




The Impact of Racial Disparities on Liver Disease Access and Outcomes

Lauren D. Nephew, MD, MSCE^{1,2,*} 
Gabriella Aitcheson, MD^{1,2}
Meera Iyengar, MD³

Address

¹Department of Medicine, Division of Gastroenterology and Hepatology, Department of Medicine, Indiana University School of Medicine, Indianapolis, IN, USA

²Indiana University Simon Comprehensive Cancer Center, Indianapolis, IN, USA

Email: lnephew@iu.edu

³Department of Medicine, Division of Internal Medicine, Department of Medicine, Indiana University School of Medicine, Indianapolis, IN, USA

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Abstract

Purpose of Review We aim to review 1) the changing epidemiology of liver disease and the impact that systematic differences in the opportunities for ethnic and racial minorities to gain access to care have had on mortality and 2) community interventions aimed at reducing disparities.

Recent Findings There continues to be disparities in acute/chronic viral hepatitis. The success of the campaign to eliminate viral hepatitis depends on innovative initiatives like home-based screening in highest risk communities and improved access to treatment. We describe increasing rates of high-risk drinking and a need for culturally tailored treatment. We discuss rising rates of non-alcohol associated fatty liver disease and the need for improved education of patients and providers. Data on disparities in mortality in cholestatic liver diseases are emerging; qualitative data on barriers to care are needed.

Summary Understanding racial disparities in liver disease is only the first step. Achieving health equity will take innovative initiatives.

Introduction

Rising rates of high-risk drinking, obesity, and the opioid epidemic are rapidly driving changes in the chronic liver disease landscape. These changes, coupled with systematic differences in the opportunities for racial and ethnic minorities to gain access to the liver care continuum (Fig. 1), have contributed to significant disparities in chronic liver disease mortality [1]. This poses a significant public health concern as more than half of all Americans are projected to be racial and ethnic minorities by 2044 and the burden of liver disease continues to rise [2].

In this review, we will highlight what is new since 2019; therefore, we may not cover every step in the

liver care continuum for each etiology of liver disease. We have recently written a review that focused on disparities in liver transplantation; therefore, in this review we will focus our discussion on access to other therapies and mortality [3]. Because race and socioeconomic status (SES) are so intimately intertwined, we will also review SES data when available in models including race. Finally, while we acknowledge health policy, health system, bias reduction, and digital interventions will need to happen in tandem to eliminate racial and ethnic disparities in liver disease, in this review we will focus on the important community-based interventions that have been less discussed.

Definitions and conceptual framework

Key terms in health disparities are being increasingly used in the gastroenterology and hepatology field, but have not previously been defined in one place in our literature (Table 1) or organized into one conceptual framework (Fig. 1). *Health disparities* are systematic, plausibly avoidable health differences that adversely affect socially disadvantaged groups according to race, ethnicity, income, gender, religion, sexual orientation, disability, identity, geography, or other characteristics associated with discrimination or marginalization [4]. We know that we have not achieved *health equity*, the absence of unfair and avoidable or remediable differences in health among population

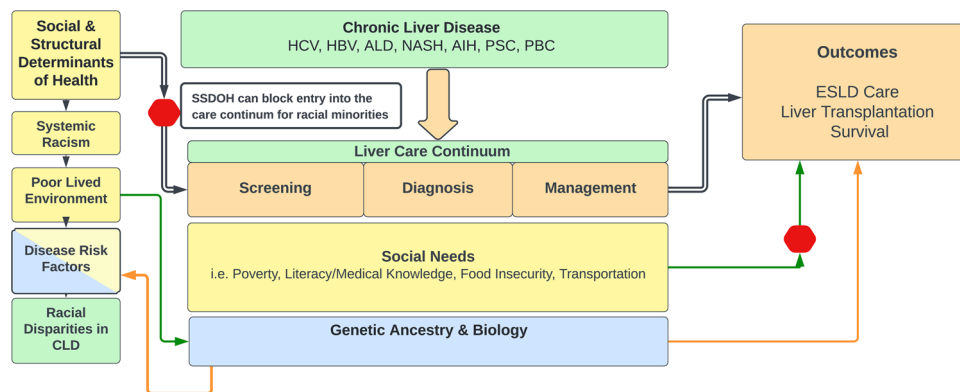


Fig. 1 Conceptual framework for racial disparities in chronic liver disease. Structural racism, the social determinants of health (SDOH), and social needs are barriers to racial and ethnic minorities accessing the liver care continuum. The liver care continuum is the path to end-stage liver disease care, liver transplantation, and survival. Without access to this pathway, health disparities persist. HCV, hepatitis C virus; HBV, hepatitis B virus; ALD, alcohol-associated liver disease; AIH, autoimmune hepatitis; PSC, primary sclerosing cholangitis; PBC, primary biliary cholangitis; ESLD, end-stage liver disease; SSDOH, social and structural determinants of health

Table 1 Health disparities definitions

Concept	Definition
Health disparities	Systematic, plausibly avoidable health differences that adversely affect socially disadvantaged groups according to race, ethnicity, income gender, religion, sexual orientation, region, disability, identity, geography, or other characteristic associated with discrimination or marginalization
Health equity	The absence of unfair and avoidable or remediable differences in health among population groups
Systemic racism	The macrolevel systems, social forces, institutions, laws, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups
Social determinants of health	The “terrain” on which the effects of structural racism play out; the social determinants of health are the conditions where people live, learn, and work
Social needs	Individual needs that are unmet including but not limited to employment, food, housing, transportation, utilities, and childcare
Genetic ancestry	Inherited deoxyribonucleic acid (DNA)
Race	Social constructed and self-assigned categories

groups, as long as health disparities are present [5]. Health disparities are deeply entrenched in our healthcare system and are marred by a history in which access to care was limited due to *systemic racism* or the macrolevel system, social forces, institutions, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups [6]. The *social determinants of health* are the “terrain” on which the effects of structural racism play out [7]. The social determinants of health are the conditions where people live, learn, and work [8]. In the social-ecological framework, poor *social and structural determinants of health* (SSDOH) can lead to conditions where people’s individual *social needs* (employment, food, housing, transportation, utilities, childcare) are unmet and behavioral risk factors abound [9–11]. Together these factors are barriers to entry to the liver care continuum and portend a poor outcome (Fig. 1). Here, we will not explore *genetic ancestry*, deoxyribonucleic acid (DNA) variants, but focus our disparities discussion on the social construct of *race* or social and self-assigned categories [12]. However, there is a growing area of science seeking to understand the mechanisms by which one’s lived environment and socioeconomic circumstances act on biologic systems [13, 14]. Future conceptual models of the SSODH will likely be expanded in scope and include an integration of biological pathways.

Hepatitis C virus

Disease burden

The opioid epidemic and increased rates of injection drug use are threatening viral hepatitis elimination efforts in not only the young, but also ethnic minority populations. The rates of acute HCV increased 71% in the USA between 2014 and 2018, with American Indian and Alaskan Native (AI/AN)

persons having higher rates than any other racial and ethnic groups (3.6 per 100,000 vs. 1.3 per 100,000 in non-Hispanic White persons) [15]. While the opioid epidemic has led to a heightened concern for acute HCV in certain vulnerable groups, chronic HCV incidence rates remain highest in Black persons, with persons 60 years or older being over 10 times more likely to have chronic HCV than White persons from the same age group (OR 10.0, 95% CI 4.9–20.1) [16]. One study utilizing statistical modeling to project HCV prevalence showed increasing rates of infection among young White rural inhabitants who engage in IV drug use, but also demonstrated continued prevalence in non-Hispanic Black persons [16]. Overall, 23% of prevalent HCV infections were projected to occur among non-Hispanic Black persons, despite making up only 12% of the population [17].

Access to care and treatment

Gaining access to direct-acting antiviral agents (DAAs) has been one limiting step in the viral hepatitis elimination in racial and ethnic minority groups [15]. Project Extension for Community Healthcare Outcomes (ECHO) is a tele-mentoring program that provided training and support for primary care physicians and other healthcare professionals by connecting them with a specialist via video conferencing technology [17]. The impact of the program was explored in a national cohort of 267,908 Medicare beneficiaries from 2014 to 2017 who newly sought care for HCV infection. Implementation of this intervention was associated with increased DAA use; specifically, a higher odds ratio in use among Black compared to White patients (OR 1.54, 1.51–1.58) [17].

The impact of healthcare policy changes, including Medicaid expansion and Medicaid's removal of late-stage fibrosis as an eligibility criteria for treatment, the release of individual DAAs, as well as local initiatives like HCV ECHO, on the ability of vulnerable populations to gain access to DAA therapy were explored in a cohort of 10,336 adults with HCV seen at a state-wide academic health practice from 2011 to 2021. Nephew et al. found that neither Black nor Hispanic race or ethnicity was associated with the receipt of treatment, despite there being disparities in access to DAA therapy demonstrated in other large cohorts. However, having Medicaid versus private insurance (OR 0.47; 95% CI 0.42–0.53) was associated with the receipt of therapy [18].

Taken together, these two contemporary studies do not inform us that there are no longer racial disparity in access to DAA therapy across the USA. But what they do suggest that digital and policy solutions may improve access to therapy in places where disparities remain.

Outcomes

Without access to the HCV care continuum, mortality disparities for racial and ethnic minorities continue with the highest mortality rates in AI/AN

and Black persons. In 2019, AI/AN persons had an age-adjusted HCV-related mortality rate of 8.63 per 100,000 compared to 3.08 per 100,000 in non-Hispanic White in the USA (non-Hispanic Black persons 5.44 per 100,000, Hispanic persons 3.84 per 100,000, Asian and Pacific Islander (API) persons 1.43 per 100,000) [19]. There are no recent data that explore racial disparities in HCV mortality that incorporates data on individual or neighborhood social determinants.

Interventions in prevention and treatment

Viral hepatitis elimination and improvements in mortality for racial and ethnic minorities with HCV will require interventions to improve disease awareness and screening, and access to DAA therapy. The change in screening recommendations in March 2020 to include all adults aged 18–79 will help to improve disease awareness and disease prevention [15]. However, there will still need to be intentional, culturally tailored efforts to reach the highest risk populations. In a California study examining HCV risk perceptions, there was a limited understanding of risk among people of color who inject drugs compared to their non-Hispanic White counterparts (22% vs. 44%, respectively) [20]. Additional studies employing community health worker delivered home-based screening programs, as modeled in a study that delivered home-based tests for HCV, HIV, and colorectal studies to women from Little Haiti (predominantly Haitian), Hialeah (predominantly Hispanic), and South-Dade (racially/ethnically mixed) women living in South Florida, can provide key information on the effectiveness of such programs for broader implementation [21]. Mera and colleagues implemented a comprehensive screening, linkage to care, and treatment program in only 2 years in the Cherokee nation, servicing 132,000 AI/AN individuals. This comprehensive community-based campaign to eliminate HCV included securing commitment with Cherokee Nation leadership, a multimedia public awareness campaign, EMR reminders for screening, pharmacist training to treat, and harm reduction strategies for opioid use. In less than 2 years, the goal for cure was reached (85.0%) whereas screening (44.1%) required more time and resources [22]. There are many lessons to be learned from this experiences that could be extended to other communities.

Hepatitis B virus

Disease burden

There has been no significant change in the prevalence of chronic HBV with an adjusted prevalence of 0.31% during 1999–2000 and 0.29% during 2015–2016 ($p=0.442$), likely related to widespread public health efforts in US-born populations [23]. However, there are significant disparities in chronic HBV prevalence, as 70% of chronic HBV infections are among

immigrant populations with the highest prevalence being among persons born in Asia (58%) and those born in Africa (12%) [15]. Specifically, in a study that screened 5982 individuals at a community health event in the Baltimore-Washington Metropolitan area, the HBV prevalence was higher in Asian-born immigrants (Cambodia (11.9%), Vietnam (8.2%), and China (8.1%) compared to African-born immigrants (Liberia (6.7%), Sierra Leone (6.7%), and Cameroon (4.4%)) [24].

Access to care and treatment

There are racial and ethnic disparities in the full HBV care continuum including vaccination as prevention, screening, and treatment. Vaccination as prevention has been poor across all racial and ethnic groups in the USA. The prevalence of immunity were 34.6% in Asian persons, 23.3% in White persons, 22.5% in Black persons, 19.1% in Mexican persons, and 20.1% in Other persons [25].

Adequacy of insurance plays a prominent role in HBV screening. In a survey study of 100 Vietnamese persons attending a health fair those with health insurance were 2.61 (95% CI 1.05–6.47) times more likely to undergo HBV testing, irrespective of education level, income, language proficiency, or cultural acculturation than those that were uninsured [26].

In regards to HBV treatment, one study compared treatment variations in patients under the care of community and academic practices [27]. Academic practices were significantly more adherent to AASLD guidelines for treatment initiation in HBeAg-positive patients than community practices [27]. Compared to those at academic centers, patients at community practices more frequently discontinued treatment (22 vs. 11%, $p < 0.001$). Community practices had a significantly higher proportion of Asian patients (96.8% vs 68.7%, $p < 0.001$). There was no insurance or other SES data provided to explain these disparities. However, there were likely more barriers to treatment in the community practice patient population.

Outcomes

Disparities in access to the HBV care continuum have led to higher HBV-related mortality rates for racial and ethnic minority groups. API persons have a 10 times higher HBV-related mortality rate compared to non-Hispanic White persons (2.1 per 100,000 vs. 0.27 per 100,000) [15]. To evaluate the benefits of HBV therapy, Wong et al. performed a retrospective cohort study using electronic health record data from four urban safety net hospital systems from 2010 to 2015 in a group of noncirrhotic adults with chronic HBV. Among Asian persons, chronic HBV patients who were treated versus patients who were not treated had a significantly lower risk of cirrhosis (21% vs. 40%, $p < 0.01$) and death (2% vs. 9%, $p < 0.05$). The risk of cirrhosis was reduced (HR 0.47, 95% CI 0.26–0.86) in Asian persons who were treated, although a similar reduction was not observed in Black or Hispanic persons [28]. In

another study using administrative data from four healthcare systems, the prevalence of cirrhosis in patients with chronic HBV and all-cause mortality were also explored. Black persons had the highest rate of all-cause mortality (RR 1.26; 95% CI 1.04–1.53) and Asian persons had the lowest all-cause mortality (RR 0.42; 95% CI 0.34–0.51) when compared to White persons [29]. Notably, there were no adjustments for SES; therefore, the interpretation of higher all-cause mortality is limited.

Interventions in prevention and treatment

Haitian and Black Americans in Miami, Korean Americans, Vietnamese American nail technicians in New York city, Vietnamese Americans in Mississippi, and African immigrants across the USA are separated by location and ethnicity, but similarly are minoritized communities that have similar barriers to care continuum; lack of HBV-related knowledge, language and cultural barriers in healthcare interactions, stigma, lack of adequate insurance coverage, lack of trust in the medical system, and the complexity of navigating care [30–35]. In order to fill these gaps, groups noted help in partnering with existing community groups such as the non-profit organizations, supermarkets, and small businesses. Posting and passing out flyers, educational townhalls, community spokespersons, community-specific radio programs, social media platforms, and screenings in the local community were important means to disseminate disease-specific knowledge and information [30–33]. As in HCV, home-based screening programs are also being explored. One study that looked at acceptability and feasibility among Haitian immigrants noted practical logistical considerations such as difficulty centrifuging samples at participants' homes due to lack of available outlets or electricity. It was ultimately determined to be acceptable, feasible, and more efficient for processing to be centralized at a nearby community health center [36]. Practical lessons can be learned from work already being done in the community. Organized efforts by our professional societies and journals to disseminate community-based disparities intervention work is needed.

Alcohol-associated liver disease

Disease burden

Since the start of the COVID-19 pandemic, there have been dramatic increases in alcohol consumption across all demographic groups, with a reported 262% increase in online alcohol sales since 2019 [12]. Some of the largest increases in drinking have been seen in racial and ethnic minority groups. In a cross-sectional online survey of 993 individuals comparing alcohol consumption before February 2020 to after April 2020 when the stay-at-home orders were imposed, the proportion of persons exceeding the recommended drinking limits were larger for Black persons than White persons ($p=0.028$) [37]. Prior

to the pandemic, a study of the National Health and Nutrition Examination Survey (NHANES) database which included 15,981 participants from 2006 to 2016 showed that Black race was not a risk factor for harmful alcohol use (OR 0.69, 95% CI 0.58–0.82) while Hispanic ethnicity (OR 1.12, 95% CI 1.01–1.33) and lower SES (poverty index category >1.85, OR 0.69, 95% CI 0.59–0.81) were risk factors [38].

The epidemiology of the spectrum of alcohol-associated liver disease (ALD) in different racial and ethnic groups is under-studied, particularly in light of changes in high-risk drinking trends. One recent administrative dataset analysis aggregated electronic health records from multiple US health systems. In this unadjusted analysis, 8,445,720 Black patients were more likely than White patients to be diagnosed with alcohol-associated hepatitis (OR 2.63, 95% CI 2.46–2.81) [39].

Access to care and treatment

Racial disparities in access to treatment for alcohol use disorder (AUD) are emerging. In an analysis from the National Survey on Drug Use and Health from 2015 to 2017, of 12,070 participants, substance use treatment was defined as those who answered affirmatively to receiving treatment for alcohol or drugs in the past year from a(n) hospital (as an in-patient), in/outpatient service at a rehabilitation facility, in/outpatient service at a mental health center, emergency room, private doctor's office, prison/jail, or mutual self-help group [40]. A disparity in accessing substance use treatment was identified between insured Hispanic participants and White participants (OR 0.72, 95% CI 0.53–0.97). However, a similar disparity was not seen between insured Black and White participants (OR 0.86, 95% CI 0.65–1.16). Reasons for the disparity between Hispanic participants and White participants were not clear, although differences in the breadth of insurance coverage between Hispanic and White participants as well as language barriers limiting provider referral warrant further investigation. In a cohort of 35,682 veterans with cirrhosis and AUD, only 14% received AUD treatment (behavioral therapy or pharmacotherapy). While access to treatment was low in this cohort, Black race was associated with receiving treatment, suggesting that when access barriers are removed, racial disparities are less pronounced [41].

Outcomes

From 2005 to 2017, ALD mortality increased in every race and ethnicity except Black men and was particularly pronounced in Native American women (annual rate difference (ARD) 0.8, 95% CI 0.6–0.9) [42]. In a study using the Nationwide Inpatient Sample (NIS), Black patients with alcohol-associated cirrhosis were found to have higher inpatient mortality than White patients (OR, 1.13, 95% CI 1.04–1.24). In the same study, Native American patients (OR 1.88, 95% CI 1.06–3.34) and API patients (OR 2.02, 95% CI 1.00–4.06)

with alcohol-associated hepatitis had higher inpatient mortality relative to White patients [43]. Taken together, mortality rates are rising for the spectrum of ALD for racial and ethnic minorities.

Interventions in prevention and treatment

There is longstanding, but mostly dated, literature in the social sciences around efforts to culturally tailor substance use treatment [44, 45]. The literature in this area focuses on the need for culturally competent services that consider issues around language, trauma, shame, distrust, and confidentiality. Future studies might focus on barriers for racial and ethnic minorities with chronic liver disease seeking AUD treatment.

Non-alcohol fatty liver disease

Disease burden

Non-alcoholic fatty liver disease (NAFLD) is becoming a leading cause of liver disease among many racial and ethnic groups in the USA. In one study looking at NHANES data from 2011 to 2016, the prevalence of NAFLD was 48.4% among Mexican Americans, 18.0% among non-Hispanic Black persons, and 18.1% among Asian persons. Notably, in this study advanced fibrosis in this cohort was highest in non-Hispanic Black persons (28.5%) and lower in Mexican Americans (10.8%) and Asian persons (2.7%) [46]. In another NHANES analysis from 2017 to 2018 which included 4218 patients with validated FibroScan-AST (FAST) scores, high-risk NASH (defined as FAST ≥ 0.35 , 90% sensitivity) had a prevalence of 9.2% in Hispanic Americans, 5.8% in Asian persons, 5.2% in White persons, and 3.8% in Black persons [47]. Few datasets have included Native American populations; however, in a study of Medicare recipients, Native American persons have a higher prevalence of NALFD than Hispanic Americans with 131.78/1000 people versus 45.54/1000 in Hispanic persons [48].

Access to care and treatment

The focus of NAFLD treatment has been on modifiable risk factors such as dietary intake and exercise which can be challenging to implement in the face of unmet social needs. Vilar-Gomez et al. explored the interplay between SES, diet quality, and physical activity on NAFLD risk [47]. While there was no association between poverty income ratio and NAFLD, high-quality diet, college education, and physical activity were associated with lower NAFLD risk. Notably attaining a college degree or above was only reported in 16% and 23% of Hispanic and Black persons, respectively, compared with 35% and 60% of White and Asian persons, respectively.

While no medication currently exists to directly treat NAFLD, multiple investigations are underway. Notably, one systemic review and meta-analysis of 38 US and Canadian prospective studies for NAFLD therapies from 2005 to 2019 showed an underwhelming proportion of Hispanic persons enrolled in these studies based on their disease burden [49]. Of the 38 studies examined, 17 included ethnicity data with Hispanic participants accounting for 11.6% of eligible participants. Fortunately, enrollment of Hispanic participants did increase over time from 15% from 2005–2014 to 37% from 2015–2019 [49].

Bariatric surgery is a cost-effective treatment for obesity and obesity-related conditions like NASH [50]. However, there is evidence of racial disparities to access to roux en Y gastric bypass and sleeve gastrectomy for Hispanic patients. Using the Texas Inpatient and Outpatient Public Use Data Files, from 2013 to 2017 the unadjusted procedure rate was 7.29 per 100,000 for Black patients, 6.85 per 10,000 for non-Hispanic White patients, and 3.20 per 10,000 for Hispanic patients [51]. In 2015, after adjusting for sex, race, age, and obesity, Black women had the highest surgery rate at 6.37% and Hispanic women at the lowest surgery rate at 0.25%. Data suggest that disparities in surgery for Hispanic patients are related to lower rates of referral and higher rates of self-pay insurance status [52].

Outcomes

Data on the long-term prognosis in those with NAFLD by race and ethnicity are limited. A cross-sectional analysis of NIS data evaluated trends in hospitalization-related outcomes among adults with NAFLD from 2007 to 2014 and found no differences in mortality by race and ethnicity, insurance type, or income [53]. Hispanic Americans were hospitalized for NAFLD more frequently than any other group, but Black persons and those without private insurance had longer length of stay and poorer discharge dispositions. For both groups, this may have been related to barriers in access to care.

Food insecurity, defined as “a household-level economic and social condition of limited or uncertain access to adequate food” leading to health in nutrition issues, affects more than 12% of US households [54]. Kardashian et al. found that food insecurity independently increased mortality by almost 46% in those with NAFLD (95% CI 1.08–1.97) and 37% in those with advanced fibrosis (95% CI 1.05–1.67); this was independent of Hispanic ethnicity or Black race, which on multivariable analysis were not associated with all-cause mortality [55]. This is notable, as race and ethnicity association with all-cause mortality data have been mixed [56].

Interventions in prevention and treatment

An important step toward improving disparities in NAFLD prevalence and outcomes is to improve both patient and provider education regarding the disease. One study of Mexican-American women in Arizona showed that 82.5% had never heard of NAFLD from their doctor [57]. Many participants

believed liver disease came from alcohol consumption alone. In a global survey of physician knowledge about NAFLD including hepatologist's, gastroenterologist's, endocrinologist's, and primary care physicians from 40 countries, hepatologists had the highest epidemiology, diagnostic, and treatment scores; however, treatment scores were still only 61%. Community-based participatory research is needed to determine how to educate high-risk Hispanic communities about this disease. Wide dissemination of the NAFLD clinical care pathway to primary care providers should be focused on communities with high disease prevalence [58]. Partnerships should be developed to disseminate this clinical pathway with other community partners.

Cholestatic and autoimmune liver disease

Disease burden

As relatively rare diseases studied in overwhelmingly White cohorts, primary biliary cholangitis (PBC) and primary sclerosing cholangitis (PSC), and autoimmune hepatitis (AIH) had been underrecognized in racial and ethnic minorities until recently [59–61]. One recent study looking at AIH prevalence data from 26 healthcare systems in all 50 states found an overall prevalence rate of 31.2/100,000, with a prevalence rate of 38.7/100,000 in White persons, 33.1/100,000 in Black persons, 38.8/100,000 in Asian persons, and 41.5/100,000 in Hispanic persons [62]. In a single-center study by Are et al. of 469 patients with PSC, Black patients presented at a younger age than White patients (36.3 ± 15.2 years vs. 42.5 ± 16.7 years, $p = 0.013$) suggesting perhaps a more aggressive disease [63]. However, there were no significant differences in large or small duct PSC, intrahepatic versus extrahepatic distribution, disease severity per Mayo Risk Score, cirrhosis, insurance type, or comorbidities between the two groups.

Access to care and treatment

Data is emerging from US consortia with more diverse populations to help us better understand treatment access. An analysis of the Fibrotic Liver Disease (FOLD) Consortium cohort sought to explore the impact of race and ethnicity on treatment outcomes with ursodeoxycholic acid (UDCA) [64]. Among 4238 patients (8% African American, 7% Asian American/American Indian/Pacific Island [ASINPI], 21% Hispanic), Black patients were less likely to receive UDCA treatment than White patients (OR 0.5, 95% CI 0.4–0.7), but there were no differences in treatment rates between ASINPI compared to either White or Black patients.

Outcomes

Racial and ethnic minorities have been noted to have higher mortality from cholestatic and autoimmune liver diseases than their White counterparts. In a NIS study of PBC, Black patients had a lower risk of hospitalization (RR 0.47, 95% CI 0.45–0.49), but higher odds of mortality (OR 1.47, 95% CI 1.03–2.10) than White patients in a model adjusted for income [65].

Despite the clinical similarities noted between White and Black patients with PSC in the 2021 Are et al. study described earlier, mortality in PSC was nonetheless higher in Black compared to White patients (sHR 1.80, 95% CI 1.25). However, when adjusting the model for a measure of community socioeconomic health, the mortality disparity was no longer significant and the sHR was attenuated (sHR 1.01, 95% CI 0.99, 1.04, $p = 0.345$). This ultimately emphasizes the interconnected nature of race, lived environment, and socioeconomic factors in the USA. Similarly, in the FOLD Consortium study exploring the impact of race and ethnicity on treatment outcomes with UDCA among untreated patients, Black and ASINPI persons had higher mortality than White (HR 1.34, 95% CI 1.08–1.67 and HR 1.40, 95% CI 1.11–1.76, respectively). Among treated patients, this relationship was reversed (HR 0.67, 95% CI 0.51–0.86 and HR 0.88, 95% CI 0.67–1.16). The final model retained household income and comorbidity. This emphasizes the gravity of the disparity in treatment seen between Black and White patients with PBC in this cohort [64].

Interventions in prevention and treatment

There are no published data on interventions to improve access to the care continuum for racial and ethnic minorities with autoimmune and cholestatic liver diseases. The Autoimmune Hepatitis Association, a patient-oriented nonprofit organization, recently held a Patient and Researcher Summit with the goal to set a shared vision for AIH research with one focus being on underserved populations [62]. This half-day summit brought together 20 patients, 20 physicians and researchers, and 2 pharmaceutical representatives and included expert-led discussion of overcoming racial barriers in autoimmune hepatitis (AIH). Comments from racial and ethnic minority patients with AIH included providers “assumed I was an alcoholic” and “always minimized my symptoms and concerns.” Data are needed to help understand provider gaps in knowledge, provider bias, and patient barriers to care. The AIHA has further focused on educating the healthcare community as well by hosting a community conversation at the American Association for the Study of Liver Disease Liver Meeting in 2021 to highlight organizational efforts centered on a recently developed diversity, equity, and inclusion committee. Over 100 meeting attendees discussed challenges to patient care, research, and support of ethnically diverse patients and sought ideas to minimize these gaps in the patient community.

Conclusion

The COVID-19 pandemic poignantly unveiled the depths of racial disparity in health care in the US healthcare system. However, racial disparities have been and will continue to be present in liver disease care if we do not do more than go beyond simply acknowledging them. Action is not optional, it is an imperative. We must understand their root cause and act accordingly. Achieving health equity will take a multilevel approach that includes health policy, health system, bias reduction, and digital interventions. However, community-based interventions are an important part of the formula, and their challenges and successes need dissemination.

Declarations

Human and Animal Rights and Informed Consent

This article does not contain any studies with human or animal subjects performed by any of the authors.

Conflict of Interest

The authors declare no competing interests.

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