Hepatitis B Interventions in East- and Southeast-Asian Communities in the U.S.

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Keywords:
Pacific-Asian, Asian American, Hepatitis B, San Francisco Hep B Free Campaign, white supremacy

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Hepatitis B Interventions in East- and Southeast-Asian Communities in the U.S.

Alizarin Menninga

Preface

After reading scholar Alondra Nelson’s *Body and Soul: The Black Panther Party and the Fight Against Medical Discrimination*, a book that focuses on the link between sickle cell anemia and the political resistance to community-based health initiatives, I became interested in other diseases that are culturally, racially, and ethnically specific. I realized within my own community that hepatitis B is common. Both my mother and grandmother have had hepatitis B. As a Biology major and an American Studies major, I have sought ways to challenge racial injustices in health and medicine in the U.S. I present that Asian American and Pacific-Asian communities in the U.S. have specific needs to be addressed in the prevention and treatment of hepatitis B. In this paper I encourage an openness to the question: Can there be a disciplinary focus on this intersection from elementary education to med school?

As noted, this paper seeks to delve into the study of Asian Americans’ relationship with hepatitis B. I reference medical vulnerability in relation to white males because the health field is largely comprised of and bases their information on this group. However, “Asian American” is an incredibly broad term that encompasses people from Pakistan to Korea, and from recent migrants to people whose families have been in the U.S. since the 1800s. In the introduction to *The Very Inside: An Anthology of Writing by Asian and Pacific Islander Lesbian and Bisexual Women*, Sharon Lim-Hing describes how the term “Asian” signifies groups of people from South Asia or East Asia, two very different cultures, depending on context [1]. In essence, it is important to name where specifically and regionally these people have their origins. She says, “In Canada, “Asian” has come to mean East Asian, and South Asians must struggle against invisibility” [1]. By not specifically naming origins, some feel marginalized and their culture is seen as invisible.

In my research on hepatitis B, I encountered resources for “Asian American and Pacific Islanders” or “API” with hepatitis B [2]. However, I did not encounter any research on hepatitis B that included “indigenous Samoans, Fijians, Hawaiians, Guamanians, or Polynesians” [1]. Though “Asians” and “Pacific Islanders” have been grouped together since 1990 for political simplicity, it is important not to essentialize vastly different groups of people. In the research I conducted for this paper, authors universally used the term “Asian American” to refer to foreign-born Asian people who have migrated to the U.S. I, however, will be adopting Nilda Rimon-te’s term “Pacific-Asian” to refer to people who speak an Asian language, carry epistemologies of Asian cultures, and are often foreign-born. I will use “Asian-American” to refer to Asian-heritage people who have grown up “American” [3]. In cases where the source from which I retrieved the information renders the distinction indistinguishable, I leave the term “Asian.”

Acronym Glossary:

- HBV  Hepatitis B virus
- CHB  Chronic hepatitis B
- HCC  Hepatocellular carcinoma
- SFHBFC  San Francisco Hep B Free Campaign

Introduction

Over 350 million people are infected with CHB worldwide [9], and over seventy-five percent of these hepatitis B virus (HBV)-infected people are Pacific-Asian [10]. Over 2 million people in the U.S.
are living with chronic hepatitis B, with Pacific-Asians accounting for half of these cases [16] [17]. Though less than 1% of the general U.S. population is positive for the hepatitis B antigen (testing antigen-positive indicates HBV infection), 7-14% of Vietnamese Americans, 9-14% of Chinese American immigrants, and up to 28% of Laotian and Hmong American young adults are HBV antigen-positive [10]. Particularly, Vietnamese American males have eleven times the risk of developing hepatocellular carcinoma—the cancer associated with untreated chronic hepatitis B infection—than that of white American males [9]. A study of Chicago’s Chinatown found that 11.1% of Chinese Americans were HBV carriers [18].

Untreated actively replicating HBV can develop into liver cancer. In the U.S., cancer is responsible for 1 in 4 deaths [11]. Liver cancer ranks among the top fourth of lethal cancers for Asian/Pacific Islander males, and the top seventh for Black, American Indian/Alaska Native, and Hispanic males [12]. Fifteen to twenty percent of people with actively replicating HBV will develop cirrhosis within five years, increasing chances of the disease evolving into hepatocellular carcinoma (HCC) given that 70-90% of HCC patients have cirrhosis (scarring of the liver in late stage liver disease) [13]. People with CHB have a risk of 15-25% throughout their lives of death from HCC [14]. About 500,000 people worldwide die from cirrhosis and HCC annually due to chronic infection; about 40,000 more people die annually of acute hepatitis B [15].

HCC is one of the fastest growing cancers in the U.S., and is the second most deadly cancer determined by survival time [14]. While non-Latino white males had an incidence of 3.3 per 100,000 for liver cancer by 1992, Korean American males experienced rates of 24.8 per 100,000, and Vietnamese Americans at 41.8 per 100,000 [10]. Forty percent of Asian males with CHB die of cirrhosis complications or HCC [13]. However, up to two thirds of people with CHB may not know that they are HBV positive [9]. This discrepancy is further exacerbated as 60% of CHB patients report being asymptomatic [14]. These statistics alone show that there is a need to understand the disease and its effects on the Asian-American and Pacific-Asian communities.

Hepatitis B can be differentiated from other types of hepatitis by its prevalence, modes of transmission, late-stage manifestation, prevention, and treatment (Table 1). There are five different hepatitis viruses from different taxonomic families, which primarily replicate in the liver [4]. Three of these viruses—hepatitis B, C, and delta viruses—are primarily transmitted through blood and other bodily fluids [4]. Hepatitis A and E viruses are often fecally transmitted [4]. In 2012, there were an estimated 3,050 cases of acute hepatitis A virus infection, 18,760 acute hepatitis B cases, and an estimated 21,870 acute cases of hepatitis C in the United States [5]. Hepatitis B stands out as the leading cause worldwide of liver failure and liver cancer [6]. Hepatitis A is also a contagious liver infection, but does not cause chronic infection like HBV.

The outcome of an HBV infection is determined by an individual’s immune response. In most cases of adult exposure to hepatitis B, the immune system will eradicate the virus without treatment and result in immunity to the virus [7]. However, a small portion—about 2%—of infected people become virus carriers [8]. If the immune system response is not sufficient and the virus resides in the infected individual for over six months, the person is considered to have chronic hepatitis B (CHB).

Nature of Viral Infection

The hepatitis B virus enacts its pathology when it infects liver cells [19]. Its genomic DNA enters the liver cell’s nucleus through pores, where it is converted into covalently closed circular DNA (cccDNA). In the nucleus, this cccDNA is transcribed into many viral mRNAs. Upon leaving the nucleus for the cytoplasm, these mRNAs are either translated into viral proteins or packed into nucleocapsids to be converted back into viral DNA. This new capsule of HBV then is released out of the cell, along with hepatitis B surface protein (Figure 2). This protein is detectable as HBSAg in the serum in acute or chronic infection; its detection is used as a diagnostic tool.
<table>
<thead>
<tr>
<th>Virus</th>
<th>Transmission causes</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis A</td>
<td>• Fecal-oral</td>
<td>• Fever</td>
</tr>
<tr>
<td>Single-stranded RNA</td>
<td>• Contact more intimate than “casual” with infectious person</td>
<td>• Malaise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Appetite loss</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Diarrhea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nausea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Abdominal discomfort</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dark-colored urine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Jaundice</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>• Bodily fluid contact Vertical transmission</td>
<td>• Jaundice</td>
</tr>
<tr>
<td>Partially double-</td>
<td>• Household and sexual contact</td>
<td>• Dark-colored urine</td>
</tr>
<tr>
<td>stranded DNA</td>
<td>• Subcutaneous needle use</td>
<td>• Fatigue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nausea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vomiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Abdominal pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chronic liver infection resulting in cirrhosis or cancer</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>• Unsafe drug injection</td>
<td>• Fever</td>
</tr>
<tr>
<td>Single-stranded RNA</td>
<td>• Inadequate sterilization of medical equipment</td>
<td>• Fatigue</td>
</tr>
<tr>
<td></td>
<td>• Unscreened blood</td>
<td>• Appetite loss</td>
</tr>
<tr>
<td></td>
<td>• Less common: Sexual and vertical transmission</td>
<td>• Nausea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vomiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Abdominal pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dark-colored urine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Grey-colored feces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Joint pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Jaundice</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chronic liver infection leading to cirrhosis or cancer</td>
</tr>
<tr>
<td>Hepatitis D</td>
<td>• Occurs among people already infected with HBV</td>
<td>• Greater risk of liver failure</td>
</tr>
<tr>
<td>(delta hepatitis)</td>
<td>• Blood contact</td>
<td>• Quicker progression to cirrhosis</td>
</tr>
<tr>
<td>Single-stranded</td>
<td></td>
<td>• Increased chances of liver cancer</td>
</tr>
<tr>
<td>circular RNA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis E</td>
<td>• Fecal-oral (drinking water)</td>
<td>• Jaundice</td>
</tr>
<tr>
<td>Single-stranded RNA</td>
<td>• Infected blood transfusion</td>
<td>• Appetite loss</td>
</tr>
<tr>
<td></td>
<td>• Vertical transmission</td>
<td>• Hepatomegaly</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Abdominal pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nausea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vomiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Risk of obstetrical complications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Occasionally leads to liver failure</td>
</tr>
</tbody>
</table>

**Table 1. Comparative transmissions and symptoms of the five types of hepatitis.** Information from the WHO [50].

*Basis for Diagnosis*
Figure 2. HBV life-cycle. Figure taken from Urban et al. [19]: “The replication cycle of hepatitis B virus”.

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Positive hepatitis B status is determined by the presence of HBsAg in the serum of an infected person, which can be detected in high levels [20]. The hepatitis B e Antigen (HBeAg) is secreted by the nucleocapsid HBV gene, and is a marker of viral replication that indicates high levels of HBV. Patients are determined to have chronic hepatitis B when they test positive for the HBsAg virus antigen for over six consecutive months. In HBV cases, seroconversion refers to when a patient yields an HBeAg-positive response to testing, and responds to HBeAg-positive CHB treatment [21]. The median age of seroconversion in Pacific-Asian patients—who are primarily infected at birth—is about 35 years old [21]. Seroconversion happens spontaneously at about 5-10% per year once a person is infected with the virus [21].

Among other viral markers, serum levels of both HBV DNA and HBsAg rise in cases of CHB [19]. The HBsAg level is an important diagnostic parameter of HBV positivity. Persistent HBsAg levels are associated with increased risk of HCC.

The increase of serum alanine aminotransferase (ALT) after HBeAg seroconversion increases the risk of cirrhosis and HCC [13]. Ninety percent of neonatal HBV infections and 25-50% of infections in young children who were infected when they were infants develop into chronic hepatitis B [9]. People with acute hepatitis B can present with nausea, abdominal pain, and jaundice. However, they may also be asymptomatic—especially when they are infants and children [10].

Transmission

HBV is transmitted through contact with tissues deeper than the skin of an uninfected person with infectious blood or body fluids. Examples of contagious events include sexual intercourse with infected persons, intravenous use with an infected needle, and childbirth from an HBV-positive mother. HBV can also be transmitted through sharing semi-invasive utensils such as over-filing at nail salons [22].

HBV is transmitted horizontally through sexual contact, blood transfusion, medical utensils, and personal-use objects like razors and toothbrushes [10]. For Pacific-Asian people, transmission most commonly occurs vertically from a mother to their baby at childbirth or is acquired at a young age [10] [16]. Vertical transmission can occur both through the placenta and during the act of childbirth [23]. Overall, the risk for transmission to family members is high [24].

Screening

HBV screening is recommended for people of all walks of life, particularly all pregnant people.

<table>
<thead>
<tr>
<th>Medication</th>
<th>Trade Name</th>
<th>HBV Activity</th>
<th>HIV Activity</th>
<th>Selection of HIV Resistance Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamivudine</td>
<td>Epivir-HBV (100 mg) Epivir</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Adefovir</td>
<td>Hepsera</td>
<td>Yes</td>
<td>No&lt;sup&gt;a&lt;/sup&gt;</td>
<td>No</td>
</tr>
<tr>
<td>Entecavir</td>
<td>Baraclude</td>
<td>Yes</td>
<td>Partial</td>
<td>Yes</td>
</tr>
<tr>
<td>Emtricitabine</td>
<td>Emtriva</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Telbivudine</td>
<td>Tyzeka</td>
<td>Yes</td>
<td>Partial&lt;sup&gt;b&lt;/sup&gt;</td>
<td>No</td>
</tr>
<tr>
<td>Tenofovir</td>
<td>Viread</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<sup>a</sup> = anti-HIV activity at higher doses; more potent against HBV
<sup>b</sup> = No in vitro activity observed against HIV, but HIV RNA decline reported

**Table 2. Additional Uses of HBV Antivirals.** From University of Washington [51]: “Antiviral Agents with Activity Against HBV and HIV”.

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and foreign-born people from areas endemic with hepatitis B [10]. Hepatitis B screening and diagnosis can lead HBV+ people to receive antiviral therapies and decrease their chances of developing HCC [9]. However, physicians who serve Pacific-Asian communities have reported reluctance to conduct HBV screening because their patients may be culturally or financially prevented from seeking treatment [11]. A survey of Chinese females in Seattle found that only 35% had been screened for HBV, though they are part of a high-risk population [6]. Ma et al. completed a study in which they surveyed over 2,000 Pacific-Asians from the East Coast. They found that those who believed they had agency to prevent cancer and those who used the internet are more likely to get screened for hepatitis B [25]. This study demonstrates that prevention awareness leads people to seek HBV screening. Furthermore, a study of Asian versus white American patients in San Francisco demonstrated that in most instances, Asian ethnic groups are significantly more likely to be screened for HBV. The figures show that 65% of Chinese-speaking Chinese patients are screened, while only 21% of white Americans are screened [6]. Though it seems as if this discrepancy is a positive indicator with at-risk communities being screened more than others, it still follows that this is not a rate of 100% and that Chinese-speaking patients for the most part are not screened enough.

HBV can be prevented with a vaccination. HBV vaccination is universally recommended in the U.S. for children zero to eighteen-years-old, health care workers, dialysis patients, people with multiple sex partners, injection drug users, men who have sex with men, and sexual/household partners of people with hepatitis B. Interestingly, it is the only vaccination administered to newborns (compared with the hepatitis A vaccine which can only be administered to children when they are older than 12 months old) since the virus can linger in newborns and manifest in lifelong chronic illness [26]. The vaccine has a 95% prevention efficacy rate [27].

The low rate of Asian American vaccination is due to particular barriers. One study gathered information from a diverse group of Asian Americans that showed that few family members encouraged one another to get vaccinated or tested [28]. Another study proposed that barriers to vaccination among Chinese in New York City included not having the time to seek vaccinations, not knowing where to get screened, not having a primary care provider, and not speaking the same language as their physician [29]. However, a study of Chinese Americans in Chicago found that nearly all respondents understood that HBV is preventable by vaccination, and having a primary care physician led Chinese patients to have higher rates of vaccination [18] [29].

Treatment

Ninety-five percent of infected adults and older children can become hepatitis B-immune after clearing the infection from their system without treatment [9]. Those who do not clear the virus after six or more months of acute hepatitis B develop chronic hepatitis B, an incurable condition. However, there are pharmaceutical treatments that slow viral replication and thus disease progression, including Interferon-alpha, Lamivudine, and Adefovir dipivoxil. Antiviral treatments suppress HBV and reduce hepatic inflammatory response in HCC as well as necroinflammatory activity in CHB. Lowering the quantity of virus in an infected person’s system can prevent cirrhosis, liver failure, and HCC [35] [13].

Clearing detectable HBsAg and/or seroconversion is the closest to a cure that currently exists in the treatment of hepatitis B [30]. Currently, there are seven different FDA-approved antivirals to treat CHB [31]. These antivirals are interferon-alpha, pegylated interferon-alpha, lamivudine, adefovir (dipivoxil), entecavir, telbivudine and tenofovir (disoproxil fumarate) (Table 2) [47]. These antiviral treatments, however, are prescribed to fewer than 50,000 people per year, or less than 2.5% of estimated cases in the U.S. [14]. Long-term entecavir treatment has shown improved liver histology in Asian American patients [32]. Both entecavir and tenofovir could be effective medications for “Asians” because of their low reported side effects—including liver disease development—and high safety ratings, but due to their underutilized nature, they are not supplied as
often as they should be [33].

Another antiviral treatment is lamivudine. This is an oral antiviral treatment that suppresses the virus, reduces necroinflammatory activity, and improves liver fibrosis histology and liver function [13]. Side effects such as viral resistance can develop from lamivudine use. Hepatitis flares can arise resulting in liver failure and death, and decrease in liver function leading to decompensation or cirrhosis [13].

Like most viruses, there are practice guidelines that determine a subset of patients who can receive treatment for CHB. This group of people generally includes those with biochemical and histological markers of moderate to severe liver disease [34]. However, official guidelines are changing as people with higher potential risk factors become increasingly illuminated through research. Additionally, people whose infections progress rapidly can be eligible for treatment [14]. Even given the changes to the scope of those treated, Pacific-Asian patients who are not fluent in English have a lower chance of receiving adequate treatment [6]. Pacific-Asian patients have barriers beyond language, including financial cost and reported side effects (liver and bone-density damage) when given the treatment [16]. Consequently, HBV+ Asian Americans who are English speakers and thus can better communicate with their physicians to learn about effective antiviral treatment often do not utilize the service because of their fears of the treatments’ side effects [16]. Although both of these groups have similar concerns, there are also discrepancies in treatment of foreign-born and U.S.-born Asian people in the U.S. Carabez et al. performed a study showing that 70% of U.S.-born HBV+ respondents were receiving treatment, with 90% having received prior treatment. Less than 40% of foreign-born HBV-infected Pacific-Asians of the same study were receiving treatment at the time of survey, and only 50% had received past treatment [28]. Additionally, health care providers reported immunizing and screening people who could afford the cost of care, at the risk of missing HBV+ people who could not afford all screening tests [22].

Cultural Responses

There are no studies that look at disparities in initiation of antiviral therapy and therapy completion in HBV+ Pacific-Asians or Asian Americans [28]. However, surveyed health practitioners reported a list of cultural reasonings that affect treatment for Pacific-Asian and Asian Americans. First, a Hwang et al. study of Chinese, Korean, and Vietnamese communities in Houston noted doubts about Pacific-Asians following through with their prescribed HBV treatments [22]. Some Pacific-Asian patients have been reported to not return to a clinic after being diagnosed with HBV, as they do not always understand what the doctor is telling them about hepatitis [22]. However, their choice not to return to their physicians may stem from their reluctance to disagree or argue with a physician. This can result in them not taking medications as prescribed [25]. Secondly, in a study of Vietnamese people in Seattle to identify Vietnamese cultural, historical, and sociopolitical contexts for knowledge of HBV, Burke et al. situated Vietnamese communities’ understandings in histories of arriving in the U.S. as refugees and receiving much poorer health-care than white Americans [48]. Participants stated beliefs linking energy balance to good health, and thus imbalance to susceptibility to liver illness. Many respondents also associated diet, strength, blood and energy circulation, and peace of mind with internal disorder-prevention including liver disease.

Finally, complementary and alternative medicine (CAM) is an important cultural factor that determines treatment adherence and efficacy. These practices include acupuncture, vitamins, energy medicine, and herbs. Medical practitioners that serve Pacific-Asian communities observed that their patients are not able to afford antiviral treatment for HBV, but that CAM is inexpensive, available, and culturally sanctioned [22]. Though physicians have been known to be wary of CAM, believing that some may interfere with allopathic treatments, some feel they must show respect for CAM to validate their patients’ cultural backgrounds and beliefs. Even when CAM was not prescribed, Tokes et al. found that Chinese, Korean, and Viet-
namese communities of New York metropolitan, San Francisco/Bay, and Los Angeles/Orange County areas reported treating their CHB with lifestyle and diet changes because of the fear of possible side effects from pharmaceutical treatments [16]. Though 88% of their respondents understood that CHB could cause liver damage, over a third stated reluctance to being on long-term pharmaceutical therapy due to concerned over side effects.

**Stigma**

There is a stigma associated with HBV that stems from white supremacy, xenophobia, and essentialization. Stigma has been defined as “an adverse social judgment resulting in exclusion, rejection, blame or devaluation. Stigma can damage self-esteem, adversely affect family members and social and economic status, and can lead to discrimination and self-discrimination” [36]. People who are stigmatized in any way are generally disempowered from defending themselves. Power structures that dictate norms in our society use stigmatized differences to render people with these differences lesser in value [37]. Thus, any resistance against stigma is a form of resistance against the power structures that create hierarchies of worth.

Lai et al.’s study found that medical health professionals incorrectly associated HBV with HIV+ people, men who have sex with men, and intravenous drug users—even when they knew that people from China are at greater risk than white Americans for contracting HBV [6]. These different assumptions that are related only because they are elevated risk statuses for HBV inherently associate Chinese people with traits that are stigmatized in both U.S. and Chinese society, and further essentialize Chinese (and other East Asian peoples who are often confused with Chinese) people with societally-deemed deviant behavior. Specifically concerning higher-risk communities of color, like Pacific-Asians in the United States, breaking the stigma is a step against racial oppression and xenophobia. There is a high mental stress burden for individuals with HBV, no doubt contributable in part to community stigma [38].

Within the Asian American community, stigma surrounding HBV has been generated by fear of contagion. Over 60% of surveyed Chinese Americans in Chicago believed that HBV carriers put others at risk and should subsequently avoid contact with others [18]. Over a third of Chinese American respondents stated that HBV carriers perceive that they bring trouble to their families, and a fifth of respondents believed HBV carriers may bring harm to others [18]. Additionally, over 20% of respondents in the same study indicated that HBV carriers may be discriminated against in professional and academic settings both in China and in the U.S. [18]. A study of HBV+ university students in Taiwan demonstrated that 70% of survey respondents were afraid to tell their friends that they were carriers [39]. About 70% were also afraid of contracting HBV from a friend carrier [18]. A survey of HBV+ Chinese immigrants in Canada found that about a third were ashamed about having HBV, and over half would not discuss their infection with family and friends [40].

Stigma is lowered by increased knowledge of HBV, and being more familiar with HBV [18]. Researchers have found that people with a family member who is HBV-positive have fewer negative perceptions and fears of HBV contagion [18]. Understanding of stigma and fears can help determine appropriate interventions and educational tools to alleviate HBV-related stigma [18]. Furthermore, stigma on the end of doctors and on the side of Asian American patients themselves needs to combatted. By disclosing HBV statuses, fear of spreading HBV could be erased and the stigma could be overcome [18].

Misinterpretation of HBV is attached to this stigma. Many researchers have studied the myths surrounding HBV in Pacific-Asian communities in the U.S. to point toward potential knowledge interventions in these high-prevalence groups. One of the studies led by Ma et al. found that only 23% of Vietnamese people in Philadelphia and New Jersey understood HBV could be spread through sexual intercourse. Meanwhile, another study by Lee et al. found that only 19% of their sample of Korean immigrants in the Rocky Mountain area understood
this mode of transmissibility [44] [45]. On the contrast, Coronado et al. conducted a study with Chinese people in Seattle which found that 65% of their respondents knew that HBV was preventable by vaccination, while a full 95% of the Chinese in Chicago that Cotler et al. surveyed understood this means of prevention [46] [18]. Similarly, only 38% of Chinese respondents in Seattle knew that HBV is a lifelong affliction, while 75% of surveyed Chinese in Chicago understood that HBV is a chronic infection.

Carabez et al. backed up previous studies by showing that gaps in information about contracting, transmitting, chronic infection, and prevention of HBV were high for foreign-born Pacific-Asians. For example, many do not know the difference between HCV and HBV [28]. In a survey of low-income Chinese Americans in New York City, the majority of respondents did not know that HBV could be transmitted through sexual intercourse [18]. In a survey of Chinese Americans in Chicago, researchers found that the majority believed hepatitis B could be spread through food or eating utensils, which is untrue [18] (Table 1). In the same study, however, nearly all participants understood that HBV could be spread by blood and in the process of childbirth. This discrepancy demonstrates that some modes of transmission are more commonly known than others, and that many do not understand HBV transmission routes well [18]. Though these misconceptions may be exemplary of white Americans as well as Asians, the U.S. as a whole suffers only 0.1% HBV prevalence. Asians in the U.S. on the other hand embody much higher rates, like Vietnamese American adults who suffer up to 14% prevalence of chronic hepatitis B [48].

Education and Resources for HBV+ Individuals

There is not enough awareness on HBV as it specifically affects Asian Americans, giving rise to a need to educate on the virus. The Hepatitis B Foundation exemplifies this need through publishing personal narratives of experiences with HBV. In one of their examples, a young “Asian American” doctor knew he was hepatitis B positive though asymptomatic [41]. When tested, medical professionals assessed, due to lack of knowledge, that their patient would not have to be screened for liver cancer until he reached middle aged. “Asians,” the author broadly states, have a much greater risk of developing liver cancer because they are often infected early on in life. People infected early in life will manifest the cancer when the person is about 30 years of age. The medical practitioners based their knowledge on statistical experiences of white Americans, but people whose parents are Asian immigrants are at disproportionately greater risk than people of European descent. This doctor died from liver disease in his early 30s because of his own and others’ unawareness of differences in the manifestation of hepatitis B and its development into cancer for white people and Asian-descended people.

One way to strengthen the knowledge around this disease is through education. As demonstrated in Cotler’s survey, Chinese Americans with higher education levels (i.e. high school graduates) and who spoke better English had a better understanding of HBV [18]. Younger respondents also were positively associated with having a greater understanding of HBV [18]. Information, education, and support could come from health care providers in a unique position to inform patients of follow-up steps once they test positive for HBV [28]. Furthermore, educational campaigns launched through Asian-targeted community and media venues such as Asian-language newspapers, churches and temples, and TV and radio stations are criti-
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ical to developing culturally appropriate education and community buy-in to HBV education [22].

Physicians

The role of a physician is important in teaching about HBV. Health care providers who have a better understanding of HBV generally have higher rates of screening their Chinese patients for HBV [6]. However, some physicians are unclear about disease transmission among higher risk groups, HBV’s natural history, its risk factors, and interpreting test results. Hwang et al. recommend continuing medical education to address these informational gaps [22]. For example, in a study of medical health practitioners in San Francisco, a full 30% of survey respondents did not report conducting the correct test to screen for HBV (HBsAg blood test for this antigen to the virus) [6].

Liver specialists, acupuncturists, gastroenterology physicians, hepatology internal medicine, family practice, and OB/GYNs all play a similar role in HBV-related diagnosis, treatment, and care for Pacific-Asians and Asian Americans [22]. Pacific-Asian physicians are essential to providing HBV-outreach, education, and advocacy to communities of Asians in the U.S. [22]. Providers who speak an Asian language also have higher rates of screening their Asian patients for HBV. Their shared background contributes to their understanding of the greater risk for HBV [6].

Language barriers between physicians and their Pacific-Asian patients must be broken down in order to educate about screening for the virus and treating/living with the virus. Without this step there could be an increase HBV prevalence [22]. Primary care physicians that serve Pacific-Asian and Asian American communities must also take patients’ concerns about side effects into account when counseling them on HBV treatment, comparing the medications’ side effects with the possibly life-threatening long-term risks of CHB [16].

Community-Based Approach

Targeted campaigns to screen and vaccinate Pacific-Asians and Asian Americans against HBV, in partnership with local health departments, hospitals, and community organizations, could decrease the HBV burden in Pacific-Asian and Asian American communities. Community-based screening reaches low-income and not formally- or classroom-educated communities, people without health insurance, people who otherwise must surpass barriers to health care providers and health systems, and non-English speaking communities (Figure 3) [9]. Community-based screening implemented in communities with prevalent disease stigma bypasses the usual inaccessibility of health care systems’ preventative measures [9]. The community-based screening measures followed in a study conducted by Robotin et al. included effective community engagement, targeted cultural values, and low-cost or free follow-up and antiviral treatment for diagnosed HBV+ people. An example of such is the San Francisco Hep B Free (SFHBF) campaign.

The goals of SFHBF included generating awareness among health professionals of importance about testing and vaccinating Pacific-Asians and -descended people against HBV, encouraging
primary care providers to conduct regular testing and vaccination for HBV, and guaranteeing treatment for people with CHB [42]. This campaign included media strategies which encouraged Pacific-Asians and Asian Americans to screen, vaccinate, and treat hep B as well as to teach and garner support from mainstream society and institutions on HBV [42]. The SFHBF campaign ran on volunteer contributions, narrative communication about HBV, and culturally relevant outreach to Asian communities in the U.S. [42]. In this way, the SFHBF campaign successfully transformed HBV from stigmatized and taboo to a community-wide health and wellness cause [42]. Through work in the media, SFHBF helped to alter HBV associations from misconduct (sexual or including drug use) and “bad people” to focus on medical discourse and social empowerment to affect change [42]. The campaign achieved its aims through collecting personal narratives of HBV from public figures like California Assemblywoman Fiona Ma and news anchor Alan Wang [42]. Importantly, SFHBF focused on prevention, encouraged collective action, and respected the diversity of Asian American community and cultures [42].

Conclusion

Throughout this paper I assert that routine screening of all Pacific-Asians and Asian Americans for HBV is an indispensable measure toward fighting CHB and HCC [43]. In doing so, Asian-descended people in the U.S. must be assessed on their health history on an individual national origin basis. Groups must be treated as hailing from different places and distinct cultures. Additionally, conducting a national study of how financial barriers affect screening and treatment of HBV of Pacific-Asian and Asian American patients could affect health policy changes to devote more resources to meeting the guidelines ascribed to these high-risk groups [22] [10]. To complement screening with teaching, physicians’ treating HBV+ patients must become more educated on the nuances of this virus.

It is a problem that treatment and vaccination are presented and created for white Americans with class-privileged backgrounds. Addressing HBV based on the protection of only one class of people, immigrants and non-native English speakers—though they most need the interventions—are marginalized and do not achieve the proper interventions for hepatitis B.

Writing on disease exclusivity and stigma, Parker et al. state that “the individual framework with which [intervention research focusing on HIV and AIDS-related stigmatization] operates is simply alien to perhaps the majority of the world’s cultures” [37]. This prescription of middle-class white American norms on all research subjects undoubtedly distorts and skews the goals and possible interventions that medicine could take towards community healing. Parker et al.’s critique is calling out white supremacy without naming it. By naming it here, I hope to begin an intersectional dialogue on how to best treat non-upper-middle class, white, cis-gendered, English-speaking, able-bodied, heterosexual men (the dominant group in our society and world) as well as inspire truly community-based surveys that include narratives and testimony from affected communities on how they can be best treated.
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Asian Americans Chronically Infected with Hepatitis B. *Journal of Cancer Education, 29*, 3, 522-528.


