

Prevention, control, and management of HBV infection among pregnant women in China: from a life-cycle perspective

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Hepatitis B virus (HBV) infection is a global public health problem, causing a high disease burden worldwide.^[1] As a country previously with a high burden of hepatitis, about 70 million people in China are infected with HBV now, and mother-to-child transmission (MTCT) is still a predominant mode of HBV infection in China.^[2] Preventing mother-to-child transmission is the key to eliminating HBV infection, and standardized management of HBV-infected pregnant women and their newborns can effectively cut off the mother-to-child transmission.^[3] Neonatal hepatitis B immune globulin and hepatitis B vaccine can effectively reduce neonatal HBV infection in infants of HBV-positive pregnant women. Peripartum antiviral prophylaxis after 28 pregnant weeks is proved to be highly effective at reducing the risk of HBV (MTCT).^[4] Furthermore, controlling hepatitis B infection in pregnant women not only reduces the risk of transmission within the family and vertical transmission from mother to child,^[5] but also might reduce the risk of adverse pregnancy outcomes.^[6] Therefore, understanding the epidemiological characteristics of HBV infection in pregnant women in China and better regulating the prevention, diagnosis, and treatment of this population is of great significance for realizing the goal of “eliminating viral hepatitis as a major public health threat by 2030” proposed by World Health Organization (WHO).

Based on recent data from the first nationwide observational study on HBV infection among pregnant women in China, the prevalence of HBV infection among pregnant women in China continued to decline from 2015 to 2020.^[7] Data were obtained from the National Integrated Prevention of Mother-to-Child Transmission of HIV, Syphilis, and Hepatitis B (iPMTCT) Program. From 2015 to 2020, a total of 90.87 million pregnant women in 2853 counties of China were tested for HBV, of which about 5.6 million tested positive for HBV infection (defined as a

positive outcome for hepatitis B surface antigen). The prevalence of HBV infection among pregnant women decreased from 7.30% in 2015 to 5.44% in 2020, which is at the moderate epidemic level defined by WHO.^[7] It reflected the effectiveness of comprehensive prevention and control measures, mainly hepatitis B vaccination for newborns, in reducing the prevalence of HBV infection among adults in China.^[7]

Compared with 2015, the prevalence of HBV infection among pregnant women in eastern, central, and western China all decreased, from 8.72% to 6.04% (a relative decline of 30.73%) in eastern China and from 6.76% to 4.93% (a relative decline of 20.07%) in central China. In the west, it dropped from 6.40% to 5.43% with a relative decline of 14.48%. The regional gap also narrowed, and the prevalence of HBV infection decreased in most provinces (90.30%) and counties (76.96%) from 2015 to 2020.^[7] The study suggests that provinces with a relatively high burden of HBV infection should be given more investment in health resources and more attention in the future.

This is the first study on the status quo and trend of HBV infection among pregnant women in China at the national level, which is of great significance.^[7] The results provide important basic data for understanding the current burden of hepatitis B among pregnant women in China and realizing the goal of eliminating hepatitis B. The findings also prove the great achievements of hepatitis B prevention and control in China over the years. The results of this study provide scientific evidence for China to better achieve the 2030 goal of eliminating hepatitis B as a public health threat proposed by WHO.

How to achieve the WHO 2030 goal of eliminating the public health threat caused by hepatitis B on time is a

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global common concern.^[1,2] From the perspective of life-cycle management, countries can integrate existing public health and medical services to establish a comprehensive prevention and control system covering the whole life cycle of HBV infection prevention, screening, diagnosis, and treatment.^[2,7] For example, the integration of the National Free Pre-Pregnancy Health Examination Project and the iPMTCT Program provides a unique opportunity and management platform to better achieve the goal of eliminating hepatitis B by 2030. Through this platform, we can recognize the HBV infection in reproductive women and their family members at risk in the early stages of the disease. The life-cycle management of HBV prevention and control could be implemented in positive families, that is, prevention and treatment management of HBV infection and disease is carried out from pre-pregnancy, during pregnancy, infancy, childhood, adolescent, child-bearing age, and old age, to achieve the goal of reducing the incidence and mortality of hepatitis B infection, and contribute to China's achievement goal of eliminating the public health threat posed by hepatitis B by 2030.

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Conflicts of interest

None.

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