

The Impact of HBV Infection and Barriers to HBV-related Care in Asian Americans

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Abstract

Hepatitis B virus (HBV) infection is one of the major global public health problems. The prevalence of HBV infection is very high in Asian Americans (ASAMs), accounting for more than 50% cases in this country. Many of these individuals may not be aware of this infection, due to under utilization of HBV screening and community education. A high incidence of HBV infection has also been associated with lower knowledge and access to hepatitis B care in ASAMs. Studies have identified many health provider-, patient-, and resource-related factors that contribute to barriers of HBV care in this special population. Understanding these will help us in developing multiple approaches to effectively reduce the disparity and improve the outcomes of HBV infection in the ASAMs.

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Key Words: *Hepatitis B virus (HBV), chronic hepatitis B (CHB), hepatitis B treatment, Asian Americans (ASAMs)*

Prevalence of HBV Infection in Asian American (ASAMs)

Hepatitis B virus (HBV) infection is one of the major human diseases worldwide.¹ The global epidemiology of HBV infection was thoroughly reviewed by Drs. Hwang and Cheung in this special issue². Based on the data from the second National Health and Nutrition Examination Survey (NHANES II), it is estimated that approximately 1.25 million or 0.4% people carry chronic HBV infection in the United States.³ However, a significantly higher prevalence of HBV infection in Asian Americans (ASAMs) was reported by many studies. Depending on the study population, it varies from 6.1% to 14.8%.⁴⁻⁷ A recent study indicated that in 2,238 reported individuals with HBV infection in San Francisco, 84% were ASAMs and 80% were foreign-born.⁸

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The population of ASAMs has significantly increased in the US in the last 3 decades from 1.7 million in 1970 to 14.9 million in 2006.⁹ According to the reported incidences of HBV infection that varies from 6.1% to 14.8%,⁴⁻⁷ approximately 0.9 to 2.2 million individuals could have been affected in this group alone. Based on these data, it is estimated approximately 2 million people in the US are infected by HBV.^{10,11}

The Health Care Burden of CHB and Inadequate Access to HBV Care in ASAMs

CHB has been associated with cirrhosis and HCC. In our retrospective single center study of 172 ASAMs with CHB, stage 3-4 fibrosis was present in 34% of the 56 patients who underwent a liver biopsy.¹² The incidence of HCC has significantly increased in the past 2 decades in the US and worldwide.¹³ The same epidemiology pattern was also seen in ASAMs.^{14,15} Studies also demonstrated that HBV infection is the most common underlying liver disease for HCC in ASAMs.^{16,17} An early study reported that during a mean of 3.3-year followup of 207 ASAMs with CHB, 16 (8%) patients died from liver failure, variceal bleeding, or sepsis. Eight (4%) cases developed HCC.¹⁸ These data indicated poor outcomes of CHB can result in poor outcomes in ASAMs. On the other hand, significant advance has been made in HBV treatment in the past decade.^{19,20} An effective HBV treatment has been reportedly to effectively slow down or reverse liver damage even in those with HBV-cirrhosis and long-term effective HBV treatment may reduce risk for HCC development.^{21,22}

Although the CHB is at a much higher rate in ASAMs and proper management can reduce the morbidity and mortality of this disease, the access to HBV-related care remains inadequate in this special population. For instance, in a large cohort of ASAMs with new diagnosis of chronic HBV infection through voluntary screen, nearly one-half to two-thirds reported unawareness of this condition previously. In 925 ASAMs screened for HBV in New York City, 51% of them have lived in US for > 10 years and 57% reported not having been screened for HBV infection, but 14.8% confirmed HBV infection.⁴ Seventy-seven percent of these individuals also reported lacking health insurance.⁴ Another study reported that in 2,238 cases with CHB in San Francisco, only 32% reported to have been referred to a gastroenterologist or hepatologist.⁸ According to a recent report by Institute of Medicine (IOM),²³ Asian Pacific Islander Americans (APIAs) account for more than 50% of

Americans who are living with chronic HBV infection and the prevalence of chronic HBV infection in APIAs is as high as 15% in some studies. However, almost two-thirds of chronically infected APIAs are unaware of their infection status because they have not been tested for HBV, a unique challenge to health care system in this country.

Barriers to CHB Care in ASAMs

The possible barriers of hepatitis B care in ASAMs can be provider-, patient-, and resource-related.²⁴ These three types of elements can be interacted each other. Understanding these barriers will help us in better strategizing and delivering appropriate care to this special population and eventually reduce health disparity of CHB in ASAMs.

Provider-related Barriers. Physician's recommendations play a critical role in delivering health care, including HBV screening. However, large studies indicated only 33-44% of the surveyed individuals remember that their physicians provided such recommendation.^{25,26} Lai et al. assessed provider's knowledge on HBV screen by a survey study. Of the 91 surveyed providers, 61% were residents, 65% self-identified as Caucasians and 23% as Asians. When asked about which test to order for HBV screen, 30% did not include HBsAg test. A higher knowledge on HBV was associated with increased HBV screen.²⁷ A recent study assessed HBV screening of Asian Americans in the primary care setting. It was found that although only approximately 1/3 of the patients received HBV screening, chronic HBV infection was confirmed in 7.7% of those who underwent HBV screening.²⁸ Likewise, the providers with knowledge that screening for HCC will reduce HCC-related mortality are more likely to screen for HCC in patients with risk for HCC.²⁹

A thorough discussion of HBV treatment goals between physicians and patients is highly recommended by HBV treatment guidelines.^{19,20} However, a survey study of the 301 patients with CHB, including 50% of ASAMs and 30% of Caucasians,³⁰ showed only 37% of these individuals indicated having discussed HBV treatment goals with their physicians.

Patient-related Barriers. According to several survey studies, only 35%-67% of the surveyed ASAMs reported having had HBV tests.²⁵⁻³³ In those at-risk for HBV infection, only approximately one-third reported having received hepatitis B vaccination.^{32,33} A relatively low knowledge about hepatitis B may serve as one of the most contributory factors for a lower access to hepatitis B care in this special population. Studies reported ASAMs who showed better hepatitis B knowledge are more likely to pursue screening than those who showed poor hepatitis B knowledge.^{25,26} The reported level of hepatitis B knowledge seems variable significantly in different ethnic groups of the ASAMs.^{25,26,32,33}

Culture background, beliefs, and attitude to hepatitis B and health care have also been associated with the patient-related barriers of hepatitis B care in ASAMs,^{25,26,32,33} Majority of ASAMs are foreign born with low English fluency, or even non-English speaking, and those ASAMs with language barrier tend not to have HBV screening.^{25,26} Those who believe that "blood tests can deplete the energy of our body" or "cooling herbs and teas can cure hepatitis B" will not likely to pursue HBV screening and hepatitis B care.

The feeling of shame and the worry about the "Face" as well as community opinions are also very important influential factors in Asian cultural setting. For instance, a fear of being recognized as a hepatitis B infected person also stops some of the ASAMs receiving HBV screening and seeking HBV-related care. Family structure and psychological pressure may also have impact on seeking health care in this population. Family burden usually serves as an excuse for ASAMs not prioritizing their health care.

It should be noted that socioeconomic status may serve as another important factor of the patient-related barrier in hepatitis B care in ASAMs. Older age has been reported to be associated with a lower HBV screening.³⁴ Younger and less educated men tend not to have HBV screening.³⁵ Although the household income seems not affecting HBV screening,^{25,26} those who have a lower household income have lower level of HBV knowledge.³¹ Concerning about the cost of hepatitis B care was also reported in some of ASAMs.

Resource-related Barriers. It was reported that 77% of ASAMs who received free HBV screening in New York City reported lacking health insurance,⁴ although these data may not well represent the entire group of this special population. Higher rates of poverty are also reported in ASAMs. For instance, the poverty rates for ASAMs increased from 9.4% or 1.2 million in 2004 to 11.1% or about 1.4 million in 2005.³⁵ Without a regular source of care, those patients are very unlikely to be screened or receive treatment even after diagnosis of hepatitis B.

Other studies indicated ASAMs may have underutilized the resources. For instance, of the 736 reported CHB cases in San Francisco, 80% were foreign-born ASAMs and only 32% have been referred to gastroenterologist or hepatologist, and only 21% received HBV treatment.⁸

Another important resource needed in ASAMs communities is the source of education. Due to culture and language barriers in ASAMs, the source of the education should be tailored to their preference. A study indicated important roles of the video tape and print materials in their mother language in improving HBV knowledge in this special population. It was suggested these education materials should focus on barrier-specific counseling.³⁶ These

approaches have been reported to improve HBV knowledge in ASAMs.³⁷

Possible Approaches to Reducing the Barriers to CHB Care in ASAMs

Many published articles, including updated guidelines of Center for Disease Control and Prevention (CDC) and American Association for the Study of Liver Diseases (AASLD), and Keeffe's algorithm, provide updated research results, clinical trial data, and recommendations in HBV screen, clinical follow up, and management.^{19,20,38} These should be integrated into our daily practice as the standard care and are widely available through many continuous medical education programs.

Understanding the cultural background in certain ethnic group is very valuable to delivering effective health care. The cross cultural training has been demonstrated an efficient way to reduce cultural barriers. The cross cultural training programs should be established to help those who are not experienced in cross cultural skill, so they can overcome the cultural barriers between them and their patients. Cross cultural training has been shown to be one of the critical components to enhance the effectiveness of health care in minorities.³⁹ This is especially true and important in delivering health care to ASAMs because the majority of these people are the first generation immigrants with various cultural and language barriers. Any misinterpretation, faulty assumptions, or mishandling of their encounters with individuals and groups viewed as difference to their own backgrounds and experiences may negatively impact on the care access of ASAMs.⁴⁰

As discussed above, the individual's access to HBV screen and care is well associated with their knowledge on this disease. Hence, promotion of patient and community education will be critical in reducing the barriers of hepatitis B care in ASAMs. The importance and effectiveness of community education on HBV has been well demonstrated by a clinical trial that confirmed significantly improved rates of HBV vaccinations after HBV education.⁴¹ There have been growing efforts by many foundations and local health promotion organizations on improving public awareness of hepatitis B in the past few years.

HBV education should focus on highly targeted groups and communities. Studies also reported that ASAM individuals of new immigrants, low socioeconomic and educational status, or perception barrier to health care tend to have a lower level of knowledge on hepatitis B and not to receive HBV screen. Thus, HBV education should be specifically focused on these individuals and communities.

Types of approach to HBV education should be well planned depending on the special needs in a community. It is well known, ASAMs consist of a group of much diversified populations and cultures. Thus, the education programs

should be developed with the community's involvement and based on well understanding of the certain groups' culture and needs.

The contents of HBV education should also be carefully designed based on the social culture background of the APIA communities. Because English could be a common language barrier to HBV education, several popular languages in ASAM communities have been used for HBV printed education materials. Considering relatively lower educational status in ASAM immigrants, the contents of the HBV education should be edited to as simple as possible, so the key messages about HBV can be easily understood.

Patient to patient communication has been an effective way in health promotion. Liver support group has been widely and successfully used in many programs, especially liver transplantation programs. Concerns exist in some ASAMs on being known to have HBV infection may be avoided by others. Thus, our HBV education should also encourage and train some ASAM patients to voluntarily and comfortably join our efforts on promoting HBV education and care.

A low socioeconomic status and several other factors have been associated with lower knowledge of and access to hepatitis B care. Approximately 77% of ASAMs who received free HBV screening in New York City reported lacking health insurance.⁴ Thus, it is necessary to develop an accessible and affordable, or even free HBV screen and care to those who have no health insurance. Perhaps, multi resources should be considered for this approach, such as public funding, private donation, and industry support.

Under utilization of the resources is common even in some ASAMs who have health insurance. Thus, it is necessary to build up a support system to help these individuals in obtaining proper and timely hepatitis B care. Such efforts should be collaborative in multi levels and aspects, and based on the priority of the community needs. Using their mother languages, these resources of education should not only focus on the knowledge of HBV disease, but also encourage for HBV screen and vaccinations, and serve as a useful source to guide them seeking for hepatitis B care.

Recently, the national institute of diabetes and digestive and kidney diseases (NIDDK) has established hepatitis B clinical research network. The recent IOM report further emphasized the need to increase funding, resources, and reduce the barriers to CHB care in APIAs.²³ Hopefully, these efforts will result in improvement of HBV-related health care in this special population.

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