Culturally tailored steatotic liver disease management: Latino and Asian community partner perspectives and recommendations

VISUAL ABSTRACT

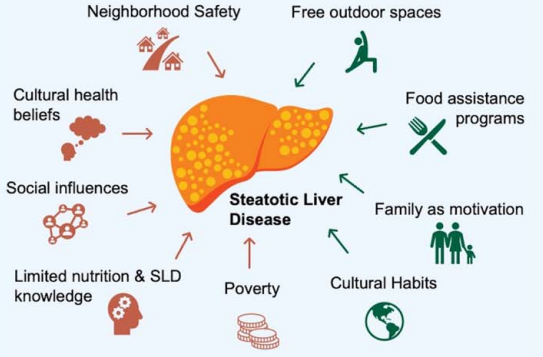
Culturally tailored steatotic liver disease management: Latino and Asian community partner perspectives and recommendations

Methods

- Qualitative interviews with Latino and Asian **community partners** to evaluate barriers and facilitators to lifestyle modifications and ways to culturally tailor steatotic liver disease (SLD) patient education
- Thematic analysis using National Institute on Minority Health and Health Disparities framework

Results

Barriers and **facilitators** to lifestyle modification were identified:



Recommendations

Nine key recommendations for steatotic liver disease patient education:

1. Use **visual aids**
2. Leverage **family values** as motivation
3. Familiarize with **community programs**
4. Remove references to **geographic sources** of diets (e.g., Mediterranean)
5. Provide dietary guidance within **cultural frameworks**
6. Identify **gradual changes**
7. Promote **existing daily activities** to align with exercise recommendations
8. Understand **community norms** for physical activity
9. Embrace **harm reduction** for alcohol use

AASLD Tsuchiyose, et al | *Hepatology Communications*. 2025.

Hepatology Communications

Received: 13 February 2025 | Accepted: 8 May 2025

DOI: 10.1097/HC9.0000000000000749

ORIGINAL ARTICLE

OPEN

Culturally tailored steatotic liver disease management: Latino and Asian community partner perspectives and recommendations

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Abstract

Background: Lifestyle modification is the mainstay of treatment for steatotic liver disease (SLD), and recommendations for behavior change require cultural tailoring to enhance their relevance for minority populations. This study aimed to explore community partner perspectives on barriers and facilitators to lifestyle modification and identify ways to improve cultural sensitivity for SLD management.

Methods: We conducted semi-structured interviews with 20 community partners (public health professionals, community leaders, and health care workers) from Latino (n = 9) and Asian (n = 11) communities in San Francisco. Interviews explored community knowledge of SLD, perceived barriers and facilitators to lifestyle changes, and feedback on current education materials. Data were analyzed using thematic analysis.

Results: Across 4 levels of influence (societal, community, interpersonal, and individual), 9 shared barriers and 6 shared facilitators emerged. Barriers included poverty, misinformation, social influences, time constraints, and limited nutrition and SLD knowledge, while facilitators included free outdoor spaces, food assistance programs, healthy cultural habits, and family. The Asian community uniquely cited safety concerns for outdoor activities and preference for Eastern medicine, while the Latino community expressed childcare constraints as barriers. We gathered 9 recommendations to improve the cultural sensitivity of lifestyle modification guidance, including working within traditional dietary frameworks, adapting exercise to activities of daily life, and embracing harm reduction for alcohol cessation.

Conclusions: Culturally tailored interventions may improve the relevance and sustainability of SLD lifestyle modification recommendations in Latino

Abbreviations: AASLD, American Association for the Study of Liver Diseases; COM/L, community organization members and leaders; HCW, health care worker; NIMHD, National Institute on Minority Health and Health; PHW, public health worker; SLD, steatotic liver disease.

Supplemental Digital Content is available for this article. Direct URL citations are provided in the HTML and PDF versions of this article on the journal's website, www.hepcommjournal.com.

and Asian communities. Recommendations for interventions include harnessing community-based support, embracing cultural dietary modifications, and promoting feasible physical activity to enhance engagement in these populations.

Keywords: alcohol-associated liver disease, health disparity, metabolic dysfunction–associated liver disease, social determinants of health, steatotic liver disease education

INTRODUCTION

Steatotic liver disease (SLD), encompassing metabolic dysfunction–associated steatotic liver disease, alcohol-associated liver disease, and the overlapping entity metabolic alcohol-associated liver disease, is the leading cause of chronic liver disease in the United States and worldwide.[1,2] Over one-third of the US adult population is projected to have SLD by 2030.[3] SLD disproportionately impacts vulnerable populations, such as those who are socioeconomically disadvantaged or historically marginalized. Latino communities have the highest prevalence of metabolic dysfunction–associated steatotic liver disease in the United States,[4] and while overall prevalence in Asian communities is lower, they may have increased relative risk of liver injury and fibrosis progression[5,6] and are more likely to present with SLD in lean individuals.[6,7]

Lifestyle modifications for diet, physical activity, and alcohol cessation, together with weight loss, remain the mainstays of treatment for SLD management.[8] While the US Food and Drug Administration has approved one drug for SLD with moderate to advanced fibrosis, lifestyle modifications are still required for optimal disease management in this setting.[9] Because SLD disproportionately affects historically marginalized ethnic groups and socioeconomically disadvantaged populations, improving the cultural relevance of lifestyle modification is necessary to enhance recommendations. Prior studies have described the value of diet and exercise education to improve patient engagement and sustainability of recommendations,[10,11] and cultural tailoring of these lifestyle interventions has shown promise for other metabolic diseases such as diabetes.[12,13]

The American Association for the Study of Liver Diseases (AASLD) practice guidelines for SLD management describe the benefits of recommendations such as the Mediterranean diet but acknowledge the importance of cultural tailoring of lifestyle recommendations to improve applicability across cultures and ethnicities and optimize adherence.[8] The purpose of this study was to explore Latino and Asian community partner perspectives on lifestyle modification barriers and facilitators to inform culturally tailored lifestyle recommendations for SLD management in a vulnerable patient population.

METHODS

Participants

A total of 20 community partners in San Francisco were interviewed: 9 serving the Latino community and 11 serving the Asian community. Community partners included public health workers (PHWs) (n = 2, San Francisco Department of Public Health), community organization members and leaders (COM/Ls) (n = 13), and health care workers (HCWs) (n = 5, providers, medical assistants, certified interpreters). Fourteen were female and 6 were male. Interviews were conducted either individually or jointly with community leaders at the same organization. Due to the specificity of the aims to inform SLD lifestyle modification recommendations for Latino and Asian communities being served by safety-net health systems, we initially aimed for a sample size of at least 15–25, which was expected to provide sufficient thematic saturation.[14,15] We then monitored the interviews throughout to determine when new themes were no longer emerging, and the final sample size was then determined at n = 20.

Procedure

Participants were recruited from the San Francisco Bay Area with purposeful sampling of participants who interacted with the target populations of interest from community organizations and public health settings. A list of these organizations was curated, and participants were contacted by e-mail or phone and invited to complete up to 60-minute interviews on Zoom. All interviews were conducted between June 1 and October 31, 2024. Each participant provided verbal consent for audio recording of the interview for transcription and was offered a $25 gift card for their participation. This project was approved by the

institutional review board of the University of California, San Francisco.

Standard reporting guidelines for qualitative research were followed. Research staff were from diverse cultural/ethnic backgrounds and had prior training and experience in qualitative research methods and best practices for structured interviews with participants from diverse backgrounds. Reflexivity was a critical component of ensuring open-mindedness and cultural sensitivity throughout interviews. Interactions were documented and ongoingly reviewed to assess and address the potential for personal biases that could impact interactions with participants. Interview questions were developed with input from examination of the literature, hepatology and public health experts, and Latino and Asian community members. Questions were then pilot tested with community members and revised based on their feedback to ensure cultural sensitivity. Probes were used as needed to expand on any topics brought up by participants. Interviews were conducted by research staff (E.T.) using a semi-structured interview guide consisting of open-ended questions regarding community familiarity with SLD, perceived barriers and facilitators to diet and exercise-related lifestyle modifications in the community, food accessibility, and cultural influences on motivation for change. Feedback on the current education materials used in the San Francisco safety-net health system's liver clinic was also gathered, including recommendations for improving cultural relevance and ways to better engage patients in the community beyond the clinical setting. Findings were presented to the community partners at the UCSF Liver San Francisco Cancer Initiative, a university and community partnership, for feedback. Interviews were then digitally recorded and manually transcribed verbatim for qualitative thematic analysis.

Qualitative data analysis

Two coders (E.T. and A.S.) read each deidentified transcript line-by-line to develop an overall understanding of the content before working independently to generate inductive codes. These codes were then labeled and grouped. The coders met to discuss and reconcile their inductive themes until consensus was reached. The coding team then jointly refined and collapsed the codes. Once finalized, the codes were sorted into larger themes based on the National Institute on Minority Health and Health Disparities (NIMHD) Research Framework[16] adaptation, by domains of behavioral, physical environment, and sociocultural environment and level of influence (individual, interpersonal, community, and societal). (Supplemental Materials, Supplemental Digital Content 1, http://links.lww.com/HC9/C27) Recommendations provided by participants were also summarized.

RESULTS

We identified barriers and facilitators to lifestyle modifications in both Latino and Asian communities and organized them across 4 levels of influence according to the NIMHD research framework: societal, community, interpersonal, and individual (Figure 1).[16] Nine shared barriers and 6 shared facilitators emerged across the 4 levels, as well as 2 unique barriers in the Asian community and 1 unique barrier in the Latino community (Table 1). In addition, 9 community partner recommendations for lifestyle modification were summarized (Table 2). Below, we describe each barrier and facilitator to lifestyle modification at each level of influence and recommendations for a culturally sensitive approach to lifestyle modification.

Societal

Shared societal-level barrier

Poverty

Poverty was the most frequently endorsed societal-level barrier to lifestyle modifications, including affordability of food and housing instability. Participants discussed higher prices of healthier foods, limitations of smaller or temporary living situations, and sustaining basic needs.

> Sometimes there are no options, especially for people who are struggling with housing, like they're not going to have a place to have all these fresh fruits or whatever if they're living in in a van. (Latina female COM/L)

> Sometimes making healthy choices is on the back of their minds when the top-of-mind thing is survival. […] If you have a limited income, are you going to go for like the more expensive healthy food? (Latino male COM/L)

Societal-level barrier unique to the Asian community

Neighborhood safety

Asian participants described neighborhood safety concerns as a unique barrier to physical activity.

> Especially since the pandemic and some of the anti-Asian hate, people don't like to go outside and be in public parks and so

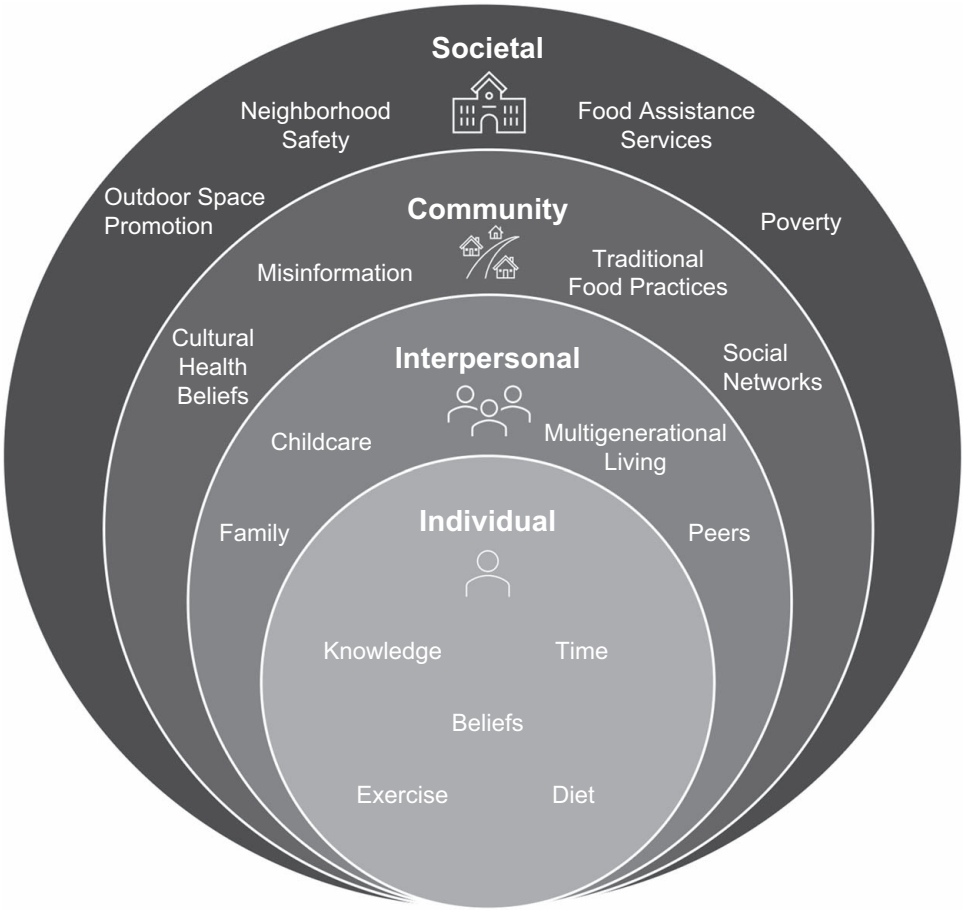

FIGURE 1 Major themes across 4 levels of influence for lifestyle modifications among Latino and Asian communities.

TABLE 1 Shared and unique barriers and facilitators for lifestyle modification recommendations across 4 levels of influence (societal, community, interpersonal, and individual) in Latino and Asian communities

Level of influence	Barrier/ facilitator	Common themes	Themes unique to Asian	Themes unique to Latino
Societal	Barriers	Poverty	Neighborhood Safety	
	Facilitators	Outdoor spaces Food Assistance services		
Community	Barriers	Alcohol in social settings Misinformation	Cultural health beliefs	
	Facilitators	Traditional foods		
Interpersonal	Barriers	Social influences		Childcare constraints
	Facilitators	Family motivation Central role of family		
Individual	Barriers	Sugars and carbohydrates Unhealthy cooking methods Time constraints from work Limited nutrition knowledge Limited SLD knowledge		
	Facilitators	Healthy cultural habits		

TABLE 2 Community partner recommendations for a culturally sensitive approach to lifestyle modification guidance

Domain	Theme	Recommendation
General	Community-based support	Providers should familiarize themselves with existing community-based programs that provide longitudinal contact and group support to help patients maintain lifestyle changes.
	Family engagement	Leverage family values as motivation for behavior changes and invite the family to attend health care visits.
	Use visual aids	Utilize visual aids in health education materials to convey more detailed information about dietary intake and exercise, especially among those with limited health literacy.
Diet	Remove diet labels	To enhance applicability, remove references to the geographic source of diets (eg, Mediterranean) and instead focus on dietary content.
	Cultural preferences	Provide dietary guidance that works within existing cultural practices and preferences, promoting healthier ingredient alternatives or cooking methods where possible.
	Gradual changes	Identify areas for gradual and consistent changes to improve the sustainability of recommendations (portion sizes, alternative ingredients).
Physical activity	Integrate exercise into activities of daily living	Identify ways to promote existing daily activities to align with exercise recommendations, for example, walking to the bus stop, gardening, household chores, and physically active jobs.
	Community norms	Understand community norms for physical activity and provide culturally acceptable and familiar examples when promoting physical activity.
Alcohol	Harm reduction	Promote realistic goal setting by embracing harm reduction principles, such as encouraging reduction if complete abstinence is not possible.

> they're looking up exercise things online. (Asian female HCW)

Shared societal-level facilitators

Food assistance services

Local food assistance programs were viewed favorably to increase food access and provide families with fresh produce. Participants also noted that language services at these programs increased accessibility.

> There's a lot of options, like there's a lot of food banks in general and I think more and more these past few years, I think they've almost always had like a translator, or somebody just spoke the same language at the very least. (Asian female COM/L)

Outdoor spaces

Free outdoor spaces were described as a facilitator for physical activity and an opportunity to include family members in behavior modifications without the need for official programs or gym memberships.

> The mission has all these parks where you can go and be active with your family, just going and walking around the park with your kids. (Latina female COM/L)

Community

Shared community-level barriers

Alcohol use in social settings

Alcohol was commonly referred to as a culturally normalized social activity. Limiting alcohol consumption may be difficult for individuals due to feelings of othering at social gatherings.

> Alcohol consumption is also of course a social activity too. It's even harder to limit. (Asian male COM/L)

> It's also a cultural thing and if you're going to go into the Latino community and just tell them just don't drink, good luck. (Latino male PHW)

Misinformation regarding health recommendations

Health beliefs are often formed and influenced through word of mouth and online social networks. While this may also provide a valuable opportunity for health

information dissemination, it creates opportunities for misinformation or reinforcement of stigma.

> They always hear from, like a friend, a family saying, "you cannot do this, or someone says you can do this" […] They only want to take [recommendations] from a friend or family, not a doctor. (Asian female HCW)

> The Latino community automatically believes at a certain age you're just going to have diabetes. […] And people come in and are like […] "I'm reaching that age where I probably just have diabetes." (Latina female HCW)

Community-level barrier unique to the Asian community

Cultural health values

The Asian community described specific culturally rooted health beliefs, such as a reluctance to use pharmaceutical treatments and a preference for Eastern medicine practices. Participants noted that some popular Eastern medicine principles, such as "hot foods" and "cold foods," may align with Western recommendations and that incorporation of these cultural ideas may improve understanding and adherence.

> They're (Asian patients) much more willing to engage in lifestyle modifications if it means they don't have to go on a drug. (Asian male COM/L)

> If you say it's not healthy, they'll be like "ah, yeah but that's like a western thing" or something like that. But you tell them […] that's way too much hot energy or cold energy, […] it might help them realize you understand their culture and lifestyle. (Asian female COM/L)

Shared community-level facilitators

Traditional foods can be healthier

Participants often described traditional dishes as healthier but noted that acculturation or newer cultural cooking adaptations, such as processed or fried foods, have been incorporated over time, making common dietary patterns unhealthier.

> A lot [of] like folks from Mexico, Central America […] they actually ate more soups […] which was actually great because their soups had a little bit of protein, had some more vegetables, but they lost that connection to soup when they came over. (Latina female COM/L)

Interpersonal

Shared interpersonal-level barrier

Social influences

Social influences were often regarded as a barrier to lifestyle modifications. Dietary changes often require negotiations with family and social circles, where food and drink are shared.

> Being surrounded by family, they sometimes don't support, or they don't agree with the changes that they might want to do. For example, let's say, sugary drinks. They want to cut out sugary drinks, but their family, they have events, they have parties. (Latina female COM/L)

Interpersonal-level barrier unique to the Latino community

Childcare constraints

In the Latino community, time constraints posed by childcare were mentioned as a notable barrier to lifestyle modification.

> They can't afford childcare. So, you're either having one job and the rest of the time you're taking care of your kids or your grandchildren most of the time. So, there's no time to exercise. If you don't have two jobs, you have kids that you're with. (Latina female HCW)

Shared interpersonal-level facilitators

Family motivations

Family was identified as the most pertinent source of motivation for behavior change. Both cultures spoke extensively about the importance of providing for family,

wanting to live longer for family, and the value of modeling good behaviors for their children.

> And when you really attach it to the kids, it's very meaningful because folks want to be there for their kids, they want the best for their kids. (Latina female COM/L)

> I could beg my mom, hey don't do this, right? But if I tell her […] it actually negatively affects us (kids), she goes 'Oh, then I won't do that.' Like automatically, no questions asked almost. (Asian female COM/L)

Central role of family in daily life

Family was also regarded as a central part of daily life. Both communities discussed multigenerational living and family mealtime as an important part of the day and an opportunity to engage others with the recommended changes to enhance sustainability and support.

> Family values are definitely important in the Latino culture and a lot of families live together. The mom, the dad, or one of their grandparents, and maybe an aunt or an uncle. And the kids. (Latino male PHW)

> Most Chinese meals are communal, so it has to get everybody on board. It can't just be like one person eating healthier. […] The whole family has to be involved because if they're eating five dishes together and like one person is eating something separate, that's just gonna not work. (Asian female COM/L)

Individual

Shared individual-level barriers

High consumption of sugar-sweetened beverages and simple carbohydrates

Both cultures noted that sugar-sweetened beverages and simple carbohydrates were frequently consumed in their communities by all age groups. The Latino community most frequently endorsed *pan dulce* (sweet bread), tortillas, rice, soda, and juices. The Asian community described Chinese *baos* (buns), rice, noodles, boba tea, and sweetened tea.

Unhealthy cooking methods

Both communities described frequent use of healthy ingredients paired with less healthy methods of cooking. The Latino community spoke of refried beans, fried tortillas, and cooking with lard, while the Asian community described stir-frying as a prevalent cooking method.

> What I have noticed is […] a lot of their food is really healthy, but they put a lot of fat in it. So, everything is fried. Like, their vegetables are stir fried, you know, so that little change can impact a lot. (Asian female COM/L)

Time constraints from work

Participants described challenges balancing time for exercise with other responsibilities and noted the importance of finding ways to incorporate physical activity into elements of daily life such as walking for part of their commute, taking family walks, or increasing activity during tasks such as cleaning and gardening.

> They might have three or more jobs to go to per day or during the week, and it's difficult to put aside time to specifically exercise and they could go and walk and take the bus or BART and do some sort of exercise while they're getting from one place to another. (Latina female COM/L)

Limited nutrition knowledge

Both communities described limited nutrition knowledge as a barrier to dietary changes, including unfamiliarity with common recommendations, such as whole grains or identifying added sugars, or cultural discordance with recommendations, such as the Mediterranean diet.

> A lot of times people think they're healthier because they're juices, but they don't realize that it could be 45 grams of sugar. (Latina female COM/L)

> I think focus on the contents and not label because I was a little confused, like what's this Mediterranean? (Asian female COM/L)

Limited SLD awareness

Participants described limited awareness in the community about SLD etiology, progression, and treatment.

> They probably don't know too much about it unless they've been diagnosed with it, so it's more like if it comes up in your personal experience, then you would know, but just it's not kind of on par with like, obesity, diabetes, hypertension. (Asian female COM/L)

Shared individual-level facilitators

Healthy cultural habits

Participants described healthy habits with cultural variations that were not frequently reflected in health education messaging. The Latino community described fruit and vegetable consumption with seasonings, and the Asian community listed unsweetened teas as commonly consumed beverages.

> We eat a lot of fruits and vegetables. They just come with a lot of Tajin, and they go with like salt and lemon. (Latina female COM/L)

> They (patients) usually might have questions about drinking tea […] like green tea versus black tea, or oolong tea or Jasmine tea, because that tends to be a more popular beverage. (Asian female HCW)

Recommendations

General

1.Community-based support: Providers should familiarize themselves with community-based programs that provide longitudinal contact and group support to help patients maintain lifestyle changes.

> I think when there is a social aspect, it could be helpful because at least other people keep you accountable. […] The social networks help continue to bring you in. (Asian male COM/L)

2.Family engagement: Leverage family values as motivation for behavior changes and invite family into health care spaces together.

> A lot of our families are very self-sacrificing for their family, and they forget about themselves. So, I think that starting with like this taking care of you is also helpful for the family. (Latina female COM/L)

3.Utilize visual aids in health education materials to convey more detailed information about dietary recommendations and exercise, especially among those with limited health literacy.

> A lot of the language that exists within the clinical field or policy or scientific language is very dense. So, try to simplify things as much as possible using as many images and graphics as possible, videos are important. (Latino male COM/L)

Diet

4.To enhance applicability, remove references to the geographic source of diets (eg, Mediterranean) and instead place focus on dietary content.

> The Mediterranean is not where our people come from. […] You're asking people to eat differently, kind of with just with that title. […] It's hard for people to connect with it. (Latina female COM/L)

5.Provide dietary guidance that works within existing cultural practices and preferences, promoting healthier ingredient alternatives or cooking methods where possible.

> I think like healthcare professionals, they don't put dietary stuff that's relevant to the cultural needs. (Asian female COM/L)

> It would be helpful if there were examples related to the foods that the Latino community eats. (Latina female COM/L)

6.Identify areas for gradual and consistent changes to improve the sustainability of recommendations (portion sizes and alternative ingredients).

> Don't take away what they already know. Just give them different options because I feel like that would be more beneficial. […] Giving them options and not just be like, don't do that. (Latina female HCW)

Physical activity

7.Identify ways to promote existing daily activities to align with exercise recommendations, for example, walking to the bus stop, gardening, household chores, and physically active jobs.

> They go oof, I barely have time to cook. […] You want me to take out time to go running? […] Really thinking in the cultural context of what people do in their daily lives that can

> count as exercise so that it doesn't seem as intimidating. (Latina female COM/L)

8.Understand community norms for physical activity and provide culturally acceptable and familiar examples when promoting physical activity.

> Our community loves to dance. […] We don't always see that as exercise, but it could be. (Latina female COM/L)

Alcohol

9.Promote realistic goal setting by embracing the harm reduction principles, such as encouraging reduction if complete abstinence is not possible.

> It's hard to be like you need to cut this cold turkey or to cut this completely out. […] It's more of like a harm reduction kind of perspective. (Latina female COM/L)

> If they can make that decision (to reduce alcohol consumption), it just empowers them more […] and they're more likely to continue. (Latino male PHW)

DISCUSSION

In this study, we explored Latino and Asian community partner perspectives on SLD lifestyle modification recommendations. Across 4 levels of influence, most barriers and facilitators were shared between the 2 communities, with some unique themes also emerging in the Latino and Asian communities. Community partners suggested future SLD lifestyle modification recommendations incorporate community-based and family support, work within existing cultural contexts for diet and physical activity promotion, and embrace harm reduction principles for alcohol cessation.

While SLD education has been shown to enhance patient knowledge, behavior modification recommendations require a deeper understanding of target populations to maximize behavior adoption. Lifestyle modifications are notoriously difficult to implement and, most critically, to sustain. Prior studies have cited inadequate knowledge, sedentary work, limited social support, and lack of willpower or motivation as commonly reported barriers to SLD lifestyle modification.[17–19] Even greater challenges emerge for vulnerable populations, including ethnically diverse and socioeconomically disadvantaged groups, who are at increased risk of health disparities due to social determinants of health. Long-term sustainability of changes requires that provider recommendations consider the whole patient (including family, cultural, and socioeconomic influences) to ensure feasibility and minimize barriers, especially among high-risk groups.

Guidelines for SLD management reference the Mediterranean diet but acknowledge its limited applicability to other cultures.[8,20] This issue was reflected in our findings that participants from both communities expressed that the label "Mediterranean" felt foreign or confusing, and recommended the removal of the geographic source and instead focus on the dietary contents. The Mediterranean diet emphasizes fruits, vegetables, lean proteins, and healthy fats,[21] which were deemed familiar and acceptable when separated from the "Mediterranean" label. In addition, our findings demonstrate the importance of identifying manageable dietary changes that work within existing cultural food habits to maximize the preservation of familiar cultural frameworks. For example, community partners favored portion control or decreasing the frequency of unhealthier but culturally ingrained foods, while promoting an increase in lean proteins and vegetables within familiar dishes using familiar spices and seasonings. Growing evidence supports that embracing traditional food patterns can provide a culturally sensitive approach to dietary counseling,[22–24] and a traditional Mexican diet has been shown to improve steatosis in Mexican American men.[25] Community partners shared that traditional diets were often less processed, and that a call to older cultural dietary traditions may be more applicable while still reflecting current SLD dietary recommendations.

Understanding patients' environments is critical to providing applicable physical activity recommendations. Physical activity guidelines discuss the role of aerobic exercise and resistance training,[8] which can require equipment, time, and baseline health status. Exercise recommendations can be especially difficult for vulnerable patient groups who may face many structural barriers. This was supported by our findings that the Asian community cited safety concerns as a barrier to physical activity due to an uptick in anti-Asian discrimination after the pandemic. Participants from both communities also reported time constraints from work or childcare as frequent barriers, further supporting the notion that traditional exercise recommendations may not be feasible for populations with limited resources. Community partners recommend that for vulnerable populations, it may be more effective to enhance activities of daily living, such as playing with children or household chores, to meet exercise recommendations.

Knowledge, confidence, and self-efficacy are essential for successful alcohol cessation.[26,27] However, barriers to referral, access, or initiation of alcohol use disorder treatment or sociobehavioral therapy make alcohol management challenging and significantly underutilized in the setting of liver disease.[28–30] While complete abstinence remains the main recommendation

for patients with SLD, evidence suggests that even a reduction in alcohol intake can yield positive physical and mental health effects, including slower progression of fibrosis.[31,32] Community partners in our study highlighted the value of supporting patients in reducing alcohol consumption through realistic goal setting rather than exclusively recommending total abstinence. This underscores the importance of harm reduction principles in alcohol management when abstinence is not feasible for patients who are unwilling or not yet ready to change.

Motivation is one of the most important aspects in behavior change,[33,34] yet medical information may be insufficient to motivate patients in the long term. Participants in our study reported family values as the most powerful motivator across both communities. Living longer to be with family, modeling healthy behavior for children, or making changes that improve the health of the entire family were commonly reported motivations that often outweigh the patient's concerns for their own health. Asian communities also described a reluctance toward Western medicine and a strong desire to avoid pharmaceutical treatment, thereby motivating lifestyle changes. Participants noted that framing behavior changes in this context of family wellbeing and cultural preference may enhance recommendations, improve shared decision making, and increase patient engagement with lifestyle changes. Other factors such as educational attainment, perceived stigma, and mental health have also been associated with motivation to adhere to lifestyle modification in patients with SLD and should be addressed in addition to educational interventions.[35]

Our study had several limitations. We specifically explored Latino and Asian community perspectives because they represent the largest ethnic minority groups served by the San Francisco safety-net health system liver clinic. While this limits generalizability to other ethnic groups, this focus allowed us to gather recommendations to tailor SLD education for the most frequently encountered populations in our clinical setting. We also acknowledge that not all countries of origin under the broader Latino and Asian ethnicities could be represented and that "Latino" and "Asian" are monoliths encompassing diverse communities with a variety of cultural, linguistic, and socioeconomic characteristics. In addition, participant feedback may have been influenced by social desirability bias due to the awareness of their input being used to shape new education materials. Nevertheless, achieving long-term behavior change remains a significant challenge, and aligning recommendations with patients' overarching cultural contexts and behavior patterns serves to enhance patient-provider rapport and improve the relevance of the guidance provided. By minimizing impractical demands on patients' lives, culturally tailored recommendations have the potential to improve the implementation and sustainability of health behavior modifications.

Altogether, our study described a variety of barriers and facilitators to SLD management using lifestyle modifications in vulnerable populations and identified 9 critical recommendations for future culturally tailored SLD management efforts. Community partners emphasized key barriers such as poverty, social influences, time constraints, and limited SLD and nutrition knowledge, while highlighting important facilitators such as free outdoor spaces, family motivation, and existing healthy cultural habits. Recommendations for culturally tailored SLD lifestyle modifications suggest harnessing community-based and family support, including culturally acceptable diet and exercise modifications, and embracing harm reduction principles for alcohol cessation. Evaluation of the impact of these recommendations on patient-centered SLD education outcomes is currently ongoing.

ACKNOWLEDGMENTS

The authors thank the San Francisco Department of Public Health and the San Francisco Latino Task Force for their invaluable assistance with this project.

FUNDING INFORMATION

This study was supported in part by the National Institute of Alcohol Abuse and Alcoholism (NIAAA) R01AA029312 (Mandana Khalili) and K24AA022523 (Mandana Khalili), and by the San Francisco Cancer Initiative (SF CAN), a collaborative community effort initiated by the Helen Diller Family Comprehensive Cancer Center to reduce the cancer burden across San Francisco and beyond.

CONFLICTS OF INTEREST

Mandana Khalili has been a recipient of research grants (to her institution) from Gilead Sciences and Intercept Pharmaceuticals, and she has served as a consultant for Gilead Sciences, GSK Pharmaceuticals, and Resolution Therapeutics. The remaining authors have no conflicts to report.

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REFERENCES

1. Lee BP, Dodge JL, Terrault NA. National prevalence estimates for steatotic liver disease and subclassifications using consensus nomenclature. Hepatology. 2024;79:666–73.
2. Díaz LA, Lazarus JV, Fuentes-López E, Idalsoaga F, Ayares G, Desaleng H, et al. Disparities in steatosis prevalence in the United States by Race or Ethnicity according to the 2023 criteria. Commun Med. 2024;4:1–11.

3. Estes C, Razavi H, Loomba R, Younossi Z, Sanyal AJ. Modeling the epidemic of nonalcoholic fatty liver disease demonstrates an exponential increase in burden of disease. Hepatology. 2018;67:123–33.
4. Tesfai K, Pace J, El-Newihi N, Martinez ME, Tincopa MA, Loomba R. Disparities for Hispanic adults with metabolic dysfunction-associated steatotic liver disease in the United States: A systematic review and meta-analysis. Clin Gastroenterol Hepatol. 2025;23:236–49.
5. Kim RG, Chu JN, Vittinghoff E, Deng J, Reaso JN, Grenert JP, et al. Racial/ethnic differences in fibrosis prevalence and progression in biopsy-proven steatosis: A focus on the Asian American population. Hepatol Commun. 2022;6:3024–35.
6. Truong E, Yeo YH, Cook-Wiens G, Muthiah M, Yang JD, Sundaram V, et al. Nonalcoholic fatty liver disease prevalence and severity in Asian Americans from the national health and nutrition examination surveys 2017–2018. Hepatol Commun. 2022;6:2253–61.
7. Kam LY, Huang DQ, Teng MLP, Takahashi H, Tanaka K, Yasuda S, et al. Clinical profiles of Asians with NAFLD: A systematic review and meta-analysis. Dig Dis. 2022;40:734–44.
8. Rinella ME, Neuschwander-Tetri BA, Siddiqui MS, Abdelmalek MF, Caldwell S, Barb D, et al. AASLD Practice Guidance on the clinical assessment and management of nonalcoholic fatty liver disease. Hepatology. 2023;77:1797–835.
9. Chen VL, Morgan TR, Rotman Y, Patton HM, Cusi K, Kanwal F, et al. Resmetirom therapy for metabolic dysfunction-associated steatotic liver disease: October 2024 updates to AASLD Practice Guidance. Hepatology. 2025;81:312–20.
10. Patel S, Kim RG, Shui AM, Magee C, Lu M, Chen J, et al. Fatty liver education promotes physical activity in vulnerable groups, including those with unhealthy alcohol use. Gastro Hep Adv. 2024;3:84–94.
11. Patel S, Partida D, Magee C, Garza Romero FE, Chen JY, Tana M, et al. Steatotic liver disease education enhances knowledge and confidence to adhere to provider recommendations in diverse and vulnerable populations. Gastro Hep Adv. 2024;4:100589.
12. Brunk DR, Taylor AG, Clark ML, Williams IC, Cox DJ. A culturally appropriate self-management program for Hispanic adults with type 2 diabetes and low health literacy skills. J Transcult Nurs. 2017;28:187–94.
13. Brown SA, García AA, Steinhardt MA, Guevara H, Moore C, Brown A, et al. Culturally tailored diabetes prevention in the workplace: Focus group interviews with Hispanic employees. Diabetes Educ. 2015;41:175–83.
14. Hennink M, Kaiser BN. Sample sizes for saturation in qualitative research: A systematic review of empirical tests. Soc Sci Med. 2022;292:114523.
15. Squire CM, Giombi KC, Rupert DJ, Amoozegar J, Williams P. Determining an appropriate sample size for qualitative interviews to achieve true and near code saturation: Secondary analysis of data. J Med Internet Res. 2024;26:e52998.
16. NIMHD. NIMHD Research Framework Details. 2024. Accessed December 23, 2024. https://www.nimhd.nih.gov/about/overview/research-framework/research-framework.html.
17. Tincopa MA, Wong J, Fetters M, Lok AS. Patient disease knowledge, attitudes and behaviours related to non-alcoholic fatty liver disease: A qualitative study. BMJ Open Gastroenterol. 2021;8:e000634.
18. Figueroa G, Castañeda S, McLean H, Dukandar J, Wilson S, Martin P, et al. Low health literacy, lack of knowledge, and self-control hinder healthy lifestyles in diverse patients with steatotic liver disease. Dig Dis Sci. 2024;69:384–98.
19. Shibayama K, Furushima C, Saka M, Sakamoto T, Takahashi H. Barriers to lifestyle modification in patients with non-alcoholic fatty liver disease: A scoping review. J Rural Med. 2024;19:1–9.
20. Zelber-Sagi S, Moore JB. Practical lifestyle management of nonalcoholic fatty liver disease for busy clinicians. Diabetes Spectr. 2024;37:39–47.
21. Guasch-Ferré M, Willett WC. The Mediterranean diet and health: A comprehensive overview. J Intern Med. 2021;290:549–66.
22. LeBlanc KE, Baer-Sinnott S, Lancaster KJ, Campos H, Lau KHK, Tucker KL, et al. Perspective: Beyond the Mediterranean diet—Exploring Latin American, Asian, and African heritage diets as cultural models of healthy eating. Adv Nutr. 2024;15:100221.
23. Sheehy T, Kolahdooz F, Schaefer SE, Douglas DN, Corriveau A, Sharma S. Traditional food patterns are associated with better diet quality and improved dietary adequacy in Aboriginal peoples in the Northwest Territories, Canada. J Hum Nutr Diet. 2015;28:262–71.
24. Nemec K. Cultural awareness of eating patterns in the health care setting. Clin Liver Dis (Hoboken). 2020;16:204–7.
25. Lopez-Pentecost M, Tamez M, Mattei J, Jacobs ET, Thomson CA, Garcia DO. Adherence to a traditional Mexican diet is associated with lower hepatic steatosis in US-born Hispanics of Mexican descent with overweight or obesity. Nutrients. 2023;15:4997.
26. Chang C, Wang TJ, Chen MJ, Liang SY, Wu SF, Bai MJ. Factors influencing readiness to change in patients with alcoholic liver disease: A cross-sectional study. J Psychiatr Ment Health Nurs. 2021;28:344–55.
27. Satre DD, Dasarathy D, Batki SL, Ostacher MJ, Snyder HR, Hua W, et al. Factors associated with motivation to reduce alcohol use among patients with chronic liver disease. Aliment Pharmacol Ther. 2025;61:481–90.
28. Luk JW, Ha NB, Shui AM, Snyder HR, Batki SL, Ostacher MJ, et al. Demographic and clinical characteristics associated with utilization of alcohol use disorder treatment in a multicenter study of patients with alcohol-associated cirrhosis. Alcohol Clin Exp Res (Hoboken). 2025;49:244–55.
29. Mellinger JL, Fernandez AC, Winder GS. Management of alcohol use disorder in patients with chronic liver disease. Hepatol Commun. 2023;7:e00145.
30. Haque LY, Zuluaga P, Muga R, Fuster D. Treatment of alcohol use disorder in patients with alcohol-associated liver disease: Innovative approaches and a call to action. Addict Sci Clin Pract. 2024;19:19.
31. Charlet K, Heinz A. Harm reduction—A systematic review on effects of alcohol reduction on physical and mental symptoms. Addict Biol. 2017;22:1119–59.
32. Crabb DW, Im GY, Szabo G, Mellinger JL, Lucey MR. Diagnosis and treatment of alcohol-associated liver diseases: 2019 practice guidance from the American Association for the Study of Liver Diseases. Hepatology. 2020;71:306–33.
33. Sheeran P, Wright CE, Avishai A, Villegas ME, Rothman AJ, Klein WMP. Does increasing autonomous motivation or perceived competence lead to health behavior change? A meta-analysis. Health Psychol. 2021;40:706–16.
34. Trujillo-Garrido N, Santi-Cano MJ. Motivation and limiting factors for adherence to weight loss interventions among patients with obesity in primary care. Nutrients. 2022;14:2928.
35. Medina SP, Kim RG, Magee C, Stapper N, Khalili M. Cross-sectional study on stigma and motivation to adhere to lifestyle modification among vulnerable populations with fatty liver disease. Obes Sci Pract. 2023;9:581–9.

How to cite this article: Tsuchiyose E, Salimi A, Magee C, Khalili M. Culturally tailored steatotic liver disease management: Latino and asian community partner perspectives and recommendations. Hepatol Commun. 2025;9:e0749. https://doi.org/10.1097/HC9.0000000000000749