. Campos LN, Guimarães MD, Carmo RA, et al. HIV, syphilis, and hepatitis B and C prevalence among patients with mental illness: a review of the literature. *Cad Saude Publica.* 2008;24 Suppl 4:s607-20. Review. PubMed PMID: 18797734.
9. Ulmer T, Schmidt. Almanya'da Hepatit B ile daha iyi mücadele için tavsiyeler. "Avrupa'da Hepatit B ile daha iyi Mücadele için Avrupa Uyum Çalışmaları"nın Geliştirilmesi. S 2008 (Çeviri).
10. Chaudhury S, Chandra S, Augustine M. Prevalence of Australia antigen (HBsAg) in institutionalised patients with psychosis. *Br J Psychiatry.* 1994 Apr;164:542-3. PubMed PMID: 8038945.
11. Çetinkol Y, Yıldırım AA. The Seroprevalence of Viral Hepatitis A in Patients Who Had Been Consulted at Ünye State Hospital. *Kocatepe Tıp Dergisi.* 2011;12:18-22.
12. Hepatitis B. World Health Organization. <http://www.who.int/mediacentre/factsheets>
13. Cividini A, Pistorio A, Regazzetti A, et al. Hepatitis C virüs infection among institutionalised psychiatric patients: a regression analysis of indicators of risk. *J Hepatol.* 1997 Sep;27:455-63. PubMed PMID: 9314121.
14. Carmo RA, Campos LN, Melo AP, Guimarães MD. Hepatitis C among patients with mental illness in Brazil: an analysis of associated factors. *Gen Hosp Psychiatry.* 2013 Mar-Apr;35:129-33.
15. Polat S.A. The Seroprevalence of B and C Hepatitis in Hospitalized Psychiatric Patients C. *Ü. Tıp Fakültesi Dergisi* 24:15-20, 2002.
16. Sezak N, Tosun S, Eriş N, Ayer A. Prevalence of Hepatitis B and Hepatitis C Infections and Evaluation of Related Factors in Patients in a Mental Health Hospital *Klimik Dergisi* 2011;24:154-7.
17. Dinwiddie SH, Shicker L, Newman T. Prevalence of hepatitis C among psychiatric patients in the public sector. *Am J Psychiatry.* 2003 Jan;160:172-4. PubMed PMID: 12505819.
18. Durotoye IA, Issa BA, Fadeyi A, et al.; Dauda Sulyman. Sero-prevalence of hepatitis B and C among mentally ill patients attending a tertiary hospital in Nigeria. *Ann Afr Med.* 2014 Oct-Dec;13:210-6. doi: 10.4103/1596-3519.142293. PubMed PMID: 25287036.
19. Blanchard JJ, Horan WP, Collins LM. Examining the latent structure of negative symptoms: is there a distinct subtype of negative symptom schizophrenia? *Schizophr Res.* Sep 15.2005;77:151-65.
20. TC Sağlık Bakanlığı Temel Sağlık Hizmetleri İstatistik Yıllıkları, Çalışma Yılı 2006 <http://www.saglik.gov.tr>



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