






Considerations for a Mind-Body Program for Latine Adults with Chronic Pain and Cognitive Impairment: A Qualitative Study with Healthcare Providers

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Purpose: Chronic pain and cognitive impairment often co-occur and exacerbate each other, with Spanish-speaking Latine adults exhibiting a high prevalence of such comorbidity. While mind-body interventions for this comorbidity show promise, available programs are not tailored to the linguistic and cultural needs of socio-economically disadvantaged Latine adults with cognitive impairment. This study gathered recommendations from healthcare providers to tailor mind-body programs for Latine adults with chronic pain and cognitive impairment.

Methods: We conducted six qualitative focus groups with 21 providers and support staff across various healthcare centers. Providers offered their perspectives on the needs, barriers, and general recommendations on tailoring mind-body skills for Spanish-speaking adults with chronic pain and cognitive impairment. We conducted thematic analysis using a hybrid deductive-inductive approach.

Results: Within the needs and barriers domain, providers highlighted the importance of targeting multi-morbidities (pain, depression, anxiety, cognitive impairment, sleep disturbances), as well as social and structural factors (isolation, economic hardships, and invalidation of pain and memory-related concerns). Within the socio-cultural considerations for mind-body programs domain, providers perceived skills as a privilege rather than as socio-culturally embedded. They noted difficulties understanding, relating to, and practicing skills due to patient's limited educational backgrounds, health literacy, and support. Within the recommendation's domain, there was a preference for in-person, group-based approaches and programs involving family members to support practice at home. Providers emphasized that while many Latine adults with cognitive impairment remain largely independent, flexible delivery models with varying levels of social support are critical for sustaining skills.

Conclusion: Interventions grounded in community connection, family engagement, and culturally meaningful delivery may better align with how Latine individuals navigate their health journeys with chronic pain and cognitive impairment. By centering pain care within relational and community contexts, the present study offers guidance for enhancing mind-body programs to better support engagement, pain management, and cognitive health among Spanish-speaking Latine adults at elevated risk for dementia.

Keywords: chronic pain management, healthcare providers, cognitive impairment, qualitative research, Latine adults

Introduction

Chronic pain is a prevalent, costly, and debilitating condition that affects approximately 38% of adults in the United States (US).¹ Chronic pain frequently co-occurs with cognitive impairment, with epidemiological studies estimating that 27.6% to 50% of the adult population in the US experiences this comorbidity.^{2,3} When left untreated, the co-occurrence



of chronic pain and cognitive impairment can exacerbate both conditions, leading to long-lasting and often irreversible impairments in emotional,⁴ physical,^{5,6} and cognitive functioning.⁷ Despite the individual and societal implications, chronic pain is under-reported, misdiagnosed, and inadequately treated, particularly in racial and linguistic minorities (Spanish-speaking and Latine adults) with cognitive impairment. The incidence of chronic pain and cognitive impairment is expected to increase due to the shortage of trained clinicians able to deliver socio-culturally and linguistically accessible mind-body interventions,⁸ leading to an exacerbation of pain and brain aging-related disparities.

Socio-economic and system-level barriers further compound pain inequities among Spanish-speaking and Latine adults with cognitive impairment, accelerating neurodegeneration and increasing risk of Alzheimer's Disease and Related Dementias (ADRD).⁹ Healthcare providers and support staff often struggle to understand and address the needs and preferences of Spanish-speaking and Latine patients with chronic pain due to socio-cultural and language barriers in symptom presentation.^{10–12} These cross-linguistic and cross-cultural challenges are further amplified among Latine and Spanish-speaking adults with cognitive impairment,¹³ worsened by disparities in pain and neuropsychological care, including the lack of culturally and linguistically tailored pain treatments.^{14–16} Understanding the perspectives of healthcare providers and staff serving this population is critical for developing interventions that are responsive to the practical constraints of resource-limited community clinics experiencing a high burden of patients with poorly managed pain and cognitive impairment.

A growing body of evidence supports the promise of mind–body interventions for adults with chronic pain.^{17,18} Culturally and linguistically adapted programs for Spanish-speaking adults demonstrate strong feasibility, acceptability, as well as improvements in physical function and pain-related outcomes.¹⁶ Despite efforts to reduce gaps in pain care, few mind-body programs target pain in adults with cognitive impairment.^{17,18} Importantly, these programs have focused only on the needs of English-speaking, non-Latine adults. To date, there are no mind-body programs to address this comorbidity among Spanish-speaking Latine adults, a population projected to experience the steepest increase in ADRD.^{19,20} Gathering medical providers' perspectives on how to target multifaceted socio-cultural and structural factors in pain interventions to improve physical and cognitive outcomes is key to developing such programs.

The present study examined the perceptions of healthcare staff who work with Latine adults experiencing chronic pain and cognitive impairment regarding the needs, challenges, and key considerations for mind-body programs (delivery, format) and skills (mindfulness). Using focus groups, we explored the perspectives of Latine and non-Latine healthcare providers on: (1) perceived needs of Spanish-speaking adults with chronic pain and cognitive impairment, (2) barriers and facilitators to participation in mind-body programs for chronic pain; including the cognitive demands and socio-cultural relevance of mind-body skills for pain management; and (3) recommendations for optimizing the format and delivery modalities of mind-body programs for Spanish-speaking adults with chronic pain and cognitive impairment.

Materials and Methods

Study Design

The current qualitative study was conducted as part of a larger study aimed at culturally and linguistically tailoring an evidence-based mind-body program for Spanish-speaking Latine adults with chronic pain.²¹ We conducted six focus groups with 21 English and Spanish-speaking Latine and non-Latine healthcare providers. Focus groups were conducted in both English and Spanish (three in-person and three virtual, two of which were in Spanish). Qualitative data were analyzed using a hybrid inductive–deductive qualitative approach, which allowed us to identify new themes within already established domains informed by our research question (ie., perceived needs, barriers, and recommendations).²² We followed the Criteria for Reporting Qualitative Research (COREQ) during the conduct and reporting of this qualitative study²³ and obtained Massachusetts General Hospital (MGH) Institutional Review Board approval.

Setting and Recruitment

We purposively sampled healthcare providers across a large healthcare system. Eligible staff met the following inclusion criteria: (1) 18 years or older; (2) active staff members at MGH (eg., primary care doctors, neurologist, neuropsychologists, psychologist, community health workers); (3) experience working with Spanish-speaking patients with chronic

pain; and (4) willingness and ability to participate in focus groups. Specifically, healthcare providers were excluded if they practiced outside of MGH, had no experience working with Latine and/or Spanish-speaking adults with chronic pain, or were unwilling to participate in focus groups. To facilitate enrollment, study staff conducted clinic presentations and posted flyers in staff rooms. IRB-approved recruitment emails were disseminated to explain the study's aims and potential benefits for patients and services. The clinic director assisted in identifying eligible and willing staff to join the focus groups. Interested staff who responded to the clinic director's or principal investigator's Email chain were contacted to discuss the study and review the consent process. Those who consented to participate completed a brief telephonic or in-person demographic survey and were scheduled and/or allowed to join the focus group discussion.

Provider Participants

We interviewed 21 providers with an average of 9 years in their current roles ($SD = 10.26$). The majority identified as female (76%) and Hispanic or Latine (67%), White/Caucasian (29%), and Black or African American (4%). The most commonly reported occupations included primary care doctors (19%), medical interpreters (19%), and neuropsychologists (19%). Other roles included medical assistants (14.3%), nurses (9.5%), and individual participants identified as administrators, community health workers, physical therapists, and neurologist (each 4.8%). A majority of providers reported working in a community health center (71%). The diversity of provider roles and practice contexts reflects the interdisciplinary nature of the sample. See [Table 1](#) for the providers' characteristics.

Procedures

This study used a semi-structured qualitative interview guide with questions informed by prior studies aimed at tailoring a mind-body program for English- and Spanish-speaking adults.^{24,25} The interview script inquired about the perceived needs, barriers, and considerations for tailoring mind-body programs and skills to Spanish-speaking and Latine adults

Table 1 Characteristics of Providers (n=21)

Variable	N (%) Mean (SD)
Years in the role	9 years (10.26)
Gender	
Female	16 (76)
Male	5 (24)
Ethnicity	
Hispanic or Latine	14 (67)
Not Hispanic or Latine	3 (14)
Prefer not to answer	4 (19)
Race	
Black or African American	1 (4)
White/Caucasian	6 (29)
Prefer not to answer	14 (67)
Occupation Description	
Primary care doctor	4 (19)
Medical interpreter	4 (19)
Neuropsychologists	4 (19)
Medical assistant	3 (14.3)
Nurse	2 (9.5)
Administrator	1 (4.8)
Community health worker	1 (4.8)
Physical therapy	1 (4.8)
Neurologist	1 (4.8)
Clinic Type	
Community health center	15 (71)
Non-community health center	6 (29)

with chronic pain co-occurring with cognitive impairment. We probed for socio-cultural considerations of mind-body skills and recommendations for optimizing the format and delivery modality of mind-body programs for adults with chronic pain and cognitive impairment. Interviews were audio-recorded, de-identified, and professionally transcribed using a HIPAA-approved transcription service. A research assistant was always present in focus group interviews, taking notes that were compiled in a rapid data analysis (RDA) matrix. Notes were reviewed and complemented by the interviewer to ensure completeness and accuracy of the main themes discussed in each focus group. The RDA matrix allowed the first author to determine thematic saturation and sample adequacy.²⁶ A target sample of 20 providers was established a priori based on prior qualitative studies involving similar provider populations.²⁵ However, the sample size was considered sufficient to generate relevant information for the study's aims when no new themes were emerging. Because the first author had pre-existing professional relationships with some of the recruited staff (ie., as part of working at the same institution and serving the same patient population), those focus groups were conducted by a different interviewer (NAF). The finalized themes and written findings were presented to one focus group participant (ie., a Spanish-speaking neurologist), who confirmed the accuracy of the identified patient needs and barriers and provided clarification on the appropriate use of terms and clinical considerations.

Data Analysis

The Gale Framework Method guided the hybrid inductive-deductive qualitative analyses of this study.²² In Step 1, interviews were conducted and transcribed verbatim in either English and Spanish, depending on the language used during the interview. In Step 2, the lead author (NGS), who facilitated and attended most interviews, and the second author (MEC) independently familiarized themselves with the data. In Step 3, transcripts were independently coded line by line, reviewing sections of the transcript where providers discussed the needs, barriers, and recommendations for adults with pain and cognitive impairment. Coding was conducted in the transcripts and in their original language to preserve meaning. In Step 4, the larger team, a Latina psychologist (EEEE) and a Latino clinical psychology doctoral student (NAF), reviewed the preliminary codes and provided feedback on the analytic framework. In Step 5, the analytic framework was applied using a hybrid deductive-inductive approach, organizing data into pre-specified domains (eg., needs, barriers, recommendations) while incorporating newly emergent codes/themes. In Step 6, coded excerpts from transcripts were charted into a working framework matrix of needs, barriers, and recommendations. During the development and application of the analytic framework (Steps 4–6), coding discrepancies were discussed and resolved through weekly consensus meetings between the first and second authors. Excerpts selected for the final manuscript were translated from Spanish to English by the first author and reviewed next to each other by the second author to ensure semantic equivalence. In Step 7, NGS and MEC independently reviewed the organized data to identify and refine themes and subthemes. Emerging themes and coding structure were discussed with the entire research team prior to member checking.

Reflexivity and Trustworthiness

The coding and analysis team comprised two Spanish-speaking Latina researchers with complementary professional backgrounds and levels of qualitative training (MEC, a master's-level female psychology student; NGS, a PhD-level female social work researcher). To strengthen the trustworthiness, the first and second authors engaged in a process of self-awareness about how their diverse identities, professional experiences, and expertise in qualitative research shaped data collection and analysis.²⁷ To ensure rigor in the analysis, two coders meet weekly to review the study aims, research question, and discuss qualitative methodology, including the coding process. We then present the coding decisions with the larger team (EEEE & NAF) to reflect on the implications of the research findings. Member checking was conducted by sharing the manuscript with a focus group participant with extensive experience providing neurological care to Latine older adults. This feedback informed minor refinements to domain 3 (recommendations for mind-body programs format and delivery modalities). They noted the need to clarify that the tailoring of mind-body programs for pain management should occur based on factors such as the degree of cognitive impairment (ie., mild-to-moderate), level of social support available (ie., caregiver/friend involvement vs peer or community health worker), and functional abilities (ie., considering that many older adults with cognitive impairment remain independent). Additionally, this study participant

recommended using the term cognitive impairment rather than cognitive decline or dementia, noting that the finding seemed to capture the challenges of Latine adults with chronic pain accessing a formal diagnosis or confirmation of cognitive decline. This broader terminology was viewed as more inclusive and reflective of the population represented in the study.

Results

We identified eight themes across the three predetermined domains: (1) perceived needs and barriers to pain management treatment, (2) socio-cultural considerations of mind-body skills for Latine adults with chronic pain and cognitive impairment, and (3) recommendations for mind-body programs format and delivery modalities. See [Table 2](#) for the coding of three with themes identified.

Domain 1. Needs and Barriers to Pain Management Treatment Chronic Pain and Cognitive Challenges Worsening Each Other Over Time

Providers indicated that chronic pain (ie, arthritis, fibromyalgia, persistent headaches, and back pain) often resulting from traumatic brain injuries sustained in physically demanding jobs and occupational accidents, rarely occurred on its own and was often accompanied by underrecognized and inadequately managed cognitive impairment. Providers highlighted a convergence of challenges involving younger-than-expected patients presenting with pain and cognitive complaints. For instance, one provider noted: “They are young people coping with pain and memory problems.” They also pointed to suboptimal neurocognitive assessment as pain frequently interfered with attention in neuropsychological evaluations: “If they have a migraine or severe headache, they will not pay attention.” Providers described distinct ways pain presents across the ADRD continuum, and their observations highlight the need for nuanced, stage-specific approaches to pain and cognitive impairment across the ADRD trajectory. One provider noted: “I see a lot of bouts of agitation, anxiety, restlessness when their dementia is advanced.” Younger adults with cognitive impairment were perceived to need interventions aimed at empowering them to maintain independence managing their pain. In contrast, pain management was reported to become increasingly challenging in later stages of Alzheimer’s, requiring tailored approaches that minimize medications that may adversely impact cognitive functions. A neurologist shared: “The medications they take for pain can affect memory.”

Comorbid Mental Health Influenced by Socio-Economic Needs

Depression and low motivation were viewed as significant barriers to coping with the combined burden of pain and cognitive impairment. As one provider noted, “Many times there is no motivation either to get started... or to follow the recommendations.” Anxiety was often described as directly exacerbating pain, sleep disturbances, and perceived memory decline. Taken together, these concerns were understood as both consequences of chronic pain and factors that further intensified mood and cognitive symptoms, creating a cycle of distress and functional impairment among people “who are still working, taking care of grandkids or children.” Providers noted that a large proportion of patients were juggling employment, childcare, and caregiving for older and younger relatives, along with memory complaints. They noted:

“They have children and have to look after their parents. So, work stress and cognitive impairment come along with the caregiver burden of having so much responsibility for the whole family.”

This cumulative burden was described as a significant barrier to pain management and neuropsychological care, as patients struggled to prioritize their own health while meeting extensive family responsibilities.

Family Support Critical for Engagement

Providers also highlighted the role of social support in shaping treatment access and outcomes. Many patients were perceived as overextended due to work and transnational family obligations, often experiencing limited support and isolation. Patients accompanied by adult children were perceived to have better outcomes, particularly in navigating language barriers and securing appropriate treatment. As one provider observed:

Table 2 Coding Structure

	Domain 1: Needs and Barriers				Domain 2: Socio-cultural Considerations		Domain 3: Recommendations for Adaptations		
Themes	Chronic pain and cognitive challenges worsening each other	Comorbid mental health influenced by socioeconomic needs	Family support critical for engagement	Invalidation and neglect of memory-related needs	Mind–body skills as a privilege rather than culturally embedded	Difficulties understanding, relating to, and practicing skills	Group-based and in-person delivery programs	Intervention format and structure	Leveraging community resources to facilitate delivery
Sub-Themes	Use of pain medications affecting memory Younger-than-expected patients with pain and cognitive complaints	Depression, anxiety, and sleep disturbances Caregiving for both children and aging parents Socioeconomic hardships	Family members facilitating treatment navigation Poor treatment outcomes among individuals with limited English proficiency	Provider time constraints and language barriers Memory-related concerns minimized or dismissed	Aligning mind–body approaches with patients' desire to reduce pain medications Integrating mind–body skills into familiar, day-to-day practices and accessible settings	Need to clarify the usefulness and relevance of mindfulness Linking mindfulness practices to familiar activities (e.g., prayer) Involving friends and family members to sustain engagement	Address isolation and lack of social support Foster connection and cultural values Address transportation barriers through hybrid formats	Adequate session length, duration, and group size Accessible location and/or hybrid delivery options Increased support for executive functioning (e.g., planning, organization)	Peer and caregiver support for adults with moderate impairment Community health workers for individuals with mild cognitive impairment

“If the patient does not have a son or daughter who looks after them and speaks English, it is tough for that patient to arrive at the appropriate [neurological and pain] treatment.”

Providers consistently noted that limited social support constrained engagement in care, whereas the presence of supportive family members facilitated treatment navigation.

Invalidation and Neglect of Memory-Related Needs

Another factor that posed a challenge to adequate pain and memory-related care was identified at the structural and systemic levels. Some providers discussed their limited willingness to discuss extensive memory-related concerns, often due to time constraints and language barriers. One provider explained:

“Some providers have less patience, knowing that the appointment will probably last twice as long... it is harder, I acknowledge that, but I also think some providers take the easy way out.”

Providers described frequent patient redirection between neurology and primary care, a back-and-forth that reinforced fragmented care and left patients without a clear pathway for managing this comorbidity. Providers’ confusion about referral pathways and treatment alternatives for pain management and cognitive impairment, they noted that symptoms were often minimized and dismissed, despite rising rates of ADRD:

“Many come and say that no one believes them... that everything is attributed to stress... There is a lack of acknowledgment... they feel that their experience is being invalidated. Sometimes they tell me they feel as if they were invisible... that their complaints do not matter.”

Domain 2. Socio-Cultural Considerations

Mind-Body Skills Perceived as a Privilege Rather Than Socio-Culturally Embedded

Providers described the mind-body connection as a practice that was often perceived as a privilege rather than a common cultural habit among Latine adults. As one provider noted: “There is not a culture of meditation or mindfulness.” Mind-body practices were frequently viewed as a skill reserved for people with time and fewer responsibilities. Another provider explained: “Sometimes they feel that that is for people with free time, not for those who are running around all day.” In this context, providers also described a broader pattern in which “the pill becomes a solution and therapy a privilege.” Meanwhile, some Latine providers identified that non-pharmacological approaches were more culturally aligned with patients’ desire to reduce pain medications, yet remained largely inaccessible. Environmental barriers also limited engagement in mind-body activities, particularly mindful walking during the winter months. One provider noted,

“I think a barrier that comes to mind right now is finding places where they can do this activity. I have seen that many of the streets here are pretty cracked or not very easy to walk on.”

Such barriers made it difficult for patients to integrate movement-based mindfulness into their routines, even when they were interested.

To address these challenges, providers recommended reframing mind-body connection as a socio-culturally relevant and accessible tool—one that could be presented as an extension of familiar, day-to-day practices rather than a formal meditative discipline. Some Latine providers attempted to normalize the mind-body connection by grounding it in activities that patients already engage in without labeling them as such. As one provider explained:

“Among Hispanics... this idea of meditation or mindfulness can be something atypical... like when we pray or swear an oath, for example. There are situations where a person has practiced those skills without realizing it.”

Conclusively, insights suggested that culturally grounded reframing, along with addressing environmental barriers, may enhance the relevance and accessibility of mindfulness for supporting brain health and pain management.

Difficulties Understanding, Relating to, and Practicing Skills

Providers highlighted that differences in educational background posed challenges to engagement among adults with chronic pain and memory difficulties. They explained: “Some never had the opportunity to go to school.” These educational barriers contributed to difficulties understanding and connecting with mind-body concepts. As one provider noted, “Mindfulness sounds like something very abstract... and if they do not understand it well, they do not see its utility.” Some providers expressed uncertainty about the usefulness and benefits of mindfulness, whereas others reported greater awareness of its potential value but described difficulty convincing patients to engage in non-pharmacological pain strategies:

“So when you tell them that this is not about pills, but about strategies they can apply, they have a hard time understanding it or [the patients] think it will not help them.”

Across interviews, there was agreement that psychoeducation was essential “to help connect pain, depression, and memory... they need you to explain why they are having [memory] difficulties.” Providers recommended that helping patients make these connections could increase motivation to practice the skills. They also recommended incorporating stories and involving family members to support practice at home and foster a collective sense of coping: “I do not know if it would be possible, but encouraging family, friends, or grandchildren to accompany them to a session could increase accountability.” Finally, providers described linking skills to daily routines through simple, culturally relevant, collective (family/friend) goal setting grounded in important values and needs as a promising strategy for engaging patients in behavior change.

Domain 3: Recommendations for Adaptations

Group-Based and in-Person Delivery Programs

Providers noted that many Spanish-speaking adults feel more motivated and supported when learning in a group format targeting their pain management needs and cognitive health. As one provider explained,

“I think an intervention that is more centered on them and maybe more group-based, precisely to create that feeling that there are other people who are going through the same thing.”

The value of shared experiences, validation, and encouragement was highlighted as critical for a group setting. Groups were also viewed as a way to target the significant isolation and lack of social support: “a group that can validate them and also push them a little to socialize with others and get out of that cycle of pain and memory challenges.” Providers described group formats as motivating for patients, particularly when learning occurred alongside others. As one provider noted: “It motivates people more if they have others who are also learning.” Despite varying perspectives on the intervention delivery format (in-person vs. virtual), in-person delivery was highlighted as fostering community connection and cultural engagement. At the same time, providers acknowledged that virtual formats could support access for individuals facing transportation or mobility challenges. As one provider explained:

“Anything that makes it more accessible could help. Like having interventions that are virtual, through the computer or the iPad or the phone, because many times they have difficulty leaving the house and may put up barriers themselves.”

Intervention Format and Structure

Providers described several practical design features as central to supporting participant engagement. With respect to program structure, providers described both session timing and ongoing supports for skill practice and connection as important for engagement. They recommended beginning with shorter sessions (30–60 minutes) and gradually increasing to 90 minutes as participants became more comfortable and group cohesion developed. An ideal program duration was described as ranging from 8 to 12 weeks, with opportunities for ongoing follow-up or repeated cycles to reinforce content and establish routine. One provider highlighted the need to balance brevity and depth:

“Very brief sessions can undermine engagement, and participants may wonder, ‘We are done already? What is next?’ At the same time, sessions that are too long can feel overwhelming and discourage participation due to time constraints.”

In addition, providers viewed value in several check-in calls during the week to support problem-solving skills practice. These contacts were described as particularly helpful for participants experiencing executive functioning difficulties, offering guidance, clarification, and encouragement. As one provider explained:

“If they had regular contact with someone from the community who explains things to them, listens to them, and guides them... that would help a lot, like a caregiver who guides them, because those people sometimes have difficulty with the executive function of planning.”

Beyond these structural supports, providers described group size, facilitation, and setting as central to engagement. Smaller group sizes were viewed as important for supporting learning, comfort, and participation among older adults with limited literacy or limited familiarity with behavioral and psychological approaches. They also noted that facilitators with linguistic or cultural backgrounds similar to participants’ were effective at building trust. In this context, delivering the intervention in familiar, Spanish-speaking community settings—such as churches, schools, primary care clinics, or other trusted locations—was described as critical for accessibility and sustained participation.

Leverage Community Resources to Facilitate Delivery

Findings within this theme revealed the role of family, peers, and community in the delivery and uptake of pain management programs. Peer support was viewed as a powerful facilitator, particularly for those who had already completed the program: “A peer who has already completed the program can help with motivation.” Across interviews, providers widely endorsed the involvement of Community Health Workers (CHWs), trained peers, and/or caregivers to boost engagement, adherence, and sustainability. As one provider noted: “A community health worker who visits them or calls them can make a difference. Sometimes they need someone who motivates them and reminds them about follow-up.” Providers emphasized that many individuals with pain and cognitive impairment remain largely independent, highlighting the need for flexible delivery models that can accommodate varying levels of support. Although many patients were perceived to lack formal caregivers, providers recognized that family- and friend-assisted skill programs, where both patients and relatives learn strategies together, could be especially beneficial for supporting those with more moderate cognitive impairment/dementia. As a neurologist explained,

“It can be an important factor in people who already have dementia or whose condition is more advanced... but what comes to mind the most is people whose complaints are milder, even though they do have a functional impact... they can remain independent.”

Discussion

In this qualitative study, we gathered the perspectives of English and Spanish-speaking bilingual healthcare providers on the needs and recommendations for tailoring mind-body programs to address chronic pain among Spanish-speaking adults with cognitive impairment. This study was conducted in response to the growing rates of chronic pain and high burden of Alzheimer’s disease and related dementias (ADRD) in Latine adults,^{28,29} warranting a deeper investigation into the intersection of these conditions and the development of culturally responsive pain management strategies for this population. Specifically, we gauged their perceptions of the unique needs and challenges experienced by Latine adults with cognitive impairment to inform the tailoring of existing mind-body programs, which are currently not accessible to individuals with mild-to-moderate cognitive impairment and dementia.³⁰ Findings sought to uncover needs and barriers related to Latine adults’ limited access to adequate pain care and neurological services to inform more accessible, inclusive, and culturally congruent mind-body programs.

Within the needs and barriers domain, providers highlighted the presence of multi-morbidities (ie, pain, sleep disturbances, depression, and anxiety), as well as the over-reliance on pain medications for younger than expected socio-economically disadvantaged adults with cognitive impairment and dementia.^{31,32} Consistent with cross-sectional and longitudinal data showing associations between chronic pain and subjective and objective cognitive impairment among Latine adults,^{33,34} providers emphasized that this comorbidity is becoming more common, yet under-identified and poorly treated as a result of multi-level barriers. In this domain, findings revealed treatment gaps in pain care, compounded by the lack of

culturally and linguistically concordant neuro-psychological treatments, and a complex healthcare system to navigate for adults with cognitive impairment, limited English proficiency, and socio-economic disadvantaged.³⁵⁻³⁷

Consistent with the socio-ecological model and previous qualitative studies,^{25,38} provider's feedback shed light on the individual, interpersonal and structural factors driving pain and neurological disparities experienced by Spanish-speaking and Latine adults. They noted the presence of behavioral and lifestyle factors (such as comorbid mental health conditions, poor sleep, dependency on pain medicines), interpersonal (lack of social participation and support), and structural factors (socio-economic stressors, language barriers) worsening pain and cognitive impairment. As supported by the brain aging framework,⁹ providers emphasized the need to target both socio-economic adversities and lifestyle factors as critical to mitigate accelerated brain aging among adults at risk of dementia. Barriers such as the lack of collaborative care to address pain and cognitive care with integrative models, the perceived invalidation of memory-related complaints with high attribution to stress and anxiety disorders, as well as a lack of time to adequately assess and treat memory-related concerns are consistent with recent studies calling for more resources to address multi-level barriers experienced by Latine adults with cognitive impairment or dementia.^{29,36}

Within the domain of socio-cultural considerations of mind-body programs and skills, providers emphasized the importance of going beyond the cultural and linguistic tailoring of interventions. Providers suggested that mind-body programs aimed at managing chronic pain and cognitive impairment warrant strategies that not only integrate social, linguistic, and cultural relevance, but also address environmental and structural factors to enhance feasibility and engagement (eg, a lack of psychoeducation about this comorbidity, unsafe walking spaces, and transportation barriers). While prior studies have made the case for more diverse and inclusive science around the practice of mindfulness to consider culture and context,³⁹ this is the first study to point out the need to embrace neurodiversity and neurological challenges (ie, cognitive impairment due to aging, neurodegeneration or injury) experienced by the Latine population with innovative and accessible solutions. Currently, mind-body interventions are not designed for individuals with mild to moderate cognitive impairment, partly because the content is not presented in accessible formats (auditory, visual, or modified text) and the formats tend to require a significant level of independence and are not inclusive of friends or family members who can aid with remembering, practicing, and sustaining skills. Findings from this domain are consistent with the perspectives of cognitively normal older and middle-aged Latine adults who also have a preference for easy to use, highly experiential and community-oriented mind-body skills and programs.^{21,37}

With regards to tailoring pain management interventions to account for cognitive impairment, providers distinguished that mind-body interventions had to be responsive to participants' level of cognitive impairment (mild to moderate) and degree of independence.³⁶ For more independent individuals, group-based psychoeducation and concrete tools were described as supportive of motivation and skill uptake among Latine adults with chronic pain and cognitive challenges. In contrast, providers suggested that individuals with more advanced cognitive challenges would still benefit from mind-body skills, but assisted by a friend or a caregiver. Consistent with the literature, existing caregiver-assisted pain coping skills programs are feasible and acceptable among non-Latine older adults with cognitive impairment.⁴⁰ However, these programs have excluded Spanish-speaking Latine adults.

Building on recommendations for culturally tailored mind-body interventions,³⁹ providers suggested several adaptations to better meet the socio-cultural needs and day-to-day lifestyles of Latine adults with pain and cognitive impairment. Culturally familiar practices, such as prayer, reflection, or other daily rituals, were recommended to minimize burden and complexity. They perceived psychoeducation as essential to help participants and their families understand the interconnectedness of their chronic pain, mood, and cognitive symptoms, which, if not attended to, could worsen each other. In addition to intervention content, providers emphasized that mindfulness could be reframed and supported in daily and family contexts, involving friends and family members as an interpersonal strategy/format to increase patients' likelihood of practicing mindfulness. Aligned with the collectivist values common in Latine culture and households,⁴¹ pain management programs were recommended to be more accessible to adults with cognitive impairment by including their family members in the practice and engagement in these daily skills.

Within the format and modality recommendations domain, providers identified tailoring the delivery of mind-body programs as central to supporting access, connection, and engagement. They emphasized the importance of flexible, community-centered delivery models in Spanish. They endorsed the group-based format's potential to

reduce feelings of isolation and foster motivation through patients' shared experiences. An in-person delivery was recommended due to its focus on human connection and the limited digital literacy and internet access many participants face. At the same time, hybrid and virtual options were recognized as beneficial for those with mobility difficulties and transportation barriers. Consistent with previous recommendations to engage Latine adults in mind-body programs for pain management,²⁸ small-group sessions led by Spanish-speaking facilitators, hosted in familiar community-based locations, and involving community health workers and trained peers were deemed key strategies for improving patients' trust and engagement in the intervention.⁴²

Strengths and Limitations

This study has strengths to highlight. First, we gathered perspectives from a sample of diverse healthcare providers and support staff, including neurologists, neuropsychologists, physical therapists, and other experts in pain and neuroscience. This was an important first step to inform the development and tailoring of mind-body programs for Latine adults with mild to moderate cognitive impairment. Second, member checking was used to validate the qualitative findings and ensure we adequately present providers' considerations into the development of a program addressing this comorbidity. Building on this preliminary data, our next step will be to integrate provider insights into the development of a mind-body program that leverages community resources (ie., community health workers and/or caregivers) to address needs and barriers identified in this study. Subsequently, we will gather patients, caregivers, and community perspectives on specific mind-body program components and mechanisms targeting this comorbidity, which will address an important step to adequately develop an intervention that is acceptable, feasible, and sustainable among Spanish-speaking Latine adults and their caregivers. There are several limitations to consider. Most notably, participants were recruited from a single, well-resourced healthcare system (Massachusetts General Hospital) in the Northeastern United States. As such, the findings reflect the perspectives of providers practicing in this specific institutional and geographic context and may not represent the experiences of providers in under-resourced healthcare settings or in other regions. Structural, linguistic, and cultural barriers may show up differently across these healthcare systems. Therefore, findings should be interpreted as recommendations based on the insights of a small group of providers but not necessarily generalized to other professionals in other healthcare contexts.

Conclusion

Findings of this study underscore the need to adapt mind-body skills and programs for Spanish-speaking Latine adults living with chronic pain and cognitive impairment in ways that are responsive to lived experience. Providers' perspectives reveal not only clinical barriers but also the cumulative emotional, relational, and practical challenges faced by Latine older adults with ongoing pain and cognitive concerns. These qualitative recommendations can be incorporated into mind-body interventions and iteratively refined through continued feedback from patients and key stakeholders. Overall, findings suggest that interventions grounded in community connection, family engagement, and culturally meaningful delivery may better align with how individuals navigate their health journeys. By centering care within relational and community contexts, the present study offers guidance for enhancing mind-body programs to better support engagement, pain management, and cognitive health among Spanish-speaking Latine adults at elevated risk for dementia.

Data Sharing Statement

Our qualitative study was not pre-registered. The analysis plan of this manuscript was not formally pre-registered. De-identified data from this study are not available in a public archive but will be available in a data repository upon request. There is no analytic code associated with this qualitative study. The qualitative data and interview guide will be made available upon request from the corresponding author.

Ethics Approval and Informed Consent

This qualitative study was reviewed and approved by the Massachusetts General Hospital Institutional Review Board (IRB) (Protocol No. 2024P002492). The IRB determined the study with providers to be exempt from written informed

consent and minimal-risk research. All participants were provided with an IRB-approved fact sheet describing the purpose of the study, procedures, potential risks and benefits, and protections for confidentiality. Verbal informed consent was obtained from all participants prior to data collection. All study procedures were conducted in accordance with the ethical standards of the institutional research committee and with the principles outlined in the Declaration of Helsinki.

Author Contributions

NGS conceptualized the study, secured funding, and led the study design, data collection, qualitative analysis, and drafting of the original manuscript. MEC contributed to qualitative coding, interpretation of findings, and manuscript drafting and revision. EEEE contributed to drafting the initial manuscript, the interpretation of findings, and participated in manuscript revisions. YK and NAF contributed to the development of data collection instruments, assisted with data collection, and critically reviewed and revised the manuscript. TVP and ZSO contributed to the interpretation of the data and critically reviewed and revised the manuscript. AMV and JG served as co-senior authors, providing mentorship, contributing to study design and interpretation of results, and critically revising the manuscript for important intellectual content. All authors participated in manuscript revisions, approved the final version of the manuscript, agreed on the journal to which the article has been submitted, and agreed to be accountable for all aspects of the work.

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Disclosure

The authors report no competing interests in this work.

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