

## Research Article

# HBsAg frequency in carriers applying to the public health laboratory

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**SUMMARY.** Hepatitis B virus infections are one of the world's major health problems. Parenterally transmitted HBV can be found mainly in blood, but less frequently in bodily fluids such as saliva, semen, sweat, and tears, and transmission can occur percutaneously. For this reason, it is important to investigate HBsAg in public health carrier screening tests. Material and methods: In this study, HBsAg frequency microparticle ELISA (Vitros 3600, Ortho-Clinical Diagnostics) on serum samples taken to the Ministry of Health Afyonkarahisar Public Health Laboratory for screening porters of employees in the sector such as food, cleaning and tourism between September 2011 and March 2012. It was investigated by method. Samples with a positive reaction were verified by running the same kit a second time. Results and data were evaluated retrospectively. Results: Of a total of 1,961 porters, 311 (15.8%) women, between 18 and 65 years of age, were included in the study, 1,096 of the porters were eaten (56.0%), 312 were tourists, determined to be working in the cleaning (4.0%) sector and 470 (24.0%) of them were new hires. HBsAg positivity was found in 39 (1.9%) carriers, five of whom were women. It was determined that 32 (82.0%) of the HBsAg-positive porters were working in the food sector, 4 (10.3%) worked in the cleaning sector, and 3 (7.7%) were new hires. Conclusion: Most of the epidemiological studies on hepatitis B in our country show that intra-family or intra-community horizontal transmission of HBV in childhood and adolescence is at the forefront. In addition to parenteral applications, bodily fluids such as saliva, sweat, and tears are also prominent in horizontal community transmission. For this reason, monitoring for HBsAg in carrier screening is important in public health terms. (Journal of Viral Hepatitis 2012;18(1):57-9).

**Keyword:** HBsAg, Porter, Seroprevalence

## A. INTRODUCTION

Hepatitis B virus (HBV) infection, which is common worldwide, is a global public health problem with approximately 378 million carriers (Franco et al., 2012). There are about 3-5 million HBsAg carriers in Turkey (Duman et al., 2009). The clinical importance of HBV stems from both its cause of fatal acute infections and its association with chronic diseases (chronic hepatitis, liver cirrhosis, and liver cancer). Based on the HBV carrier rate, the world is divided into regions of high, medium, and low endemicity. Consequently, the Middle East, some Eastern European countries and the Mediterranean basin are considered medium endemic areas with a rate of 2 to 8% (Franco et al., 2012). Although HBsAg seropositivity shows regional differences in our country, it is 3.4% in western regions and 8.0% in eastern and southeastern Anatolia (Mehmet et al., 2005). The hepatitis B virus is mainly transmitted by the parenteral route. In addition, it can be transmitted percutaneously (any situation in which the integrity of the skin is impaired) or by contact of blood and infectious body fluids (such as semen, saliva) with the mucosa. Sex with the infected partner, injection drug preparation team, etc. Intravenous drug use in which materials are shared such as sharing, birth from an infected mother, contact with the infected person's blood or open wound, exposure to HBV

from a needle stick or stab wound, or with the infected person's razor, razor, nail scissors, or toothbrush. It can also be transmitted by sharing materials that can come into contact (Aşılamaşı, 2009). Infectious HBV is found in high concentrations in blood and serum. However, other bodily fluids such as semen and saliva are also infectious (Aşılamaşı, 2009). HBsAg-positive people, as well as people with chronic HBV infection, are potentially infectious. Because HBV maintains its vitality on surfaces at room temperature for at least 7 days and contamination occurs through contact with contaminated surfaces (Shepard, 2006). In this study, I aimed to investigate the frequency of HBsAg in serum samples taken from those who applied to the Afyonkarahisar Public Health Laboratory for porter screening.

## B. METHOD

Included in this study were carriers working in sectors such as food, cleaning, tourism, and new recruits who applied to the Afyonkarahisar Public Health Laboratory of the Ministry of Health for routine screening of porters between September 2011 and March. 2012. HBsAg was investigated in serum samples taken from porters using the microparticle ELISA method (Vitros 3600, Ortho-Clinical Diagnostics). Samples with a positive reaction were verified by running the same kit a second time.

## C. RESULT AND DISCUSSION

A total of 1961 porters, 311 (15.8%) women, aged 18 to 65 years, were included in the study. It was determined that 1096 of the porters (56.0%) were working in the food sector, 312 (16.0%) in tourism, 83 (4.0%) in the cleaning sector and 470 (24.0 %) were new recruits. . HBsAg seropositivity was detected in 39 (1.9%) carriers, (Shepard et al., 2006) of whom were women. It was determined that 32 (82.0%) of the HBsAg seropositive carriers were working in the food sector, (Aşılamaşı, 2009) (10.3%) were working in the cleaning sector and 3 (7.7%) they were new recruits (Table 1).

**Table 1 Distribution of positive HBsAg carriers by occupational group and sex**

	HBsAg positive woman	HBsAg positive men	total
Food (n=1096)	4	28	32
New entry (n=470)	-	3	3
Tourism (n=312)	-	-	-
Cleaning (n=83)	1	3	4
Overall (n=1961)	5	3. 4	39

Laboratory tests within the scope of the gatekeeper test are performed in public health laboratories. In addition to laboratory examinations within the scope of the porter examination, HBV screening is also carried out for those who work in the tourism, cleaning sectors, especially those who work in the food sector, and those who are newly hired to work in these sectors. For this, the positivity of HBsAg in carriers is investigated.

The global epidemiology of HBV infection is divided into 3 categories based on the proportion of the population that is seropositive for HBsAg: high, moderate, and low endemicity (Custer et al., 2004). Our country is in the region of medium endemicity (2-8%) in terms of HBsAg seropositivity. Although HBsAg seropositivity shows regional differences in our country, it averages 3.4% in western regions and 8.0% in eastern and southeastern Anatolia (Mehmet et al., 2005). Gurol et al (2006) reported that HBV seropositivity was 4.1% in a study they conducted on blood donors between 1989 and 2004. In several studies that investigated HBsAg seroprevalence in our city located in the western region of our country, it was found that the seropositivity rate was between 1.3-8.7%. Altindiş et al. (2001; 2006, 2011) in healthy blood donors from our city 1999-2000; In their studies between 2001-2005 and 2001-2010, they found that

the frequency of HBsAg was 8.7%, 1.9% and 1.3%, respectively. Yilmazer et al. (2004) found that the frequency of HBsAg was 2.9% in a study carried out between 2000 and 2003 in healthy pregnant women in our city. Demirturk et al. (2006) found that the prevalence of HBsAg was 6.6% in healthy individuals who attended our city's university hospital for routine health check-ups between 2002 and 2004. In our study, HBsAg seropositivity was 1.9 %, according to the data. of studies carried out in various healthy groups in our city. Göz et al. (1994) found HBsAg seropositivity to be 6.7% in the janitor scan they performed on a food factory employee in Ankara in 1994. On the other hand, Cengiz et al. (1998) found HBsAg seropositivity to be 3.8% in a 1998 study of staff working in a bank canteen. Decline in HBsAg seropositivity over time. It can be attributed to the habitual practice in a group, taking protective measures.

#### D. CONCLUSION

As a result, it is seen that HBsAg positivity has decreased in recent years, and it is similar to our study, both in our region and in our country. This result can be explained by the implementation of protection measures against HBV.

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