

# Seroprevalence of Hepatitis B and HIV Infection in High-Risk Turkish Population

YÜKSEK RİSKLİ BİR POPULASYONDA HEPATİT-B VE HIV İNFEKSİYONU SIKLIĞI

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## Summary

**Objective:** To investigate HBsAg and HIV-1 seroprevalence among female prostitutes in Ankara, Türkiye.

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**Material-Methods:** The total number of 94 registered female prostitutes have been investigated in this study. In 66 out of the total 94 cases, HBsAg and Anti-HBsAg antibodies were determined. In all patients, Human Immunodeficiency Virus type 1 and 2 (HIV-1&2) was searched. To confirm the diagnosis Western blot assay was used if HIV-1 antibodies were detected by above mentioned qualitative test.

**Results:** Of the 66 patients, HBsAg was detected in 2 (3%). In 44 women HBsAg was negative and Anti-HBsAg antibodies were positive (73%), which were immunized before. HBsAg and Anti-HBsAg antibodies were negative in the remaining 16 patients (24%). In only one patient, HIV antibodies were determined by qualitative test, but Western blot assay did not confirm the result (false positive). All of the other 93 patients were found HIV 1 and 2 antigens negative.

**Conclusion:** Our findings of a low seroprevalence for HBsAg and high for Anti-HBs suggests that the female prostitutes and their clients are not at increased risk for Hepatitis B infection. Also, only one false-positive case for human immunodeficiency virus among female prostitutes showed us that HIV infection is still not epidemic in Türkiye, in high-risk population.

**Key Words:** Hepatitis B, HIV, Prostitutes

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## Özet

**Amaç:** Yüksek riskli bir popülasyonu olan hayat kadınlarında Hepatit-B ve HIV enfeksiyonu sıklığını araştırmak

**Çalışmanın Yapıldığı Yer:** Gazi Üniv. Tıp Fakültesi Kadın Has./ ve Doğum ABD . Beşevler; Ankara.

**Materyal-Metod:** Ankara 'da kayıtlı olarak çalışan toplam 94 hayat kadını materyal olarak alındı. Bu olguların tümünde HIV-1 ve 2 antikorları araştırıldı. Toplamı 94 kadından 66 tanesinde HBsAg ve Anti-HBsAg varlığı araştırıldı.

**Bulgular:** Toplamı 66 hastadan 2 sinde HBsAg saptandı (%3). Daha önce aşılanmış olduğu bildirilen 44 kadında HBsAg negatif ve Anti-HBsAg antikorları pozitif idi. Geri kalan 16 hastada ise hem HBsAg antijeni hem de Anti-HBsAg antikorları negatif idi (%24). Yalnızca bir hastada, kalitatif test aracılığıyla HIV antikorları saptandı, ancak sonuç Western Blot assay testi ile doğrulanamadı (Yanlış negatif). Diğer 93 hastanın tümünde de HIV 1 ve 2 antikorları negatif olarak bulundu.

**Sonuç:** Ankara 'da kayıtlı olarak çalışan hayat kadınlarında HBsAg seroprevalansının düşük ve Anti-HBsAg antikorlarının yüksek bulunması, bu kadınların Hepatit-B enfeksiyonu açısından risk altında olmadıklarını düşündürmektedir. Ayrıca yalnızca 1 olguda yanlış pozitif HIV antikorlarının saptanması, Türkiye'de hala HIV enfeksiyonunun epidemik olmadığını göstermektedir.

**Anahtar Kelimeler:** Hepatit B, HIV, Hayat kadınları

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Hepatitis-B virus (HBV) infection is one of the most important infectious diseases all over the world (1). Although infection transmission with HBV is predominantly parenteral; high prevalence of serologic markers of HBV among female prosti-

tutes, homosexual men and STD clinic patients suggest sexual transmission may also important (2).

Heterosexual contact is the predominant mode of human immunodeficiency virus type 1 (HIV-1) transmission in most developing countries .

Since some hepatitis viruses and the human immunodeficiency viruses share common modes of transmission, such as the sexual route, it was suggested to investigate the prevalence of antibodies for both diseases in high risk population (3).

We investigated HBsAg and HIV-1 seroprevalence among female prostitutes in Ankara, Türkiye, which is the largest urban area in Asia minor.

### Materials and Methods

The total number of 94 registered female prostitutes have been investigated in this study. During October 1995, 5 ml. venous blood was collected from each of the subjects in their periodical health control. In 66 out of the total 94 cases, HBsAg and Anti-HBsAg antibodies was determined by using the commercially available latex test kit (Mona Lisa HBsAg, Pasteure, France). In all patients, Human Immunodeficiency Virus type 1 and 2 (HIV-1 & 2 ) was searched by HIV Sav 1 & 2 Rapid Scro Test (Healthcare Technologies Ltd., Ashdod, Israel). Sensitivity and specificity of the test was 99.3% and 99.5% respectively. To confirm the diagnosis Western blot assay was used if HIV antibodies were detected by above mentioned qualitative test.

### Results

Of the 66 patients, HBsAg was detected in 2 (3%). In 48 women HBsAg was negative and Anti-HBsAg antibodies were positive (73%), which were immunized before. HBsAg and Anti-HBsAg antibodies were negative in the remaining 16 patients (24%).

In only one patient, HIV antibodies were determined by qualitative test, but Western blot assay did not confirm the result (false positive). All of the other 93 patients were found HIV 1 and 2 antigens negative.

### Discussion

Sexual contact is an important transmission mode of Hepatitis virus. High prevalence of serologic markers of Hepatitis B virus (HBV) infection have been documented among female prostitutes, sexually transmitted disease (STD) clinic patients, and homosexual men (1,2).

It is known that human immunodeficiency virus (HIV) and some hepatitis viruses share common modes of transmission. Therefore, the potential of hepatitis viruses to increase virulence of HIV infection and/or influence progression to symptomatic HIV infection in asymptomatic patients is recently questioning (3,4).

Most studies about the prevalence of the HBV infection and sexual transmission have come from developed countries, and a few from developing countries. Among rural pregnant women in Cameroon, the seropositivity for HBsAg, Anti-HBs, Anti HBc were reported 5.4%, 61.3%, and 84.6% respectively (3).

In women of reproductive age in Italy, the seropositivity for HBsAg, Anti HBc was reported 1.6%, 14.4% respectively, HIV seroprevalence was 1.0% in the same study (4).

There is only one study from Ontario, Canada which is comparable to ours (5). Seroprevalence for HBsAg was found 16% in the population admitting prostitution, 7% in the overall street youth. We have found the same rate 3%, with Anti-HBs seropositivity 73%. The low seroprevalence rate for HBsAg and high seropositivity for Anti-HBsAg may be explained by effective immunization coverage in registered prostitutes with periodical health control.

Our findings of a low seroprevalence for HBsAg and high for Anti-HBs suggests that the female prostitutes and their clients are not at increased risk for Hepatitis B infection. Also, only one false-positive case for human immunodeficiency virus among female prostitutes showed us that HIV infection is still not epidemic in Turkey, in high-risk population.

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