

Hepatitis B: An International Public Health Concern

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Biochemistry 118: Genomics, Bioinformatics, and Medicine

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June 1, 2004

It is estimated that about 350 million persons worldwide and 1.25 million persons in the United States are infected with hepatitis B virus (HBV) (Lok 857). Individuals who have the disease may develop cirrhosis of the liver and liver cancer, which kill about one million persons each year (WHO). This potentially fatal liver disease is transmitted by body fluids such as blood and serum, and is usually transmitted before birth from mother to baby, during sexual contact, and through the improper use of injection devices. There is a vaccine available to prevent chronic infections in persons who have hepatitis B that has been shown to be 95% effective, however the vaccine will not cure chronic hepatitis B (WHO Vaccinations).

Despite the efforts of groups such as the World Health Organization, the Global Alliance for Vaccines and Immunization (GAVI), and the Global Fund for Children's Vaccines to make available the hepatitis B vaccine to children in the poorest countries, hepatitis B continues to be the ninth most common cause of death worldwide. Hepatitis B is a world health problem, with over 70% of carriers living in Asia and the Western Pacific, and the highest incidence of the disease occurring in China, where the infection rate is as high as 20% in some areas (WHO Vaccines). Hepatitis B as a major public health concern will be discussed, with particular emphasis on China and its attempt to control the disease relative to its efforts controlling HIV/AIDS, in addition to the impact of international political influence on the development of prevention programs.

Although millions more persons are infected with hepatitis B (an estimated 60% of China's 1.3 billion people) than are infected with HIV/AIDS (an estimated 840,000 HIV carriers in China), a law exists to protect persons infected with HIV/AIDS patients, but not to protect those infected with hepatitis B. In 2004, China amended its 15-year-old law on contagious disease prevention and control that allowed forcible isolation of HIV/AIDS

patients. Previous to the law, policemen were allowed to force HIV/AIDS patients into isolation wards, and the rights of AIDS patients were limited when it came to residency, employment, education, and marriage. This practice fostered an environment where employers would discriminate against those with the virus, even though the modes of transmission were not as strong as for other communicable disease. The new law would help to end bias against HIV/AIDS patients applying for work or to school (Reuters).

China has made great strides both socially and politically as a result of this amendment however, discrimination against those infected with hepatitis B is an even greater social concern, and may contribute to higher rates of infection by discouraging those with the infection to seek treatment. Laws in China mandate a strict pre-employment screening including medical check against carriers of the HBV virus. HBV carriers are screened out among those prospective employees for governmental jobs, even if they score extremely high on the civil servant exams. In addition, many factories and companies do not accept carriers of HBV, even many international companies with branches in China. There are cases of students as young as kindergarten age that are rejected from schools because they are infected with HBV, and this is common at the university level as well. Media depicts HBV as very serious and easily transmitted from person to person, even though the virus is not as strongly transmitted as other diseases. This fosters the same public fear and consequently social discrimination, as did the law that allowed forcible isolation of HIV/AIDS patients, especially when HBV carriers apply to kindergarten, school and marriage (Asian Labour News).

Why has China invested so much into making the public aware of, and protecting citizens with HIV/AIDS, but not protected its citizens from the backlash—both physically and politically—of having a virus as devastating as Hepatitis B? Perhaps the answer lies in the

extent of international media attention on the outbreak of such diseases as HIV/AIDS and Severe Acute Respiratory Syndrome (SARS). For example, in 2003 former U.S. president Bill Clinton emphasized the need for an established entity in China to lead the fight against HIV/AIDS by “comparing the 800 deaths from the SARS outbreak to the 25 million who have died of AIDS so far. He said SARS was a wake-up call because of its strong negative impact on the economy.” (People’s Daily Online). Other officials emphasized the importance that a committee under the State Council was appointed specifically for coordinating events related to hepatitis B. It was not long after China made the headlines that citizens with HIV/AIDS became protected under the law.

It is true that the Chinese government has made some effort to combat hepatitis B infection by providing hepatitis B vaccine free to the 20 million children born every year in its country (Kane 468). Without protection against discrimination, however, HBV carriers will continue to live a pitiful life in their attempt to hide that they are sick. Carriers may be forced to cheat to pass a medical check in order to keep a job, or spend a lot of money on treatment that has not been proven to work, and even more sadly, suffer from the virus physically because if they seek treatment they will be discriminated against. Writers for the Asian Labour Organization described the people as “...suffering physically from the virus and spiritually from the man-made discrimination, this is a group of people living in a dark corner abandoned by the government and the society (Asian Labour News).”

In addition to infected individuals in constant fear of facing discrimination, another obstacle that limits China in its attempt to combat the spread of hepatitis B is ensuring that all its citizens are informed about the importance of the vaccination. China has made great strides in preventing its citizens from developing liver cancer and other liver disorders,

however, even with the new free vaccine program in place, there are many who are left unvaccinated and are at risk because vaccination is required before infection to prevent disease. These include individuals in rural areas who might not have access to a health setting that offers the vaccination in time, and so-called “high-risk individuals” who may not have the means to pay for a vaccination (WHO Vaccines).

Thus, China still has many issues to address as it implements its vaccination program, however, one cannot undermine the advantage of allocating its available Hepatitis B vaccination resources to babies who are just born. In addition to making the vaccination routine, China essentially guarantees the prevention of disease later on as an adult through this program. This is in contrast to when the vaccine first became available in 1982. Initially it was generally recommended for “high-risk” individuals, such as homosexuals, heterosexuals who had more than one partners, health care workers, ethnic groups who had high rates of infection, hemophiliacs, and only infants whose mothers were carriers for the virus. This strategy worked to protect individuals, however, communities were not achieving long-term protection, which was key to lowering rates of infection in the future. For example, 80% of the vaccination went to health care workers, who were a “high-risk” group, however they only made up about 5% of hepatitis B cases (Kane 466). The vaccinations were not being distributed in an effective and economical way.

After a few years of the “high-risk” strategy, it became clear that a program was needed to introduce the vaccine into countries, especially developing nations where the infection was most prevalent, at an affordable price. Individuals such as Dr. James Maynard at the US Centers for Disease Control and Prevention (CDC), formed the International Task Force on Hepatitis B Immunization (ITFHBI) in order to work toward ensuring that every child was

vaccinated, even babies born at home. They worked with individuals in Korea to make available the technology to produce the hepatitis B vaccine there, and eventually were able to bring the price of the vaccine down to where it could be introduced into developing nations. Babies in countries such as Senegal, the Gambia, China, Alaskan Natives, and American Samoa had the opportunity be immunized. As a result, the prevalence of carriers in cohorts that were immunized went from 8-15% to a less than 2%. It was also found that routine hepatitis B vaccination was one of the most “cost effective interventions in public health” (Kane 467). Thus, although China’s strategy may not cover every high-risk group, their current program is a good strategy for control of the disease in the long-term.

The concept of, or rather the *necessity* of vaccinating individuals as early as possible, especially as babies, has been central to the discussion of this major global health concern. What justification *is* there to recommend not only universal hepatitis B vaccine, but also vaccine for adolescents and adults not participating in risky behavior? One might question whether public health is over-stating the risk of cancer resulting from hepatitis B, or even whether chronic hepatitis B carriers in the U.S. go on to develop chronic, active hepatitis B. Although the importance of vaccination should not be undermined, some studies do suggest that some individuals with one form of hepatitis B, where the HbeAg(+) antigen spontaneously transforms to the antibody to HbeAg (anti-Hbe positive form), may have “...a favorable outcome associated with improved patient survival.” (Naoumov 308). The World Health Organization mentions that HBV DNA and HbeAg “may disappear if viral replication ceases or if mutations occur that prevent the synthesis of the viral precore protein precursor of HbeAg” (WHO Department Communicable Disease). Thus, perhaps individuals who are skeptical about the need for such investment into public awareness and mandated vaccination

have some justification, however, a plethora of other evidence indicates otherwise. Those individuals might consider other startling evidence from the World Health Organization:

About 90% of infants infected during their first year of life and 30% to 50% of children infected between one to four years of age develop chronic infection. The risk of death from HBV-related liver cancer or cirrhosis is approximately 25% for persons who become chronically infected during childhood. (WHO Vaccinations)

Such evidence outweighs the chance of the minority who may end up not developing signs of cirrhosis or liver cancer. Furthermore, regardless of one's personal stance on the natural course of the disease, the fact that we live in a mobile society with individuals constantly immigrating from and emigrating to new countries, concern for the spread of infectious disease becomes more prevalent as well. In the US, 99.3% of Americans are immigrants or their descendants. Screening of those individuals in addition to vaccination and treatment at an affordable cost are of utmost concern in these cases. Chronic hepatitis B continues to be one of the most common causes of death in the world (Stauffer 879).

Returning to the situation in China, where it is estimated that there are over 100 million carriers, one must speculate how this number might have been reduced had government officials taken action earlier (WHO Department Communicable Disease). The best chance to combat the disease is by vaccinating early and by avoiding high-risk behaviors. Treatment is available for those with hepatitis B, however, it is not always successful. It is also important to prevent infection of hepatitis B by making individuals aware of the disease, its risks, and its potentially fatal consequences. Essential to the success of that awareness is by protecting those individuals who may have the virus or currently suffer from its consequences; this makes the difficult path to global prevention and treatment a reality.

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