Measuring Hepatitis B-related Stigma: A Systematic Review of Questionnaire-based Studies

Jaconiah Shelumiel T. Manalaysay, MA,[1,2] Diego Nathaniel D. Mina,[2] Brian Arth M. Urbano,[2] Cathlyn B. Geraldo,[2] Josephine D. Agapito,[2] Janus P. Ong, MD,[2] Joana Ophelia M. Real[2] and Hilton Y. Lam, MHA, PhD[2]

[1]Department of Sociology and Behavioral Sciences, College of Liberal Arts, De La Salle University Manila
[2]Institute of Health Policy and Development Studies, National Institutes of Health, University of the Philippines Manila

ABSTRACT

Background and Objective. Stigma remains a profound barrier to public health, particularly in managing diseases such as Hepatitis B, which is highly prevalent in hyperendemic regions like the Philippines. The social stigma associated with such health conditions can severely limit access to care and hinder adherence to treatment, exacerbating the overall disease burden. Despite the critical impact of stigma on health outcomes, there is a notable gap in the systematic evaluation of the tools used to measure stigma related to health conditions like Hepatitis B. This study aims to fill this gap by reviewing existing instruments for their methodologies, reliability, and validity to inform the development of a refined tool tailored to the Philippine context.

Methods. A systematic search was conducted across six databases, including PubMed, Cochrane Database of Systematic Reviews, Open Grey, DissOnline, Philippine Health Research Registry (PHRR), and Health Research and Development Information Network (HERDIN), following PRISMA guidelines. The search strategy focused on identifying quantitative and mixed-methods studies using questionnaires to measure HBV-related stigma and discrimination. Studies published between January 1, 1992, and December 31, 2023, were considered. The selection process involved screening for duplicates, reviewing titles and abstracts, and performing a full-text review based on predetermined eligibility criteria.

Results. The initial search yielded 1,198 articles, with 24 duplicates removed. After title and abstract screening, 28 articles were considered for full-text review, resulting in 17 relevant articles in the final analysis with 15 unique instrumentations. The majority of studies employed cross-sectional designs (n=8), with a significant concentration in Asian countries (n=11), indicating a regional focus in HBV stigma research. The review identified a range of questionnaire methodologies, but most studies lacked specificity regarding the type of stigma measured. The Likert Scale was the most commonly used measurement tool, yet few studies provided cut-off values for stigma levels. Validity and reliability testing was reported in 12 articles, including pilot studies, Cronbach's alpha, and factor analysis.

Conclusion. The lack of a universal methodology and specificity in existing instruments underscores the importance of developing a refined tool that can accurately capture the nuances of stigma and discrimination associated with HBV. The urgent need for standardized, reliable, and culturally sensitive questionnaires is evident, underscoring their importance in developing effective public health strategies and improving treatment outcomes for individuals living with HBV, especially in the Philippines.

Keywords: social stigmas, chronic Hepatitis B, state-of-the-art review

eISSN 2094-9278 (Online)
Published: September 30, 2025
https://doi.org/10.47895/amp.v59i14.9745

Corresponding author:
Jaconiah Shelumiel T. Manalaysay, MA
Institute of Health Policy and Development Studies
National Institutes of Health
University of the Philippines Manila
Pedro Gil St., Ermita, Manila 1000, Philippines
Email: jtmanalaysay@up.edu.ph
ORCiD: https://orcid.org/0009-0001-8208-1814

INTRODUCTION

Stigma, as a social phenomenon, is a complex construct that encompasses a range of negative attitudes, beliefs, and behaviors directed toward individuals or groups based on perceived differences. It is characterized by processes of labeling, stereotyping, separation, status loss, and discrimination, which collectively contribute to social exclusion and marginalization of affected individuals.[1,2] Within sociological inquiry, stigma emphasizes its role as a social construct shaped by cultural norms, societal values, and power dynamics – highlighting that stigma is not an individual experience but a collective societal issue that influences health outcomes and access to care.[3,4]

The characteristics of stigma as a social construct can be understood through its multi- dimensional nature. Stigma manifests in various levels, including individual, interpersonal, community, and structural levels, each contributing to its pervasive impact on health.[5] Scholars have argued that stigma can arise from societal beliefs about certain health conditions, such as infection from the human immunodeficiency virus[6,7] or mental health diagnoses[8,9], leading to discrimination and social isolation of affected individuals.[10,11] Additionally, stigma is often reinforced by cultural narratives and media portrayals that perpetuate stereotypes and negative perceptions that further entrench the stigma associated with specific health conditions.[12]

Cultural narratives, shaped by societal values and historical power structures, influence what is stigmatized and affect how stigma manifests at various societal levels. The phenomenon of stigma is fundamentally intertwined with cultural norms, societal values, and power dynamics, shaping the experiences and identities of individuals across various contexts as well as creating barriers to acceptance and equitable treatment. The relationship between cultural norms and stigma are seen in the shared expectations and rules that guide societal behavior. When an individual or group's behavior, appearance, or identity deviates from these expectations and rules, stigmatization may follow as seen in health conditions, social behaviors, tribal association, and even physical appearance.[13]

Power dynamics also play a crucial role in both the creation and perpetuation of stigma. These dynamics are often rooted in broader social hierarchies, including class, race, and gender.[14,15] By stigmatizing certain behaviors or groups, those in power can maintain social control and reinforce the status quo. Those who hold economic, social, or political power in a society often set the norms and decide what is considered acceptance or deviant. The intersection of multiple stigmatized identities leads to compounded discrimination, suggesting that stigma emerges within and is sustained by wider power disparities.[16] By stigmatizing certain behaviors within and among groups, those in power can maintain social control and reinforce the status quo – extending barriers to resources or opportunities for those who are stigmatized which further entrench power imbalances.

Societal values fundamentally contribute to shaping stigma, influencing who is deemed 'normal' and who is 'abnormal' thus marginalized. Once stigmatized, existing social inequalities are legitimized further – justifying the exclusion of certain groups based on an assumed inferiority or deviance, which is intertwined with broader patterns of discrimination. For example, Kabunga and colleagues investigate how pregnant adolescents in Uganda experience double stigma associated with their age and health condition, revealing that culture plays a central role in delivering proper healthcare services.[17] Similarly, the work of Chambers and colleagues elucidate how HIV stigma is deeply reflective of the broader societal fabric, emphasizing that stigmatization is tied to the interplay of cultural beliefs, healthcare practices, and societal attitudes.[18]

Stigma not only affects individuals' psychological and physical health by inducing stress and limiting access to resources but also shapes social interactions. Societal responses to stigma are frequently mediated through institutions, which can either reinforce or challenge stigmatizing attitudes. Further, it can lead to internalized stigma where individuals accept these negative beliefs about themselves, which can be damaging to self-esteem and personal identity.[19,20] Group interactions are also influenced as stigmatized individuals may be excluded from social or professional opportunities, while non-stigmatized individuals might reinforce stigma through their behaviors and attitudes.

Existing theory provides for a comprehensive discussion on the origins, processing, and outcomes of stigma. Sociologist Erving Goffman's seminal work on stigma provides for a foundational understanding on how stigma manifests in social interactions and the implications it has for individuals who are labeled differently. In his work, Goffman defines stigma as an attribute that discredits an individual, leading to a devaluation of their social identity.[13] With stigma sourced from physical deformities, character flaws, or tribal affiliation, he argues that stigma is not merely a personal issue but is deeply embedded in social structures and cultural narratives that dictate what is considered normal or acceptable in society.[13,21]

Furthering Goffman's work, scholars have attempted to expand how broader, macro-social forms of stigma – termed as structural stigma – may also disadvantage the stigmatized.[22] Most notable of these contemporary works are by Link and Phelan who emphasize how societal structures and institutional policies contribute to the perpetuation of stigma by creating an environment where certain groups are marginalized.[23,24,25] Structural stigma manifests through discriminatory laws, social norms, and institutional practices that disadvantage stigmatized population, thus creating barriers to access and opportunities.[26] For example, in the context of mental health, individuals may face stigma not only from their peers but also from healthcare systems that fail to provide adequate support or that perpetuate negative stereotypes about mental illness.[27,28]

Link and Phelan's structural stigma framework emphasized labeling, stereotyping, and discrimination, which collectively impact healthcare access and contribute to health disparities. Labeling is the first step in the stigmatization process, where individuals are identified based on specific characteristics or conditions that society deems undesirable. This process often involves assigning negative labels that categorize individuals as deviant from societal norms. For example, individuals with mental health conditions labeled as "crazy" or "unstable" may lead to their identification as less worthy of respect or dignity.[29,30]

Further to labeling, stereotyping involves the formation of generalized beliefs about a group of people based on the labels assigned to them.[31] These stereotypes are often negative and can include assumptions about behavior, morality, or competence, further justifying discriminatory behaviors. The loss of status can have significant psychological consequences, leading to feelings of shame, worthlessness, and a diminished sense of identity. The culmination of the stigma process is discrimination. This is where individuals are treated unfairly based on their stigmatized identity. Discrimination can manifest in various forms, including verbal abuse, social exclusion, and institutional barriers to accessing services. For example, individuals with mental health conditions may encounter discrimination in healthcare settings, where providers may harbor biases that affect the quality of care they receive.[32,33] Discriminatory actions not only reinforce the stigma but also perpetuate health disparities, as stigmatized individuals may avoid seeking care due to fear of negative treatment.

Structural stigma, through discriminatory policies and practices, marginalizes individuals and creates barriers to healthcare access, worsening health outcomes especially among marginalized populations. Recipients of stigma suffer the most profound consequences, affecting not only their psychological well-being but also their physical health and access to healthcare services. Stigmatized individuals often experience increased levels of anxiety, stress, and depression that lead to poorer health outcomes.[10,34] Furthermore, stigma can create barriers to healthcare access, as individuals may avoid seeking care due to fear of discrimination or negative judgment from immediate interactions.[35] This avoidance can perpetuate health disparities, particularly among marginalized groups who already face systemic inequalities.[3]

Fear and lack of awareness are primary drivers of stigma. This often stems from a lack of understanding about various health conditions. For instance, studies have shown that negative perceptions about people living with HIV are frequently linked to fears of contagion and moral judgments about the behaviors associated with those infected.[36,37] This fear manifests in various forms, including social avoidance and discriminatory practices against those perceived to be at risk. Similarly, lack of awareness and education also contribute significantly to stigma. When individuals are uninformed about a health condition, they are most likely to rely on stereotypes and prejudices.[38,39] Cultural beliefs can also dictate how certain health conditions are perceived and treated within communities. For instance, studies have shown that those diagnosed with diabetes or epilepsy are associated with moral failings or personal weaknesses which can lead to stigmatization.[40,41]

The consequences of stigma are profound and multifaceted, often resulting in discrimination and social exclusion. Discrimination can take various forms, including verbal abuse, social ostracism, and institutional barriers to accessing healthcare[42,43] – all leading towards a reluctance to seek medical help, further exacerbating health issues and contributing to a cycle of poor health outcomes. With regard to social exclusion, individuals who are stigmatized experience isolation from their communities, leading to a loss of social support networks.[44] This isolation can have detrimental effects on mental health, contributing to feelings of depression, anxiety, and low self-esteem.[45,46] Moreover, the internalization of stigma can lead to self-stigmatization, where individuals adopt negative societal attitudes towards themselves, further perpetuating their marginalization.[47]

Stigma associated with Hepatitis B can manifest in various forms, including perceived, enacted, and internalized stigma, each influenced significantly by the cultural context of a society. In collectivist cultures, where community values and family reputation are paramount, perceived stigma (the fear of being stigmatized if one's health status is revealed) can have profound implications. Individuals in such societies may fear the repercussions that a diagnosis of Hepatitis B could have not just on their personal lives but also on their family's standing and opportunities within their community. This fear often leads to secrecy and reluctance to seek diagnosis or treatment, perpetuating a lack of awareness and continued spread of the virus.[48]

Enacted stigma, which involves actual experiences of discrimination and prejudice, also varies between cultural contexts. In collectivist societies, an individual's illness can lead to tangible discrimination against their entire family, affecting social ties and economic opportunities. For example, families may experience ostracism from community activities or face barriers in arranged marriages, which are prevalent in many collectivist societies.[15] Conversely, in individualist societies, stigma tends to focus more on the individual, with enacted stigma manifesting through discrimination or exclusion based on the person's condition rather than its impact on the broader social network.[14]

Internalized stigma, where individuals internalize societal attitudes towards their condition, leading to feelings of shame and a decreased sense of self-worth, can also be distinctly influenced by cultural nuances. In individualist societies, this might focus more on personal failure to adhere to health norms, whereas in collectivist settings, the shame might stem from the perceived damage to family honor and communal relationships. It could be argued now that stigma, in the context of health, is a powerful and pervasive

social phenomenon that affects personal and societal health and medical initiatives. As a social process characterized by exclusion and devaluation that results from experiences of reasonable anticipation of an adverse social judgment about a person or group of persons[49], stigma affects individuals with various health conditions, including infectious diseases such as Hepatitis B.

According to the World Health Organization (WHO), approximately 296 million individuals live with Hepatitis B worldwide. While Hepatitis B is a public health concern, the presence of stigma for viral Hepatitis and liver disease results in low testing rates, low treatment rates, and therefore, is a hindrance to the elimination of the disease.[50] Internationally, it has been shown that being infected with Hepatitis B affects people beyond the physiological effects of the virus. Multiple studies had indicated loss of employment opportunities[51], denial of school admission or dismissal from an academic program[52], reluctance and avoidance in seeking information and treatment[53], and higher risk of depression and suicide[54] due to social stigma associated with people living with Hepatitis B.

With a high prevalence of chronic Hepatitis B (CHB) infection in the Philippines[55], Filipinos are susceptible to the social and psychological impacts felt beyond the damage of the disease itself. A national seroprevalence study reveals that the prevalence of HBsAg seropositivity among Filipino adults is 16.7%, with the highest prevalence among those who are 20 to 49 years old.[56] This contrasts with the rest of the Western Pacific Region and marks the Philippines as hyperendemic for Hepatitis B infection. In order to curb these rates, Hepatitis B vaccination was introduced in the Philippines in 1992, and was institutionalized for infants under Republic Act No. 10152 or the Mandatory Infants and Children Health Immunization Act of 2011. Median timely coverage of the vaccine was 90% among government clinics, 87% among government hospitals, and 50% among private hospitals.[57] Despite the availability of effective vaccines and treatments, the presence of stigma leads to the underutilization of these resources. Those living with CHB often face discrimination that can result in job loss, social isolation, severe distress, and in other cases, suicidal ideation.

In adults, several drugs have been developed for the treatment of Hepatitis B, which has been proven to reduce the clinical progression of chronic hepatitis[58], although not eliminating HBV. It is clear that Hepatitis B is a public health concern, but the efforts to resolve it via testing and treatment face great hindrances in the form of stigmatization.[59] Stigmatization is a process in which persons with a certain attribute are excluded from full social acceptance which includes professional and community-based integration.[14] This stigma exists for those infected with Hepatitis B, and can often intersect with other stigmas. This can cause potentially infected people to fear testing and may hinder people who are diagnosed from seeking treatment or further follow-up. It also leads to lost job opportunities, disruption in social relationships, and potential psychosocial distress, up to and including a risk of suicide. In his conceptualization, Goffman emphasizes the role of social context in shaping stigma, noting that individuals often engage in "covering" strategies to manage their stigmatized identities in social settings – leading to avoidance and refusal to seek medical help.[13,23,29]

Thus, addressing this stigma requires a concerted effort from all sectors of society, including healthcare providers, policymakers, educators, and communities. By tackling the root causes of stigma, creating supportive environments, and promoting inclusive policies and practices, it is possible to mitigate the negative impacts of HBV stigma. Such efforts are crucial for improving the health and well-being of individuals living with HBV, advancing public health goals, and achieving a more equitable society.

Qualitative research plays a pivotal role in capturing the cultural nuances of stigma, enabling a more profound understanding of how stigma operates within specific social contexts. By employing methodologies such as interviews and ethnographic approaches, qualitative stdies are instrumental in revealing the lived experiences of individuals facing stigma, ultimately providing insights that are often overshadowed and inadequately represented in quantitative research. Examples include Dieujuste's study that emphasizes how stigma surrounding mental illness among Haitain Americans is heavily influenced by cultural perceptions and familial expectations.[60] Similarly, Razzaq and colleagues utilize phenomenological analysis to explore the experiences of women with epilepsy which reveal themes of social rejection and the internalization of societal judgments.[61] The cultural and contextual nuances associated with stigma significantly influence healthcare-seeking behaviors. A study by Graetz and colleagues explore stigma related to pediatric cancer in diverse cultural settings, demonstrating how cultural beliefs impact care seeking behavior among families.[62] The insights garnered from qualitative research highlight the need to intricate cultural dynamics that dictate how stigma shapes the experiences of society and its members.

This systematic review was conducted as part of the project entitled "Identifying and Mapping Safe Havens from Stigma and Discrimination: Towards Elimination of Hepatitis B in the Philippines." It aimed to assess the questionnaires used by previous studies on Hepatitis B-related stigma to create a questionnaire to be used for the Philippines. A questionnaire will then be created and subjected to further review via focus group discussions before being deployed nationwide.

MATERIALS AND METHODS

Six electronic databases were utilized for the literature search conducted between January and February 2023 and updated in September 2024: PubMed, Cochrane Database of Systematic Reviews, Open Grey, DissOnline, Philippine Health Research Registry (PHRR), and Health Research and Development Information Network (HERDIN). The

selection of the six databases ensures a wide-ranging search, which covers biomedical literature, systematic reviews, grey literature, and region-specific research, capturing a broad spectrum of studies relevant to Hepatitis B stigma. This likewise ensures that publication bias is minimized. The keywords used centered around "Hepatitis B" and "stigma" or "discrimination," with modifications as appropriate per database search. These keywords were modified in accordance with the search engine of each electronic database and ensured that the search was focused yet flexible enough to capture studies using various terminology permutations. This was done as stigma research may vary across studies. Once the data were filtered and made available, the search results were uploaded to a reference manager software (Mendeley Desktop). A systematic search followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.[63] As seen in Figure 1, the search process included (1) exclusion of duplicates, (2) screening of title and abstract, (3) full-text review based on the eligibility criteria, and (4) extraction of questionnaire.

Several criteria were used in assessing eligibility of results. First, the articles should focus on quantitative and mixed-methods studies, which enables the review to concentrate on research that provides measurable and comparable data on stigma. This supports the goal of assessing and quantifying stigma levels, attitudes, and beliefs related to Hepatitis B. Second, limiting studies to those written in English and published between January 01, 1992 and December 31, 2023 strikes a balance between comprehensiveness and practicality. The start date coincides with the global recognition of Hepatitis B as a significant public health issue and the introduction of vaccination programs, while the end date ensures that the data are up-to-date. English language restrictions are common due to resource limitations that might introduce language bias. Third, by specifically focusing on studies that utilized surveys or questionnaires to investigate Hepatitis B-related stigma or discrimination, the review directly targets the measurement tools and methods, facilitating the evaluation of their effectiveness and applicability. Fourth, including studies that measure both external and internal stigma provides a comprehensive understanding of the stigma phenomenon as it relates to Hepatitis B. This distinction is believed to be vital for identifying the various dimensions of stigma and its unique impacts. Lastly, Hepatitis C and other bloodborne viruses were not considered even if the studies measured stigma or discrimination. The title and abstract of the literature were reviewed following these inclusion criteria. This decision ensures that the review remains focused on the primary objective and does not dilute its findings with incomparable and unrelated data. The methodology was also reviewed in cases where it is unsure how the stigma was measured in mixed-methods studies. An example of the search strategy used in PubMed is shown in Table 1.

Independent literature searches were also conducted. Having two reviewers independently perform the literature searches and screening processes using the specified criteria ensures a thorough and unbiased review of the literature. Independent assessments help mitigate individual reviewer bias, increasing the chances of capturing all relevant studies. This is a common practice in systematic reviews to enhance the validity and reliability of the screening process. Involving a third reviewer to reconcile conflicting results between the first

Table 1. Literature Search Strategy (PubMed)

Search number	Query	Sort by	Filters	Search details	Results	Time
8	(("Hepatitis B"[Mesh]) AND (("Stigma"[Title/Abstract]) OR ("Discrimination"[Title/Abstract]))) AND (("1992/01/01"[Date-Publication]":"2023/12/31"[Date - Publication]))		English	("Hepatitis B"[MeSH Terms]) AND (("Stigma"[Title/Abstract]) OR ("Discrimination"[Title/Abstract]))) AND 1992/01/01: 2023/12/31[Date-Publication] AND (english[filter])	258	4:28:11
7	(("Hepatitis B"[Mesh]) AND (("Stigma"[Title/Abstract]) OR ("Discrimination"[Title/Abstract]))) AND (("1992/01/01"[Date-Publication]":"2023/12/31"[Date - Publication]))			"Hepatitis B"[MeSH Terms]) AND ("Stigma"[Title/Abstract]) OR "Discrimination"[Title/Abstract]) AND 1992/01/01: 2023/12/31[Date-Publication]	273	4:28:03
6	(("Hepatitis B"[Mesh]) AND (("Stigma"[Title/Abstract]) OR ("Discrimination"[Title/Abstract])))			"Hepatitis B"[MeSH Terms]) AND ("Stigma"[Title/Abstract]) OR "Discrimination"[Title/Abstract])	316	4:24:45
5	(("Hepatitis B"[Mesh]) AND (("Stigma"[Title/Abstract]) OR ("Discrimination"[Title/Abstract])))			"Hepatitis B"[MeSH Terms]) AND ("Social Stigma"[MeSH Terms]) OR ("Social Discrimination"[MeSH Terms])	57	4:23:47
4	("Social Stigma"[Mesh]) OR ("Social Discrimination"[Mesh])			"Social Stigma"[MeSH Terms] OR "Social Discrimination"[MeSH Terms]	28,629	4:23:33
3	("Social Discrimination"[Mesh])	Most Recent		"Social Discrimination"[MeSH Terms]	14,760	4:23:22
2	("Social Stigma"[Mesh])	Most Recent		"Social Stigma"[MeSH Terms]	14,494	4:22:47
1	"Hepatitis B"[Mesh]	Most Recent		"Hepatitis B"[MeSH Terms]	66,748	4:21:47

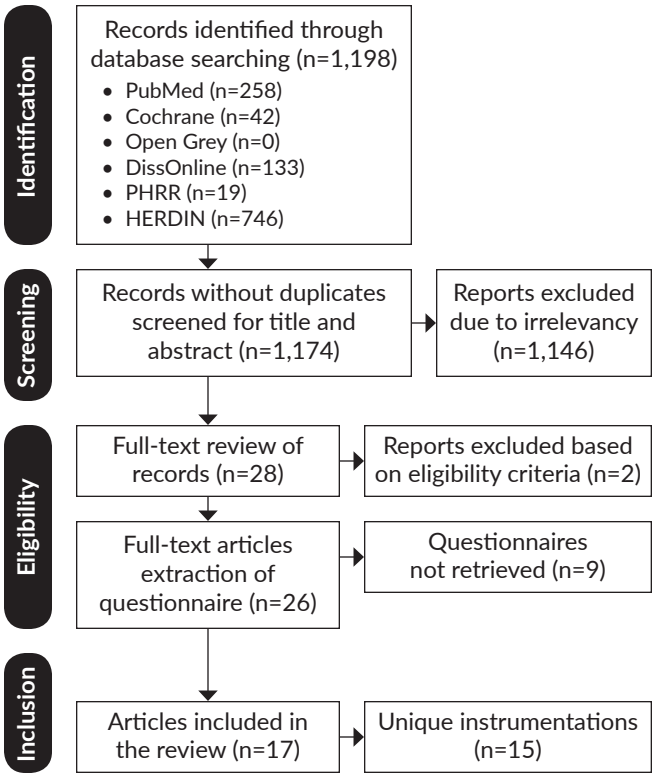

Figure 1. PRISMA flowchart of systematic review of Hepatitis B stigma and discrimination.

two reviewers serves as an essential quality control measure. This step ensures that disagreements are resolved through discussion and consensus, further reducing the potential for bias in study selection and enhancing the credibility of the review process. To allow efficient tracking and referencing of the studies throughout the review process, the reviewers coded the studies according to their metadata (author, title, year) and the questionnaire they used. This structured approach aids in systematically analyzing the literature and supports transparency and reproducibility.

In terms of data extraction, the same two reviewers independently extracted pertinent variables for the review: (1) Metadata, (2) Study Population, (3) Study design, (4) Instrument, (5) Structure of the tool, (6) Mode of administration, (7) Language of the tool during data collection, (8) Type of stigma measured, (9) Scale and scoring values, and (10) Presence of test for validity and reliability. The decision to extract the aforementioned variables is justified by the need to assess the questionnaires' methodologies comprehensively. These variables are critical for evaluating the tools' appropriateness, reliability, and validity in measuring Hepatitis B-related stigma. By focusing on these aspects, the review aims to provide a detailed analysis of the existing measurement instruments, identify their strengths and weaknesses, and highlight areas for future development. Disagreements were settled by the third reviewer mentioned previously.

RESULTS

Searches conducted between January and February 2023, as well as in September 2024, across six databases, yielded a total of 1,198 journal articles. Of these, 24 duplicates were removed. The 1,174 articles remaining were screened by the title and abstract for their relevance. Of these, 28 articles were retained, and these were subjected to a full-text review following the eligibility criteria set. Two articles were excluded because of the qualitative methods utilized by the research, while nine relevant articles did not include their respective questionnaires. Only 17 relevant articles that have available questionnaires were included in the systematic review (See Appendix for the complete list). It should be noted that while 17 relevant articles have been included in this systematic review, 15 unique instrumentations were used. Two pairs of questionnaires, the Attitudes to Colleagues with Hepatitis B Questionnaire and the Toronto Chinese Hepatitis B Virus Stigma Scale, were used by articles 10-11 and 14 and 16, respectively.

The majority of the articles employed a cross-sectional research design (n=8), but there are still a variety of research designs among the remaining such as cohort and randomized control trials. Despite this variety, five articles did not indicate the study design they utilized. Articles included in the review do not just measure levels of stigma but also use them as variables for association between other variables of interest and comparison between different population groups.

In terms of the study population of the reviewed articles, these varied considerably. The common demographic includes patients (n=7), residents and students (n=5), healthcare workers (n=3), and MSMs or men having sex with men (n=2). Despite the variety of the study population, the country in which the questionnaires were administered was mostly located in Asia (n=11), thus equating to most of the study population being Asian. Even those that are conducted outside of Asia, the demographic still includes Asian immigrants or patients.

The instruments utilized across all reviewed articles have similarities since questionnaires used by one study were modified from other studies included in the reviewed articles. The range of the number of items in the questionnaires is from 8-20 questions. The majority of these questionnaires were self-administered (n=9), with the other remaining varied between facilitated surveys (n=2) to interviews (n=2). Only one article did not indicate their mode of administration. A majority (n=10) did not disclose the language used in the questionnaire during their data collection, but the remaining varied between Chinese, Vietnamese, and English.

Likert Scale was the most commonly used measurement scale to quantify HBV stigma and discrimination (n=12). While these studies applied the Likert Scale to aggregate responses – with higher scores indicating higher levels of stigma – none provided specific cut-off values for categorizing stigma levels. To ensure measurement accuracy, 12 articles conducted validity and reliability tests, including pilot studies,

Table 2. Summary Table of Articles with Psychometric Properties

Author (Year)	Stigma Scale	Cronbach's Alpha	Validity Type	Study site
Adjei et al. (2022)	Toronto Chinese Hepatitis B Stigma Scale (TCHBSS)	0.78	Construct	Ghana
Behera et al. (2022)	Stigma Attributes of HBV Patients	Pilot study	Content	India
Cama et al. (2021	Measures of HBV Stigma and Attributes	0.71	Content	Australia
Cotler et al. (2012)	HBV Stigma Questionnaire (HSQ)	0.85	Construct	USA
Fitzpatrick et al. (2018)	TCHBSS	Pilot study	Construct	China
Huang et al. (2016)	HSQ	Pilot study	Construct	China
Le et al. (2019)	CHB-Related Stigma and Discrimination	0.71	Content	Vietnam
Leng et al. (2016)	HBV-related Discrimination	Pilot study	Content	China
Li et al. (2012)	TCHBSS	0.90	Construct	Canada
Marley et al. (2022)	Hepatitis Stigma in Primary Care Patients	0.90	Content	China
Shen et al. (2020)	TCHBSS	0.90	Construct	China
Wang et al. (2009)	Knowledge, Health Beliefs, and Self-efficacy of HBV Prevention	0.67	Content	Taiwan

pre-testing, internal consistency tests using Cronbach's alpha, and factor analysis. A summary of the psychometric properties for the 12 articles can be found in Table 2. Notably, where "not indicated" is noted in the final column of Appendix, this signifies that while the authors reported conducting validity and reliability testing, they did not specify the exact test employed.

Further, we note that there are cross-cultural variations of respondents, such as those relating to nationality and socio-economic demographics. Studies conducted in different regions showed varied levels of stigma severity and dimensions emphasized. For instance, studies in Asian study sites (n=11) often reported higher stigma levels, possibly due to stronger societal focus on health purity and family honor as compared to Western studies.

As previously mentioned, several questionnaires were adapted or modified from existing instruments to accurately reflect the specific contexts of each survey. Notably, more than half of the studies (n=9) employed a version or repetition of the following instruments: the Toronto Chinese Hepatitis B Virus Stigma Scale (n=4), the Hepatitis B Stigma Questionnaire (n=3), and the Attitudes to Colleagues with Hepatitis B Questionnaire (n=2). Multiple adaptations of the Toronto Chinese Hepatitis B Virus Stigma Scale were used in surveys conducted in Ghana, Canada, and China, and were documented in four papers (see numbers 1, 6, 14, and 16 in Appendix). Similarly, the Hepatitis B Stigma Questionnaire was applied in studies involving Chinese immigrants, Vietnamese participants in the United States, and Chinese citizens (see numbers 4, 5, and 9). Lastly, Ishimaru and colleagues utilized the Attitudes to Colleagues with Hepatitis B Questionnaire in two published papers on the Japanese work environment and nurses in Vietnam, respectively (see numbers 10-11). The remaining papers employed their own instrumentation, specifically tailored to suit the unique contexts of their study sites and sample sizes.

We take note of the cultural and geographical differences between studies. Most studies focus on Asian populations, where collectivist norms tie stigma to family reputation, whereas Western studies indicate more individual-based stigma experiences. These differences play a pivotal role in shaping the perceptions and manifestations of stigma, influencing both the lived experiences of individuals and the effectiveness of stigma reduction strategies.

In collectivist cultures, as found in many Asian populations, there is a strong emphasis on family reputation and social harmony. Individuals are often evaluated based on their contributions to the family's honor, leading to stigma that transcends personal experiences. For instance, the study by Fitzpatrick and colleagues indicates that individuals in collectivist societies experience stigma related to mental illness or chronic diseases not merely as a personal burden but as a detrimental factor affecting the entire family.[64] This collective nature of stigma can impede individuals' willingness to seek help, fearing that their actions may reflect poorly on their loved ones and jeopardize family dynamics.

The implications of such collectivist norms are evident in the adaptations of stigma instruments developed for specific cultural contexts. The Toronto Chinese Hepatitis B Virus Stigma Scale has been tailored to better reflect the cultural dynamics specific to Asian communities, emphasizing familial and communal ties. However, the application of such instruments in non-Asian contexts requires further refinement. Such adaptations are crucial in accurately capturing the multifaceted nature of stigma across different cultural landscapes.

Conversely, in individualistic cultures, which can be observed in many Western nations, stigma tends to be more personal – focused on individual conduct and perceived failures.

Studies suggest that individuals in these societies often experience shame and isolation related to stigma in a way that emphasizes personal responsibility and self-judgment.[65] The psychological implications of stigma in

such contexts can lead to a delay in help-seeking behavior, as individuals internalize the idea that their challenges stem from personal inadequacies rather than systemic issues.[66] This individualized approach to stigma underscores the need for culturally sensitive interventions that acknowledge the variation in stigma experiences. Eskin reveals that the stigma surrounding mental health conditions are often approached from an individual-centric perspective in Western countries – leading to interventions that may not resonate with collectivist societies where group dynamics are more emphasized.[67]

It should be noted that most of the articles (n=12) did not explicitly disclose what type of stigma is being measured in their study. They only use the word "stigma" and "discrimination," but it could vary between perceived, enacted, or internalized stigma. As most used were modified questionnaires, several of the instruments were tailor-fit to the study sites. Regardless, the use of the Toronto Chinese Hepatitis B Virus Stigma Scale employs an integrated approach by combining direct questions with hypothetical vignettes. This design is intended to elicit a spectrum of responses, capturing both explicit attitudes and implicit biases that may not emerge through straightforward inquiries. The inclusion of vignettes serves to simulate real-life situations, thereby providing insights into the respondents' behavioral tendencies in contextually realistic scenarios.

Conversely, the Hepatitis B Stigma Questionnaire, and its modifications, is designed to quantitatively evaluate both the societal perceptions and the internalization of stigma associated with Hepatitis B. it incorporates items that assess the beliefs held about the disease, such as common misconceptions about its transmission, and the attitudes towards individuals who are diagnosed with Hepatitis B. Additionally, this scale measures behaviors indicative of avoidance and discrimination against individuals with Hepatitis B, as well as the experiences of stigma reported by respondents. By leveraging these instruments, our study delineates a detailed portrait of stigma in both breadth and depth. This broadens the scope of stigma dimensions explored but also fortifies the validity and reliability of our results, thereby contributing significantly to the extant literature on stigma in health fields.

It would also be prudent to allow a detailed discussion of the dominant theoretical foundations of the developed scales, specifically, the Toronto Chinese Hepatitis B Virus Stigma Scale, the Hepatitis B Stigma Questionnaire, and the Attitudes to Colleagues with Hepatitis B Questionnaire. The studies reviewed predominantly utilized medical sociological conceptualizations to understand how societal perceptions of undesirability influence individual attitudes and behaviors.

The Toronto Chinese Hepatitis B Stigma Index is primarily informed by the theoretical frameworks of Link and Phelan[29], specifically as it relates to the aforementioned five components of stigma as discussed in the introduction. This framework is particularly relevant as it allows for a comprehensive assessment of how societal attitudes and institutional practices contribute to the stigma associated with Hepatitis B.[68] The Toronto Index and further instruments that are based on this Index include items that reflect these components, enabling the assessment of stigma as an individual experience and as a broader phenomenon within the society that perpetuates it.

On the other hand, the Hepatitis B Stigma Questionnaire is developed to measure various dimensions of stigma, including perceived stigma, internalized stigma, and the impact of stigma on health-seeking behaviors.[69] Further to the Toronto Index, the Hepatitis B Stigma Questionnaire incorporates Goffman's conceptualization of stigma[70] affecting individual's self-perception and social interactions all in the context of a structured perspective on how stigma operates within societal contexts. In addition, the Health Belief Model (HBM) informs the Questionnaire by surfacing individuals' beliefs about the severity of Hepatitis B and their susceptibility to practice stigma as part of their health behaviors. The HBM thus emphasizes the importance of understanding the psychological factors that contribute to stigma and its effects on individuals' willingness to seek testing and treatment.

Finally, the Attitudes to Colleagues with Hepatitis B Questionnaire is designed to assess the attitudes of workplace professionals, healthcare or otherwise, towards individuals with Hepatitis B. It captures attitudes that may lead to discrimination, highlighting the importance of social acceptance and the impact of stigma on workplace dynamics.[71] The questionnaire draws from the concept of structural stigma, which refers to societal-level policies and practices that reinforce stigma, especially in contexts of mandatory hepatitis B testing for job applicants.[72] This instrument highlights the impact of social labeling on self-identity and public perception which lead to actions relating to healthcare access and treatment adherence.

DISCUSSION

This systematic review distills pertinent articles with accessible stigma questionnaires. The nature of having multiple questionnaires reveals the context-specific nature of stigma[73,74], particularly on the geographical distribution of administering the questionnaires. The global burden of chronic Hepatitis B attributable to and disproportionately concentrated in the Asia-Pacific region, leading to a higher prevalence of the condition in the region, possibly explains the concentrated effort within the scholarly community to examine stigma through various lenses focusing on Asian populations.[75] Nevertheless, the geographical skew towards Asia was anticipated. However, the lack of specific Hepatitis B stigma studies within the Philippines was unanticipated, given the hyperendemic status of the country which could enrich existing datasets with culturally specific insights.

While there was a dominant use of cross-sectional designs in the studies reviewed, there was a potential overlook

of longitudinal and experimental methodologies that could offer deeper insights into stigma's evolution and the impact of interventions over time. This might be attributable to such surveys methods measuring various aspects of Hepatitis B, such as viral suppression, seroconversion, and seroclearance over extended periods, which all require substantial resources, time, and sustained participant engagement, and may pose logistical and financial challenges, particularly in the context of Hepatitis B research in Asia.[76] The methodological choices may thus be driven by practical considerations including ease of implementation of stigma research and cost- effectiveness. The concentration of research in Asia could reflect both a high interest in stigma within these contexts and possibly more significant stigma-related issues that warrant scholarly attention.

As to the relevant existing stigma literature, the review conducted revealed a persistent issue in stigma research: the lack of transparency and accessibility of research instruments, which hampers the replication of studies and validation of results. This may be attributed to several factors, such as limited availability of standardized instruments[77], the absence of open access to survey tools[78], the complexity of measured constructs[79], and the underrepresentation of diverse perspectives in stigma instrument development[80], among others. Furthermore, the methodological diversity in questionnaire administration and the varied linguistic contexts of these studies echo the broader research landscape's adaptability, yet also reflect its fragmentation. Corollary to this is the lack of specificity in measuring types of stigma that could stem from a broader definitional ambiguity in the field, suggesting a need for clearer conceptual frameworks.

One significant limitation to the results is the exclusion of qualitative studies, which could provide rich, contextual insights into the subjective experience of stigma not captured by quantitative methods. The exclusion lies in the inherent difficulty integrating and combining different methodological paradigms, data analysis techniques, and epistemological assumptions especially in large-n, participatory research.[81] This underrepresentation of qualitative approaches is reflected in the amount of research funding, publication outlets, and academic training programs offered - further marginalizing qualitative research in medical research.[82,83] This should not, however, discount the contributions of qualitative methodologies in stigma research. Additionally, the narrow inclusion criteria, while necessary for focus, limit the review's scope and the potential for broader insights. The lack of detail on the types of stigma measured and the absence of cut-off values in the questionnaires further restrict the depth of analysis possible from review.[84-86] Corollary to this, the review brings to light the critical need for standardized methodologies in stigma research, including clearer definitions of stigma types and the development of refined instruments that can be adapted to various cultural and demographic contexts. The variety in study populations, from patients to healthcare workers, underscores the widespread impact of Hepatitis B stigma across different sectors of society. Despite its widespread use, the emphasis on the Likert Scale as a stigma measurement tool calls for further methodological innovation to capture the complex dimensions of stigma more effectively.[87,88]

The existing literature on stigma provides valuable insights; however, significant gaps remain, particularly in the realm of qualitative research that seeks to understand culturally shaped stigma. The predominant reliance on quantitative methodologies often fails to capture the complexities and subjective experiences that define stigma in various contexts. As highlighted by Clair and colleagues, the constructions of stigma influence public and interpersonal interactions, suggesting that understanding these nuances requires in-depth qualitative inquiry.[89] The predominance of quantitative studies in stigma research, as noted by Misra, limits the depth of understanding and the exploration of varied stigma types such as self-stigma, public stigma, and cultural stigma.[90] Most stigma instruments are designed to evaluate these dimensions through metrics that cannot convey the multifaceted experiences of those affected. Future research should aim to incorporate ethnographic methods or in-depth interviews to allow for richer narratives that reflect individuals' lived experiences and cultural contexts.

It should also be noted that the intersectionality of stigma is a critical area of research that considers how overlapping identities – such as cultural background, health status, and socioeconomic factors – shape individuals' experiences with stigma. For one, cultural background plays a pivotal role in shaping stigma experiences, particularly for marginalized groups such as immigrants and ethnic minorities.[91] In the context of HIV infection, scholars discuss how dual stigma (i.e., internalized HIV stigma compounded by other forms of stigma) leads to severe mental health implications for individuals[92,93] creating barriers to accessing care as individuals may fear discrimination based on their health status and cultural background.

Further, the intersectionality of cultural identity and health status can create significant obstacles in healthcare access. Individuals may lack awareness of available healthcare resources or may receive inadequate care due to systemic biases in the healthcare system, compounded by language barriers and cultural misunderstandings.[94,95] Such barriers result in a situation where stigma persistently harms their health outcomes. This was also illustrated from stigma research on pediatric cancer by Graetz and colleagues that show how culturally adapted awareness and support initiatives can significantly improve healthcare access for affected families by addressing the specific cultural nuances that shape stigma.[62] This not only affects the patients but also their families, reflecting Goffman's ideas that stigma extends based on close proximities.[13]

Cross-cultural differences in the measurement and experience of stigma are significant, as it is deeply influenced by cultural norms, values, and social structures. On cultural norms and values, stigma may be more closely tied to family

reputation and social harmony, leading to heightened feelings of shame and social withdrawal among individuals with stigmatized identities.[96] Drawing from Hofstede's cultural dimensions theory[97,98], stigma is nuanced in its various perceptions and experiences across different societies. Collectivist societies, prevalent in many Asian and African societies, prioritize group harmony and social cohesion, and as such, stigma may be experienced more communally, affecting not only the individual but also their family and social networks, leading to a more profound sense of shame and social withdrawal.[99] In contrast, individualistic cultures may emphasize personal responsibility and self-identity, which can influence how stigma is internalized and expressed, that is, individuals are more likely to confront sigma directly and advocate for their rights.[100]

Hofstede's theory posits that cultures can be broadly categorized along the individualism- collectivism spectrum. In collectivist cultures, such as many Asian societies, stigma is often tied to family reputation and social harmony. The actions of an individual are viewed in relation to their impact on the family or community, resulting in a stigma that affects not just the individual, but also their relatives. For instance, Yang and colleagues highlight how stigma in collectivist cultures can be particularly damaging because it jeopardizes the family's honor and creates "courtesy stigma" for family members of the stigmatized individual.[101] This creates a ripple effect beyond the individual, manifesting as a collective form of discrimination that connects deeply with cultural values surrounding reputation and family ties. In contrast, individualistic cultures, often in Western contexts, place a greater significance on personal autonomy and individual responsibility. The personal nature of stigma in individualistic cultures tends to be internally focused where an individual grapples with shame and isolation related to their stigma without the immediate communal impact felt in collectivist societies.[90] This differentiation emphasizes the necessity of culturally tailored stigma interventions; interventions designed for collectivist environments must account for shared responsibility and familial bonds, while those for individual societies might focus more on personal agency and mental well-being.

Further to Hofstede's cultural dimensions theory, Berry's acculturation model further elucidates how stigma experiences can vary as individuals from different cultural backgrounds interact with a dominant spatial culture.[98] Berry identifies four acculturation strategies—assimilation, integration, separation, and marginalization—that can influence individuals' experiences with stigma as they navigate multiple cultural identities. For example, immigrants might choose to integrate their cultural practices with those of the host society or may find themselves marginalized if they face pressure to conform to dominant cultural norms while dealing with societal stigma associated with their original identity. This is particularly relevant in understanding how racial and ethnic minority groups encounter stigma in settings where cultural values clash, as noted by Schomerus and Angermeyer, who argue that stigma should be contextualized within local cultural narratives.[102] Using various strategies are done to potentially downplay culture identities and stereotypes to avoid stigma. However, this can lead to internal conflict and identity loss, particularly, if the dominant culture holds stigmatizing views towards their original culture.[103] On the other hand, those who choose separation may maintain their cultural identity but risk facing stigma from both their original community and the dominant culture, leading to a dual experience of marginalization.[104,105]

By utilizing Berry's framework, researchers can look beyond surface-level stigma assessments and explore the complexity of identity in multicultural settings. When examining stigma among Chinese immigrant caregivers of individuals with psychosis, Yang and colleagues underscore the importance of culturally adapting anti-stigma interventions to address specific constructs such as "face" and the societal pressures inherent in collectivism.[101] These tailored interventions can resonate more authentically with community members' experiences, thereby fostering greater engagement and effectively reducing stigma.

In the case of stigma related to mental health, Cheng and colleagues highlight that in collectivist cultures, mental health issues are often stigmatized due to the emphasis on family reputation and social harmony.[106] This can discourage individuals from seeking help as doing so may bring shame not only to themselves but also to their families.[107] Similarly, Nyblade and colleagues explore stigma in the context of HIV/AIDS, demonstrating that cultural attitudes towards sexuality and illness significantly shape stigma experiences.[108-112] In cultures where sexual health is a taboo subject, individuals living with HIV may face heightened stigma, leading to social isolation and barriers to healthcare access.[113]

The intersection of cultural dimensions and stigma is particularly relevant in the context of globalization, where individuals from diverse backgrounds interact more frequently. As individuals navigate multiple cultural identities, their experiences of stigma can become complex and multifaceted. For example, immigrants may experience stigma related to their cultural background while simultaneously grappling with the stigma associated with their new environment. This dual experience can lead to heightened vulnerability and mental health challenges, as individuals may feel caught between conflicting cultural expectations.[114] Moreover, the role of social support in mitigating stigma is influenced by cultural factors. In collectivist cultures, strong family ties and community support can provide a buffer against stigma, allowing individuals to navigate their experiences more effectively. Conversely, in individualistic cultures, social support may be less structured, leading individuals to rely more on personal resilience and advocacy efforts to combat stigma.[115] This highlights the importance of culturally sensitive approaches to stigma reduction, which consider the unique social dynamics and cultural values of different communities.

Various cultural contexts would thus affect the design of stigma scales, as items must resonate with the specific cultural experiences of the population being studied. With regard to the variability in stigma components, different cultural contexts may prioritize different components of stigma. Cultural nuances may not be as pronounced in Western contexts, where stigma may be more associated with personal attributes or behaviors. Consequently, stigma scales developed in one cultural context may not fully capture the nuances of stigma in another, necessitating adaptations to ensure cultural relevance.[116]

The instruments used to measure stigma often reflect the cultural context in which they were developed. This variation highlights the importance of culturally sensitive approaches in the development of stigma measurement tools, ensuring that they accurately reflect the experiences and perceptions of individuals in different cultural settings. The review's findings, while insightful, are primarily applicable to the contexts from which the data were drawn, mainly Asian populations. This geographic focus, coupled with the methodological homogeneity of the studies, poses challenges to the generalizability of the results. Future research should aim for a more diverse geographical and demographic representation to enhance the universality of stigma questionnaires and their findings, ensuring that the tools and insights generated are applicable across different cultural, social, and individual contexts.

On the use of hypothetical scenarios to assess attitudes and beliefs in a culturally relevant manner, researchers may gauge reactions and attitudes in a context that resonates with participants.[117] The use of vignettes can thus provide deeper insights into the complexities of stigma as experienced in different cultural settings. This relates to the intersection of various identities – such as race, gender, and socioeconomic status – which can further complicate the experience of stigma across cultures. For instance, individuals who belong to multiple marginalized groups may experience compounded stigma[118], which can differ significantly based on cultural context. This intersectional approach is essential for understanding how stigma operates in diverse populations and for developing effective interventions. The design of stigma measurements should thus consider cultural differences to accurately capture the complexities of stigma in various contexts. By employing culturally sensitive approaches, including the use of intersectional vignettes, researchers can gain a more nuanced understanding of stigma and its impact on individuals' lives across different cultural settings.

Understanding cultural variations in stigma is critical for developing effective global health interventions, as stigma's impact on healthcare utilization varies significantly across regions. Stigma, often rooted in cultural beliefs and values, can inhibit individuals from seeking care, adhering to treatment, or disclosing health conditions, thereby complicating efforts to improve public health outcomes. This is not a uniform phenomenon; rather, its manifestations vary significantly based on cultural, social, and geographical contexts. As articulated by literature, existing approaches to understanding stigma often focus on single health conditions in isolation, ignoring the nuanced intersection of health-related stigma with social identities and cultural backgrounds.[1,119] This siloed perspective can limit the applicability of stigma research and reduce its impact on health outcomes.

Addressing stigma at a global level necessitates the adoption of culturally sensitive interventions that regard specific cultural histories, values, and social dynamics of stigmatized groups. The World Health Organization recognizes this need within its frameworks and suggests that anti-stigma initiatives must integrate cultural understanding to be effective.[120,121] Despite the advances made in addressing stigma, significant knowledge gaps remain, particularly concerning how cultural differences affect stigma in various global contexts. There is a pressing need for more qualitative research to uncover the lived experiences of individuals facing stigma. Moreover, as health crises evolve, such as the effects brought about by the COVID-19 pandemic, understanding how stigma shifts in response to societal challenges is crucial. Research that incorporates a global perspective and employs intersectional methodologies could offer valuable insights, aiding policymakers and healthcare workers in designing more comprehensive and effective interventions.

CONCLUSION

This systematic review evaluated the existing literature on questionnaires used to measure Hepatitis B-related stigma, revealing critical insights and identifying gaps in the current body of research. Our analysis underscores the complexity of stigma as a multifaceted phenomenon that significantly impacts individuals with Hepatitis B, particularly in hyper-endemic regions like the Philippines. Despite the extensive search across six databases, yielding a considerable initial pool of articles, the final inclusion of 17 relevant articles with accessible questionnaires points to a significant challenge in research accessibility and the need for more transparent sharing of research instruments.

In conclusion, this systematic review not only contributes to a better understanding of the current state of research on Hepatitis B-related stigma but also underscores the urgent need for more rigorous, inclusive, and transparent research practices. By addressing these gaps, future research would be able to develop more effective strategies to mitigate the stigma associated with Hepatitis B, ultimately contributing to improved health outcomes and quality of life for affected individuals. Developing a refined questionnaire tailored to the Philippine context and informed by this review represents a critical step towards achieving these goals, offering hope for a more inclusive and stigma-free approach to Hepatitis B management and care.

Addressing these shortcomings by developing refined, culturally sensitive, and methodologically sound questionnaires

can significantly improve the understanding of Hepatitis B-related stigma. This, in turn, can inform more effective public health policies, improve treatment outcomes, and ultimately contribute to the reduction of stigma and discrimination associated with Hepatitis B.

Overall, the current state of research regarding Hepatitis B stigma in the Philippines is lacking. Further consideration should also be made on the intimate ties between stigma and larger systems that produce structural inequalities, highlighting the need to include the cultural context and larger social systems in understanding stigma.[122,123] We thus contend that stigma is not a universal phenomenon but is deeply intertwined with cultural, social, and structural contexts, emphasizing the need to consider these specific contexts when studying and addressing stigma.

Statement of Authorship

All authors certified fulfillment of ICMJE authorship criteria.

Author Disclosure

All authors declared no conflicts of interest.

Funding Source

This study was funded by the Philippine Council for Health Research and Development

REFERENCES

1. Stangl A, Earnshaw V, Logie C, Brakel W, Simbayi L, Barré I, et al. The health stigma and discrimination framework: A global, crosscutting framework to inform research, intervention development, and policy on health-related stigmas. BMC Med. 2019;17(1):1-13. doi:10.1186/s12916-019-1271-3. PMID: 30764826; PMCID: PMC6376797.
2. Treloar C, Cama E, Lancaster K, Brener L, Broady T, Cogle A, et al. A universal precautions approach to reducing stigma in health care: Getting beyond HIV-specific stigma. Harm Reduct J. 2022;19(1):1-5. doi: 10.1186/s12954-022-00658-w. PMID: 35799296; PMCID: PMC9264680.
3. Kane J, Elafros M, Murray S, Mitchell E, Augustinavicius J, Causevic S, et al. A scoping review of health-related stigma outcomes for high-burden diseases in low- and middle-income countries. BMC Med. 2019;17(1):1-40. doi: 10.1186/s12916-019-1250-8. PMID: 30764819; PMCID: PMC6376728.
4. Matthews-Mthembu J, Khan G. Implications of social stigma on the health outcomes of marginalised groups. In: Okware S, editor. Future opportunities and tools for emerging challenges for HIV/AIDS control. InTechOpen. 2023.
5. Rao D, Elshafei A, Nguyen M, Hatzenbuehler M, Frey S, Go V. A systematic review of multi-level stigma interventions: State of the science and future directions. BMC Med. 2019;17(1):1-11. doi: 10.1186/s12916-018-1244-y. PMID: 30770756; PMCID: PMC6377735.
6. Quinn K, Voisin D, Bouris A, Jaffe K, Kuhns L, Eavou R, et al. Multiple dimensions of stigma and health related factors among young black men who have sex with men. AIDS Behav. 2016;21(1):207-216. doi: 10.1007/s10461-016-1439-1. PMID: 27233249; PMCID: PMC5124546.
7. Faidas M, Stockton M, Mphonda S, Sansbury G, Hedrick H, Devadas J, et al. Stigma and discrimination faced by adolescents living with HIV and experiencing depression in Malawi. BMC Glob Public Health. 2024;2(39):1-15. doi: 10.1186/s44263-024-00072-3. PMID: 39681956; PMCID: PMC11622908.
8. Rueda S, Mitra S, Chen S, Gogolishvili D, Globerman J, Chambers L, et al. Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: A series of meta-analyses. BMJ Open. 2016;6(7):1-15. doi: 10.1136/bmjopen-2016-011453. PMID: 27412106; PMCID: PMC4947735.
9. Weisz C, Quinn D. Stigmatized identities, psychological distress, and physical health: Intersections of homelessness and race. Stigma Health. 2018;3(3):229-240. doi: 10.1037/sah0000093.
10. Turan B, Budhwani H, Fazeli P, Browning W, Raper J, Mugavero M, et al. How does stigma affect people living with HIV? The mediating roles of internalized and anticipated HIV stigma in the effects of perceived community stigma on health and psychosocial outcomes. AIDS Behav. 2016;21(1):1-9. doi: 10.1007/s10461-016-1451-5. PMID: 27272742; PMCID: PMC5143223.
11. Pantelic M, Sprague L, Stangl A. It's not "all in your head": Critical knowledge gaps on internalized HIV stigma and a call for integrating social and structural conceptualizations. BMC Infect Dis. 2019;19(1):1-8. doi: 10.1186/s12879-019-3704-1. PMID: 30832613; PMCID: PMC6399894.
12. Fothergill-Misbah N. The lived experience of stigma and Parkinson's disease in Kenya: A public health challenge. BMC Public Health. 2023;23(1). doi: 10.1186/s12889-023-15278-7. PMID: 36803768; PMCID: PMC9940067.
13. Goffman E. (1963). Stigma; notes on the management of spoiled identity. 1963. Prentice-Hall. doi: 10.4236/health.2012.412A224
14. Nelson E. Intersectional analysis of cannabis use, stigma and health among marginalized Nigerian women. Sociol Health Illn. 2021;43(3). doi:10.1111/1467-9566.13244. PMID: 33720404.
15. Hollinsaid N, Pachankis J, Mair P, Hatzenbuehler M. Incorporating macro-social contexts into emotion research: Longitudinal associations between structural stigma and emotion processes among gay and bisexual men. Emotion. 2023;23(6). doi:10.1037/emo0001198. PMID: 36595384; PMCID: PMC10314958.
16. Siddiqi B, Khan N. Social stigma and suffering: Perceptions, practices and impacts around COVID-19 in Bangladesh. South Asia Multidiscip Acad J. 2022;15(29):1-19. doi:10.4000/samaj.8253.
17. Kabunga A, Nabasirye C, Kigingo E, Namata H, Shikanga E., Udho S, et al. HIV-related stigma among pregnant adolescents: A qualitative study of patient perspectives in southwestern Uganda. HIV AIDS (Auckl). 2024;16:217-227. doi:10.2147/hiv.s463506. PMID: 38770109; PMCID: PMC11104363.
18. Chambers L, Rueda S, Baker D, Wilson M, Deutsch R, Raeifar E, et al. Stigma, HIV and health: A qualitative synthesis. BMC Public Health. 2015;15(1):1-17. doi:10.1186/s12889-015-2197-0. PMID: 26334626; PMCID: PMC4557823.
19. McDonald K, Slavin S, Pitts M, Elliott J. Chronic disease self-management by people with HIV. Qual. Health Res. 2015;26(6):863-870. doi:10.1177/1049732315600415. PMID: 26290540.
20. Gyamfi S, Forchuk C, Luginaah I. Implications of the stigma of mental illness for professional knowledge development and practice: An Interprofessional Health Education framework from structural violence perspectives. Mental Health Sci. 2024 Dec;2(4). doi:10.1002/mhs2.82.
21. Godwin EG, Moore LBM, Katz-Wise SL. "You always worry about what other people think": Experiences of antitrans stigma among trans youth and their siblings in the Northeastern United States. Stigma and Health. 2024;9(4):492-504. doi:10.1037/sah0000564.
22. Hatzenbuehler ML, Link BG. Introduction to the special issue on structural stigma and health. Soc Sci Med. 2014 Feb;103:1-6. doi:10.1016/j.socscimed.2013.12.017. PMID: 24445152.
23. Link B, Phelan J. Conceptualizing stigma. Annu Rev Sociol. 2001;27(1):363-385. doi:10.1146/annurev.soc.27.1.363.
24. Ali A, Kock E, Molteno C, Mfiki N, King M, Strydom A. Ethnicity and self-reported experiences of stigma in adults with intellectual disability in Cape Town, South Africa. J Intellect Disabil Res. 2015 Jun;59(6):530-540. doi:10.1111/jir.12158.

25. Kimport K. Pregnant women's experiences of crisis pregnancy centers: when abortion stigmatization succeeds and fails. Symb Interact. 2019 Nov;42(4):618-639. doi: 10.1002/symb.418
26. Mahajan A, Sayles J, Patel V, Remien R, Sawires S, Ortiz D, et al. Stigma in the HIV/AIDS epidemic: a review of the literature and recommendations for the way forward. AIDS. 2008 Aug;22 Suppl 2(Suppl 2):S67-S79. doi:10.1097/01.aids.0000327438.13291.62. PMID: 18641472. PMCID: PMC2835402.
27. Corrigan P. How stigma interferes with mental health care. Am Psychol. 2004 Oct;59(7):614-625. doi:10.1037/0003-066X.59.7.614. PMID: 15491256.
28. Casados A. Reducing the stigma of mental illness: current approaches and future directions. Clin Psychol. 2017 Sep;24(3):307-323. doi: 10.1111/cpsp.12206.
29. Link B, Phelan J. Conceptualizing stigma. Annu Rev Sociol. 2001;27(1):363-385. doi:10.1146/annurev.soc.27.1.363.
30. Evans-Lacko S, Courtin É, Fiorillo A, Knapp M, Luciano M, Park A, et al. The state of the art in European research on reducing social exclusion and stigma related to mental health: a systematic mapping of the literature. Eur Psychiatry. 2014 Apr;29(6):381-389. doi: 10.1016/j.eurpsy.2014.02.007. PMID: 24726533.
31. Wu J, Zeng N, Wang L, Yao L. The stigma in patients with breast cancer: A concept analysis. Asia Pac J Oncol Nurs. 2023 Aug;10(10): 100293. doi:10.1016/j.apjon.2023.100293. PMID: 37886719. PMCID: PMC10597826.
32. Blythe SL, Jackson D, Halcomb EJ, Wilkes L. The stigma of being a long-term foster carer. J Fam Nurs. 2012 May;18(2):234-260. doi:10.1177/1074840711423913. PMID: 22045043.
33. Green S, Davis C, Karshmer E, Marsh P, Straight B. Living stigma: the impact of labeling, stereotyping, separation, status loss, and discrimination in the lives of individuals with disabilities and their families. Sociological Inquiry. 2005 May;75(2):197-215. doi: 10.1111/j.1475-682x.2005.00119.x.
34. Arias-Urueña L, Chandler A, Harden J. Cleft Lip and/or Palate: Children's Experiences of Stigma in Colombia. Cleft Palate Craniofac J. 2024 Oct;61(10):1713-1720. doi:10.1177/10556656231183386. PMID: 39381895. PMID: 39381895.
35. Subramaniam M, Abdin E, Srinivasan B, Asharani P, Devi F, Roystonn K, et al. Prevalence and Correlates of Social Stigma Toward Diabetes: Results From a Nationwide- Survey in Singapore. Front Psychol. 2021 Jul;12:692573. doi:10.3389/fpsyg.2021.692573. PMID: 34305751. PMCID: PMC8298907.
36. Golub SA, Fikslin RA. Recognizing and disrupting stigma in implementation of HIV prevention and care: a call to research and action. J Int AIDS Soc. 2022;25 Suppl 1(Suppl 1):e25930. doi:10.1002/jia2.25930. PMID: 35818865. PMCID: PMC9274207.
37. Dubov A, Galbo P Jr, Altice FL, Fraenkel L. Stigma and Shame Experiences by MSM Who Take PrEP for HIV Prevention: A Qualitative Study. Am J Mens Health. 2018 Nov;12(6):1843-1854. doi:10.1177/1557988318797437. PMID: 30160195. PMCID: PMC6199453.
38. Cuttler C, Ryckman M. Don't call me delusional: stigmatizing effects of noun labels on people with mental disorders. Stigma Health. 2019;4(2). doi: 10.1037/sah0000132.
39. Egbe CO, Brooke-Sumner C, Kathree T, Selohilwe O, Thornicroft G, Petersen I. Psychiatric stigma and discrimination in South Africa: perspectives from key stakeholders. BMC Psychiatry. 2014 Jul;14: 191. doi:10.1186/1471-244X-14-191. PMID: 24996420. PMCID: PMC4099203.
40. Vanable PA, Carey MP, Blair DC, Littlewood RA. Impact of HIV-related stigma on health behaviors and psychological adjustment among HIV-positive men and women. AIDS Behav. 2006 Sep;10(5): 473-482. doi:10.1007/s10461-006-9099-1. PMID: 16604295.
41. Dahlui M, Azahar N, Bulgiba A, Zaki R, Oche OM, Adekunjo FO, et al. HIV/AIDS Related Stigma and Discrimination against PLWHA in Nigerian Population. PLoS One. 2015 Dec;10(12):e0143749. doi:10.1371/journal.pone.0143749. PMID: 26658767. PMCID: PMC4675522.
42. Dewi D, Sari J, Fatah M, Astutik E. Stigma and discrimination against people living with HIV and AIDS in Banyuwangi, East java, Indonesia. Proceedings of the 4th International Symposium on Health Research (ISHR 2019). Vol 22. Atlantis Press; 2020 Feb:154–159. doi:10.2991/ahsr.k.200215.030.
43. Fauk NK, Hawke K, Mwanri L, Ward PR. Stigma and Discrimination towards People Living with HIV in the Context of Families, Communities, and Healthcare Settings: A Qualitative Study in Indonesia. Int J Environ Res Public Health. 2021 May; 18(10):5424. doi:10.3390/ijerph18105424. PMID: 34069471. PMCID: PMC8159085.
44. Asrina A, Ikhtiar M, Idris FP, Adam A, Alim A. Community stigma and discrimination against the incidence of HIV and AIDS. J Med Life. 2023 Sep;16(9):1327-1334. doi:10.25122/jml-2023-0171. PMID: 38107709. PMCID: PMC10719780.
45. Lee SA, Yoo HJ, Lee BI; Korean QoL in Epilepsy Study Group. Factors contributing to the stigma of epilepsy. Seizure. 2005 Apr;14(3): 157-163. doi:10.1016/j.seizure.2005.01.001. PMID: 15797349.
46. Browne JL, Ventura A, Mosely K, Speight J. 'I call it the blame and shame disease': a qualitative study about perceptions of social stigma surrounding type 2 diabetes. BMJ Open. 2013 Nov;3(11): e003384. doi:10.1136/bmjopen-2013-003384. PMID: 24247325. PMCID: PMC3840338.
47. Stringer K, Turan B, McCormick L, Durojaiye M, Nyblade L, Kempf M, et al. HIV-Related Stigma Among Healthcare Providers in the Deep South. AIDS Behav. 2016 Jan;20(1):115-125. doi:10.1007/s10461-015-1256-y. PMID: 26650383. PMCID: PMC4718797.
48. Emezue CN, Udmuangpia T. Authentic Empathy and the Role of Victim Service Providers in (De)stigmatizing Male Sexual Victimization. J Interpers Violence. 2022 Apr;37(7-8):NP3832-NP3855. doi:10.1177/0886260520948150. PMID: 32842841.
49. Rai SS, Irwanto I, Peters RMH, Syurina EV, Putri AI, Mikhakhanova A, et al. Qualitative exploration of experiences and consequences of health-related stigma among Indonesians with HIV, Leprosy, Schizophrenia and Diabetes. Kesmas. 2020 Feb;15(1):7-16. doi: 10.21109/kesmas.v15i1.3306.
50. World Health Organization, PH must act to eliminate hepatitis [Internet]. 2019 [cited 2024 November]. Available from https://www.who.int/philippines/news/commentaries/detail/ph-must-act-to-eliminate-hepatitis.
51. Huang J, Guan ML, Balch J, Wu E, Rao H, Lin A, et al. Survey of hepatitis B knowledge and stigma among chronically infected patients and uninfected persons in Beijing, China. Liver Int. 2016 Nov;36(11):1595-1603. doi:10.1111/liv.13168. PMID: 27206379.
52. Moraras K, Block J, Shiroma N, Cannizzo A, Cohen C. Protecting the Rights of Health Care Students Living With Hepatitis B Under the Americans With Disabilities Act. Public Health Rep. 2020 Jul/Aug;135(1_suppl):13S-18S. doi: 10.1177/0033354920921252. PMID: 32735187; PMCID: PMC7407047.
53. Lam CS, Tsang H, Chan F, Corrigan PW. Chinese and American Perspectives on Stigma. Rehabilitation Education. 2006 Oct;20(4): 269–79. doi:10.1891/088970106805065368.
54. Carabez RM, Swanner JA, Yoo GJ, Ho M. Knowledge and fears among Asian Americans chronically infected with hepatitis B. J Cancer Educ. 2014 Sep;29(3):522-8. doi: 10.1007/s13187-013-0585-7. PMID: 24395631.
55. Gish R, Sollano JD Jr, Lapasaran A, Ong JP. Chronic hepatitis B virus in the Philippines. J Gastroenterol Hepatol. 2016 May;31(5): 945-952. doi:10.1111/jgh.13258. PMID: 26643262.
56. Wong SN, Ong JP, Labio ME, Cabahug OT, Daez ML, Valdellon EV, et al. Hepatitis B infection among adults in the Philippines: A national seroprevalence study. World J Hepatol. 2013 Apr;5(4), 214–219. https://doi.org/10.4254/wjh.v5.i4.214. PMID: 23671726 PMCID: PMC3648653.
57. Patel MK, Capeding RZ, Ducusin JU, de Quiroz Castro M, Garcia LC, Hennessey K. Findings from a hepatitis B birth dose assessment in health facilities in the Philippines: opportunities to engage the private sector. Vaccine. 2014 Sep;32(39):5140-5144. doi:10.1016/j.vaccine.2013.11.097. PMID: 24361121 PMCID: PMC4663669

58. Gish R, Sollano J, Lapasaran A, Ong J. Chronic hepatitis B virus in the Philippines. J Gastroenterol Hepatol. 2016;31(5),945–952. https://doi.org/10.1111/jgh.13258. PMID: 26643262
59. World Health Organization. PH must act to eliminate hepatitis [Internet]. 2019 [cited 2023 Sept]. Available from https://www.who.int/philippines/news/commentaries/detail/ph-must-act-to-eliminate-hepatitis.
60. Dieujuste C. The concept of stigma in mental illness as applied to Haitian Americans. Int Nurs Rev. 2016 Jun:63(2). doi:10.1111/inr.12267. PMID: 27029222.
61. Razzaq S, Liaqat S, Moubeen R, Tabbassam S, Naz F, Ashraf S. Pathoreactive experiences of epileptic females: an interpretative phenomenological analysis. JHRR. 2024 Mar;4(1):1504-1508. doi:10.61919/jhrr.v4i1.619
62. Graetz D, Velásquez T, Chitsike I, Halalsheh H, Caceres-Serrano A, Fuentes L, et al. Stigma in Pediatric Cancer: An Exploratory Study of Osteosarcoma and Retinoblastoma in Guatemala, Jordan, and Zimbabwe. JCO Glob Oncol. 2024 Jun;10:e2400017. doi:10.1200/GO.24.00017. PMID: 38905576. PMCID: PMC11191872.
63. Page M, McKenzie J, Bossuyt P, Boutron I, Hoffmann T, Mulrow C, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ Clin Evid. 2021 Mar;372, n71. https://doi.org/10.1136/bmj.n71. PMID: 33782057. PMCID: PMC8005924.
64. Fitzpatrick T, Zhou K, Cheng Y, Chan PL, Cui F, Tang W, et al. A crowdsourced intervention to promote hepatitis B and C testing among men who have sex with men in China: study protocol for a nationwide online randomized controlled trial. BMC Infect Dis. 2018 Sept;18(1):489. Published 2018 Sep 29. doi:10.1186/s12879-018-3403-3. PMID: 30268114. PMCID: PMC6162889.
65. Lee H, Park J. Cultural orientation and the persuasive effects of fear appeals: the case of anti-smoking public service announcements. J Med Mark. 2012 Mar;12(2):73-80. doi:10.1177/1745790412443145.
66. Fave A, Brdar I, Wissing M, Araújo U, Solano A, Freire T, et al. Lay Definitions of Happiness across Nations: The Primacy of Inner Harmony and Relational Connectedness. Front Psychol. 2016 Jan;7:30. doi:10.3389/fpsyg.2016.00030. PMID: 26858677. PMCID: PMC4726797.
67. Eskin M. The effects of individualistic-collectivistic value orientations on non-fatal suicidal behavior and attitudes in Turkish adolescents and young adults. Scand J Psychol. 2013 Dec;54(6):493-501. doi: 10.1111/sjop.12072. PMID: 24111627.
68. Shen K, Yang N, Huang W, Fitzpatrick T, Tang W, Zhao Y, et al. A crowdsourced intervention to decrease hepatitis b stigma in men who have sex with men in China: a cohort study. J Viral Hepat. 2020 Feb;27(2):135-142. doi:10.1111/jvh.13213. PMID: 31571341. PMCID: PMC8163661.
69. Li Y, Zhang M, Jin H, Wang X, Wang P, Zhang J. Patient-reported outcomes: does stigma affect the quality of life of patients with chronic hepatitis b-related diseases? Jpn J Gastroenterol Hepatol. 2021;6(8). doi: 10.47829/jjgh.2021.6801.
70. Northrop, J. A dirty little secret: stigma, shame and hepatitis C in the health setting. Med Humanit. 2017 Dec;43(4):218-224. doi: 10.1136/medhum-2016-011099. PMID: 28363990.
71. van der Scheun FC, Nagelkerke MCM, Kilaru A, Shridhar V, Prasad R, van der Werf TS. Stigma among healthcare workers towards hepatitis B infection in Bangalore, India: a qualitative study. BMC Health Serv Res. 2019 Oct;19(1):736. doi:10.1186/s12913-019-4606-z. PMID: 31640692. PMCID: PMC6805630.
72. Brener L, Horwitz R, Cama E, Vu H, Jin D, Wu E, et al. Understanding stigma and attitudes towards hepatitis B among university students in Australia of Chinese and Vietnamese background. BMC Public Health. 2024 Oct;24(1):2801. doi:10.1186/s12889-024-20226-0. PMID: 39396947. PMCID: PMC11472463.
73. Tanaka C, Tuliao MTR, Tanaka E, Yamashita T, Matsuo H. A qualitative study on the stigma experienced by people with mental health problems and epilepsy in the Philippines. BMC Psychiatry. 2018 Oct;18(1):325. doi:10.1186/s12888-018-1902-9. PMID: 30290782. PMCID: PMC6173886.
74. Parker R. A small-scale study investigating staff and student perceptions of the barriers to a preventative approach for adolescent self-harm in secondary schools in Wales—a grounded theory model of stigma. Public Health. 2018 Jun;159:8-13. doi:10.1016/j.puhe.2018.03.016. PMID: 29679862. PMID: 29679862.
75. Le Gautier R, Wallace J, Richmond JA, Pitts M. The personal and social impact of chronic hepatitis B: A qualitative study of Vietnamese and Chinese participants in Australia. Health Soc Care Community. 2021 Sep;29(5):1420-1428. doi:10.1111/hsc.13197. PMID: 33064908.
76. Chan HL, Jia J. Chronic hepatitis B in Asia-new insights from the past decade. J Gastroenterol Hepatol. 2011 Jan;26 Suppl 1:131-137. doi:10.1111/j.1440-1746.2010.06544.x. PMID: 21199524.
77. Einola K, Alvesson M. Behind the numbers: questioning questionnaires. J Manag Inq. 2020 Jul;30(1):102-114. doi:10.1177/1056492620938139.
78. Leigh J, Khalid M, Tsang J. Motivating Factors of and Perceived Barriers to Research at a Canadian Medical University with Regional Campuses: A Cross-Sectional Survey Study. J Reg Med Campuses. 2021;4(3). doi:10.24926/jrmc.v4i3.3934.
79. Stahl HJ, Wu AK, Li H, Hu D, Liu W, Lam SK. Elucidating a Silent Illness: Hepatitis B Knowledge Among Asian Individuals in an Urban Center. J Public Health Manag Pract. 2022 Jul-Aug;28(4):417-424. doi:10.1097/PHH.0000000000001513. PMID: 35389958.
80. Chimienti M, Guichard E, Bolzman C, Le Goff J. How can we categorise 'nationality' and 'second generation' in surveys without (re)producing stigmatisation? CMS. 2021 Jul;9(1):29. doi:10.1186/s40878-021-00237-1.
81. Macaulay A, Jagosh J, Pluye P, Bush PL, Salsberg J. Quantitative methods in participatory research: being sensitive to issues of scientific validity, community safety, and the academic-community relationship. Nouv Prat Social. 2013;25(2):159-172. doi:10.7202/1020827ar.
82. Plano Clark VL. The adoption and practice of mixed methods: U.S. trends in federally funded health-related research. Qual Inq. 2010 Apr;16(6):428-440. doi:10.1177/1077800410364609.
83. O'Cathain A, Murphy E, Nicholl J. Integration and publications as indicators of "yield" from mixed methods studies. J Mix Methods Res. 2007 Apr;1(2):147-163. doi:10.1177/1558689806299094.
84. Oga EA, Kraemer J, Stewart C, Mbote D, Njuguna S, Stockton M, et al. Experienced sex-work stigma in male and female sex workers in Kenya: Development and validation of a scale. Stigma Health. 2020;5(3):342-350. doi:10.1037/sah0000205.
85. Ong AD, Cerrada C, Lee RA, Williams DR. Stigma consciousness, racial microaggressions, and sleep disturbance among Asian Americans. Asian Am J Psychol. 2017;8(1):72-81. doi:10.1037/aap0000062.
86. Lattanner M, Hatzenbuehler M. Thwarted belonging needs: A mechanism prospectively linking multiple levels of stigma and interpersonal outcomes among sexual minorities. J Soc Issues. 2022 Oct;79(1):410-445. doi:10.1111/josi.12564. PMID: 40027341. PMCID: PMC11870642.
87. Gu X, Chen L, Wang G, Li S. An alternative paradigm for assessing attitudes in virtual reality — Interpersonal distance paradigm: Taking weight stigma as an example. Front Virtual Real. 2022 Dec;3:1015791. doi:10.3389/frvir.2022.1015791.
88. Akbari H, Safari S. Conditions of experienced stigma in people living with HIV in Iran: a qualitative comparative analysis. Sociol Health Illn. 2020 Jun;42(5):1060-1076. doi:10.1111/1467-9566.13077. PMID: 32162344.
89. Clair M, Daniel C, Lamont M. Destigmatization and health: cultural constructions and the long-term reduction of stigma. Soc Sci Med. 2016 Sep; 165:223-232. doi:10.1016/j.socscimed.2016.03.021. PMID: 27020492.
90. Misra S, Jackson VW, Chong J, Choe K, Tay C, Wong J, et al. Systematic review of cultural aspects of stigma and mental illness among racial and ethnic minority groups in the united states: implications for interventions. Am J Community Psychol. 2021 Dec;68(3-4): 486-512. doi:10.1002/ajcp.12516.
91. Sweileh W. Stigma research in arab countries: a rapid review. Ment Health and Soc Incl. 2024 Dec;28(6):1014-1024. doi:10.1108/mhsi-10-2023-0111.

92. Earnshaw V, Smith L, Cunningham C, Miller M. Intersectionality of internalized HIV stigma and internalized substance use stigma: implications for depressive symptoms. J Health Psychol. 2013 Aug; 20(8):1083-1089. doi:10.1177/1359105313507964.
93. Clément S, Schauman O, Graham T, Maggioni F, Evans-Lacko S, Bezborodovs N, et al. What is the impact of mental health-related stigma on help-seeking? a systematic review of quantitative and qualitative studies. Psychol Med. 2014 Jan: 45(1):11-27. doi:10.1017/S0033291714000129. PMID: 24569086.
94. Quinn N. Participatory action research with asylum seekers and refugees experiencing stigma and discrimination: the experience from Scotland. Disabil Soc. 2014;29(1):58-70. doi:10.1080/09687599.2013.769863.
95. Mirza A, Birtel M, Pyle M, Morrison A. Cultural differences in psychosis: the role of causal beliefs and stigma in white British and south Asians. J Cross Cult Psychol. 2019;50(3): 441-459. doi:10.1177/0022022118820168.
96. Brennan K, Gorman K. Altering the landscape of mental illness stigma on university campuses. Stigma Health. 2022;7(3):358-369. doi:10.1037/sah0000398.
97. Koon WC, Siau CS, Fitriana M, Fariduddin MN, Amini M, Chu SY, et al. Hofstede's cultural values as factors influencing Malaysian university students' attitude toward help-seeking: a preliminary study. MJPHM. 2023;23(2):28-35. doi: 10.37268/mjphm/vol.23/no.2/art.1627.
98. Żemojtel-Piotrowska M, Piotrowski J. Hofstede's cultural dimensions theory. In: Shackelford TK, ed. Encyclopedia of Sexual Psychology and Behavior. Springer; 2023 Jun. doi:10.1007/978-3-031-08956-5_1124-1.
99. Shin H, Dovidio J, Napier J. Cultural differences in targets of stigmatization between individual-and group-oriented cultures. 2016. Social Psychological Perspectives on Stigma. doi: 10.4324/9781315540696.
100. Simha A, Ahmed S, Prasad R, Dinesh AS, Kandasamy A, Rao NP. Effect of national cultural dimensions and consumption rates on stigma toward alcohol and substance use disorders. Int J Soc Psychiatry. 2022 Nov;68(7):1411-1417. doi:10.1177/00207640211028611. PMID: 34213385.
101. Yang L, Lai G, Tu M, Luo M, Wonpat-Borja A, Jackson V, et al. A brief anti-stigma intervention for Chinese immigrant caregivers of individuals with psychosis: adaptation and initial findings. Transcult Psychiatry. 2014 Apr;51(2):139-157. doi:10.1177/1363461513512015. PMID: 24318864. PMCID: PMC3993525.
102. Schomerus G, Angermeyer MC. Blind spots in stigma research? Broadening our perspective on mental illness stigma by exploring 'what matters most' in modern Western societies. Epidemiol Psychiatr Sci. 2021 Mar;30:e26. doi:10.1017/S2045796021000111. PMID: 33729113. PMCID: PMC8061255.
103. Berry JW. Theories and models of acculturation. In: Schwartz SJ, Unger JB, eds. The Oxford Handbook of Acculturation and Health. Oxford University Press; 2017:15-28. doi: 10.1093/oxfordhb/9780190215217.001.0001.
104. Simanjuntak T. Content analysis on Facebook posts to test Hofstede's scores consistency. Jurnal ASPIKOM. 2022;7(2):178-193. doi:10.24329/aspikom.v7i2.1097.
105. Khashman N, Ménard E. A study of cultural reflection in Egyptian government websites. In: Marcus A, ed. Design, User Experience, and Usability. User Experience Design for Diverse Interaction Platforms and Environments. Vol 8518. Lecture Notes in Computer Science. Springer; 2014. doi:10.1007/978-3-319-07626-3_13.
106. Cheng C, Lau YC, Chan L, Luk JW. Prevalence of social media addiction across 32 nations: Meta-analysis with subgroup analysis of classification schemes and cultural values. Addict Behav. 2021 Jun; 117:106845. doi:10.1016/j.addbeh.2021.106845. PMID: 33550200.
107. Yeganeh H. A compound index of cultural dimensions: implications and applications. Int J Organ Anal. 2013;21(1), 53-65. https://doi.org/10.1108/19348831311322533.
108. Nyblade L, Stockton M, Giger K, Bond V, Ekstrand M, Lean R, et al. Stigma in health facilities: why it matters and how we can change it. BMC Med. 2019 Feb;17(1):25. doi:10.1186/s12916-019-1256-2. PMID: 30764806. PMCID: PMC6376713.
109. Nyblade L, Stockton M, Saalim K, Rabiu Abu-Ba'are G, Clay S, Chonta M, et al. Using a mixed-methods approach to adapt an HIV stigma reduction intervention to address intersectional stigma faced by men who have sex with men in Ghana. J Int AIDS Soc. 2022 Jul;25 Suppl 1(Suppl 1):e25908. doi:10.1002/jia2.25908. PMID: 35818873. PMCID: PMC9274363.
110. Nyblade L, Reddy A, Mbote D, Kraemer J, Stockton M, Kemunto C, et al. The relationship between health worker stigma and uptake of HIV counseling and testing and utilization of non-HIV health services: the experience of male and female sex workers in Kenya. AIDS Care. 2017 Nov;29(11):1364-1372. doi:10.1080/09540121.2017.1307922. PMID: 28325068.
111. Nyblade L, Mingkwan P, Stockton M. Stigma reduction: an essential ingredient to ending AIDS by 2030. Lancet HIV. 2021 Feb;8(2). doi: 10.1016/S2352-3018(20)30309-X. PMID: 33539757.
112. Nyblade L, Stangl A, Weiss E, Ashburn K. Combating HIV stigma in health care settings: what works?. J Int AIDS Soc. 2009 Aug;12:15. doi: 10.1186/1758-2652-12-15. PMID: 19660113. PMCID: PMC2731724.
113. Rinne T, Steel GD, Fairweather J. Hofstede and Shane revisited: the role of power distance and individualism in national-level innovation success. Cross Cult Res. 2011;46(2):91-108. doi:10.1177/1069397111423898.
114. Chen Q, Liu R, Jiang Q, Xu S. Exploring cross-cultural disparities in tourists' perceived images: a text mining and sentiment analysis study using LDA and BERT-BILSTM models. Data Technol Appl. 2024 Mar;58(4):669-690. doi:10.1108/DTA-10-2023-0645.
115. Zhang J. Choose to be more individualistic or collectivistic? A reflection on marriage practice in contemporary Chinese society. Commun Humanit Res. 2024 May;30(1):107-112. doi: 10.54254/2753-7064/30/20231630.
116. Stump T, LaPergola C, Cross N, Else-Quest N. The measure of disease-related stigma: construction, validation, and application across three disease contexts. Stigma Health. 2016;1(2):87-100. doi:10.1037/sah0000012.
117. Dolphin L, Hennessy E. Depression stigma among adolescents in Ireland. Stigma Health. 2016 Feb;1(3):185-200. doi:10.1037/sah0000025.
118. Hao C, Liu H. Actor and partner effects of perceived HIV stigma on social network components among people living with HIV/AIDS and their caregivers. Glob Health Promot. 2015 Jun;22(2):40-52. doi:10.1177/1757975914537321.
119. Morrow G, Rothwell C, Burford B, Illing J. Cultural dimensions in the transition of overseas medical graduates to the UK workplace. Med Teach. 2013 Oct;35(10):e1537-e1545. doi:10.3109/0142159X.2013.802298. PMID: 23782047.
120. Logie CH, Perez-Brumer A, Mothopeng T, Latif M, Ranotsi A, Baral SD. Conceptualizing LGBT Stigma and Associated HIV Vulnerabilities Among LGBT Persons in Lesotho. AIDS Behav. 2020 Dec;24(12):3462-3472. doi:10.1007/s10461-020-02917-y. PMID: 32394231. PMCID: PMC7222929.
121. Alkailani M, Azzam I, Athamneh A. Replicating Hofstede in Jordan: ungeneralized, reevaluating the Jordanian culture. Int Bus Res. 2012 Apr:5(4):71-80. doi:10.5539/ibr.v5n4p71.
122. Kusow A. Contesting Stigma: On Goffman's assumptions of normative order. Symb Interact. 2004;27(2):179-197. doi:10.1525/si.2004.27.2.179.
123. Wigginton B, Morphett K, Gartner C. Differential access to health care and support? A qualitative analysis of how Australian smokers conceptualise and respond to stigma. Crit Public Health. 2016 Dec; 27(5):577-590. doi:10.1080/09581596.2016.1266298.

Measuring Hepatitis B-related Stigma

APPENDIX

Collated matrix of questionnaires for the measurement of Hepatitis B-related stigma

Author	Year	Country	Study Population	Research Design	Instrument	Format	Mode of Administration	Language	Types of Stigma (Enacted, Perceived, Internalized)	Scale, Score and Cut-off	Validity and Reliability
Adjei CA, Stutterheim SE, Bram F, Naab F, & Ruiter RAC	2022	Ghana	>18 years old Residents in Greater Accra and North Ghana	Cross-sectional	Toronto Chinese Hepatitis B Stigma Scale	20 items	Self-administered Facilitated Survey	English	Not Indicated	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Cronbach's = 0.78 Pre-test
Behera MK, Nath P, Behera SK, Padhi PK, Singh A, & Singh SP	2022	India	>18 years old HBV patients for more than 6 months	Cross-sectional	Stigma Attributes of HBV Patients	10 items, 4 domains	Face-to-Face Interview	Participant's Preferred Language	Not Indicated	Dichotomous Scale (0,1) Severe Discrimination - 8-10 Moderate Discrimination = 5-7 Mild Discrimination = <4	Pilot Study
Cama E, Brener L, Broady T, Hopwood M, & Treloar C	2021	Australia	Health and Medical Workers	Not Indicated	Measure of HBV Stigma and Attitudes	12 items	Self-administered	English	Not Indicated	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Cronbach's α = 0.71
Cotler SJ, Cotler S, Xie H, Luc BJ, Layden TJ, & Wong SS	2012	USA	Chinese Immigrant Patients	Not Indicated	HBV Stigma Questionnaire	15 items, 5 domains	Not Indicated	English	Percieved Stigma	4-point Likert Scale Mean Stigma Scorer, No Cut-off	Cronbach's α = 0.85 Pilot Study
Dam L, Cheng A, Tran P, Wong SS, Hershow R, Cotler S, & Cotler SJ	2016	Vietnam USA	Vietnamese Patients	Not Indicated	HBV Stigma Questionnaire	13 items	Self-administered	Vietnamese and English	Not Indicated	4-point Likert Scale Mean Stigma Scorer, No Cut-off	Not Identified
Fitzpatrick T, Zhou K, Cheng Y, Chan PL, Cui F, Tang W, Mollan KR, Guo W, & Tucker JD	2018	China	MSMs	Randomized Controlled Trial	Toronto Chinese Hepatitis B Stigma Scale	20 items	Self-administered	Chinese	Not Indicated	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Pilot Study
Franklin S, Mouliom A, Sinkala E, Kanunga A, Helova A, Dionne-Odom J, et al.	2018	Zambia	HBV Patients	Cohort	Stigma Scale for Chronic Illness	8 items	Facilitated Survey	English	Enacted and Internalized Stigma	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Not Identified
Hamdiui N, Stein ML, Timen A, Timmermans D, Won g A, van den Muijsenbergh METC, & van Steenbergen JE	2018	Netherlands	Morocan-Dutch Immigrants	Not Indicated	Hepatitis B Determines of Screening Participation	6 items	Self-administered	Simple Dutch	Not Indicated	3-point Scale	Not Identified
Huang J, Guan ML, Balch J, Wu E, Rao H, Lin A, Wei L, & Lok AS	2016	China	CHB Patients	Not Indicated	HBV Stigma Questionnaire	16 items	Self-administered Facilitated Survey	Mandarin Chinese	Not Indicated	3-point Scale Mean Stigma Scorer, No Cut-off	Pilot Study
Ishimaru T, Wada K, Arphom S, & Smith DR	2016	Japan	Employed Nurses	Cross-sectional	Attitudes towards Colleagues with HBV/HCV	4 items	Self-administered	Not Disclosed	Enacted Stigma	5-point Likert Scale Frequency, No Cut-off	Not Identified
Ishimaru T, Wada Huong HTX, Anh BTM, Hung ND, Hung L, & Smith DR	2017	Vietnam	Employed Nurses	Cross-sectional	Attitudes towards Colleagues with HBV/HCV	4 items	Self-administered	Not Disclosed	Enacted Stigma	4-point Likert Scale Frequency, No Cut-off	Not Identified
Le T Van, Vu TTM, Mai HT, Nguyen LH, Truong NT, Hoang CL, Nguyen SH, Nguyen CT, Nguyen BC, Tran TH, Tran BX, Latkin CA, Ho CSH, Ho RCM	2019	Vietnam	>18 years old CHB Patients	Cross-sectional	CHB-related Stigma and Discrimination	4 items, 4 domains	Face-to-Face Interview	Not Disclosed	Not Indicated	Dichotomous Scale Frequency, No Cut-off	Panel of Experts Evaluation Pilot Study Cronbach's α = 0.712
Leng A, Li Y,Wangen KR, Nicholas S, Maitland E, & Wang J	2016	China	Rural Migrants	Cross-sectional	HBV-related discrimination	3 items	Face-to-Face Interview	Not Disclosed	Discrimination in Everyday Life	3-point Scale (0-2) No Mild Discrimination = 0-3 Medium Discrimination = 4-7 Severe Discrimination = 8-10	Pilot Study
Li D, Tang T, Patterson M, Ho M, Heathcote J, & Shah H	2012	Canada	Canadian Chinese	Cross-sectional	Toronto Chinese Hepatitis B Stigma Scale	20 items	Facilitated Survey	English Cantonese Mandarin	Not Indicated	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Factor Analysis Cronbach's = 0.90
Marley G, Seto WK, Yan W, Chan P, Tucker JD, Tang W, & Wong WCW	2022	China	Primary Care Patients	Cross-sectional	Hepatitis Stigma in Primary Care Patients	8 items	Self-administered	Simplified Chinese	Not Indicated	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Cronbach's α = 0.90
Shen K, Yang NS, Huang W, Fitzpatrick TS, Tang W, Zhao Y, Wang Y, Li L, & Tucker JD	2020	China	>16 years old MSMs	Retrospective Cohort Study	Toronto Chinese Hepatitis B Stigma Scale	20 items, 4 domains	Self-administered	English Cantonese Mandarin	Not Indicated	5-point Likert Scale Mean Stigma Scorer, No Cut-off	Cronbach's α = 0.90
Wang WL, Wang CJ, & Tseng HF	2009	Taiwan	University Students	Not Indicated	Knowledge, health beliefs, and self-efficiency of HBV prevention	19 items	Self-administered	English	Not Indicated	5-point Likert Scale Frequency, No Cut-off	Cronbach's α = 0.67