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Hepatitis B is a Serious Health Problem in Some Parts of Iran; Sistan and Baluchestan Province

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Chronic Hepatitis B Virus (HBV) infection affects approximately 350 million people worldwide and the majority of infected peoples are living in China and Taiwan (1). Iran is located in the intermediate to a low-endemicity area of HBV prevalence (2). Hepatitis B virus infection is the main cause for liver cirrhosis and hepatocellular carcinoma in Iran. Recent studies from Iran showed that the prevalence rate of HBV infection has decreased significantly and it is a reflection of HBV vaccination of infants and high-risk groups during 20 years in Iran (3-8).

In the previous studies, it was estimated that over 35% of Iranians have been exposed to the HBV and around over 5% of the general population in Sistan and Baluchestan Province were HBsAg- positive (9). A recently published study from Sistan and Baluchestan (rural and urban areas) has shown that the prevalence rates of HBsAg and HBcAb are 3.38% and 23.58%, respectively (10). The rate of HBV infection in Sistan and Baluchestan is higher than other parts of Iran, except Golestan Province (11). Approximately 25% of general population in Sistan and Baluchestan had previous exposure to HBV and 3.38% are HBsAg carriers. In the multivariate analysis, age, addiction, and marital status were independent risk factors for HBV seropositivity. Older subjects and married individuals had higher probability of HBV seropositivity. Age is a common risk factor that almost is reported in all of seroepidemiologic studies of HBV infection (12-14). The reason is that the risk and cumulative frequency of high-risk behaviors increase with age and consequently increase the likelihood of HBV infection. However, it seems that age, addiction and intrafamilial transmission are major determinants of HBV infection in general population of Sistan and Baluchestan. In another study from Zahedan City, overall seroprevalence of HBsAg reported to be 2.5% (15). In this study, the enrolled study group was chosen from urban area (Zahedan City). It means that the rural populations are at higher risk for acquiring HBV infection in this province.

In a cross-sectional study from Sistan-Baluchestan, data were collected from the total number of 454 HBsAg-positive cases and 1817 members of their family, the prevalence rates of HBsAg and HBcAb-positivity among household members were 19.3% and 51%, respectively (16). Importantly, the mothers of index cases had the highest prevalence of HBsAg-positivity compared to their spouses who had the lowest proportion (53.2% vs. 8.4%, $P < 0.001$) (16). Intrafamilial and addiction are major routes of HBV transmission in this province (10). Chronic HBsAg carriers in this province can be a reservoir for transmission of HBV infection through close contacts, sharing needles or nosocomial interventions and they are a significant threat to the public health. A study in blood donors in Zahedan has shown that some risk factors, such as receiving dentistry services, hospital admission, living with HBsAg-positive cases and addiction are the main risk factors for acquiring the infection among young people (17).

Following the HBV neonatal vaccination in Iran and in some other Middle East countries including Bahrain, and Kuwait, which all reach over 80% of the population as part of their Expanded Program on Immunization (EPI), it is expected that by now the prevalence of HBsAg carrier rates in general population in these countries decreased to fewer than 2% (13). In recently published data from different parts of Iran has shown the rate of 2% or less for HBsAg-postivity in general populations of Kurdistan (5), Kermanshah (4), Qom (18), Amol (19), Chaharmahal and Bakhtiari Provinces and Cities (20).

In conclusion, If we like to stop the viscous cycle in transmission of HBV infection in Sistan and Baluchestan Province, we should employ some strategies to control HBV infection, such as assurance of the identification of all HBsAg-positive women and all exposed infants receive Hepatitis B Immunoglobulin (HBIG) and 1st dose of HBV vaccine w/in 12 hours of birth, as well as assurance

of completion of 3 doses of the HBV vaccine and postvaccination testing of exposed infants.

Combination of hepatitis B and HBIG cannot guarantee successful prevention, as at least 3% of infants will still acquire the infection (21). We should be assured that all susceptible household and sexual contacts are vaccinated against HBV infection. Higher seroprevalence of HBsAg in rural areas should motivate us to be more active in these areas and we should try to decrease the main risk factors and change them to safer with more education and follow-up. Although, the conclusions and plans of the new viral hepatitis prevention board are commendable, they should be expanded to include region of the country where the control of hepatitis B still needs much additional external help.

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