

Published in final edited form as:

Hisp Health Care Int. 2020 September; 18(3): 163-173. doi:10.1177/1540415320908535.

Evaluation of Public Health Messages Promoting Early Detection of Dementia Among Adult Latinos With a Living Older Adult Parental Figure

Guilherme M. Balbim, MS¹, Ashley M. Maldonado, MOT¹, Amy Early, MOT¹, Lesley Steinman, MPH, MSW², Kristin Harkins, MPH³, David X. Marquez, PhD¹

¹University of Illinois at Chicago, Chicago, IL, USA

²University of Washington, Seattle, WA, USA

³University of Pennsylvania, Philadelphia, PA, USA

Abstract

Introduction: We aimed to evaluate the resonance of public health messages promoting early detection of dementia in adult Latinos with a living older adult loved one.

Method: We conducted a mixed-methods study with focus groups and surveys to evaluate eight messages encouraging Latino adults to accompany their older loved one for cognitive assessment. Qualitative data were transcribed and coded, and thematic analysis was conducted. We used descriptive statistics for quantitative data.

Results: Participants suggested that messages need to be translated into Spanish and images need to be more natural, present balance between positive and serious facial expressions, show more ethnic/racial diversity, and show family members other than the parents. Five major sociocultural themes affected how the messages were received: stigma, gender roles, the importance of the mother figure, guilt, and family togetherness.

Conclusion: Public health messages targeting cultural values are needed to effectively encourage early dementia detection in Latinos. Findings can be used to adapt culturally appropriate public health messages encouraging early dementia detection in Latinos.

Keywords

Alzheimer	's disease; health communication; public health messages; dementia early detection;
Latinos	

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Corresponding Author: Guilherme M. Balbim, University of Illinois at Chicago, Applied Health Sciences Building, 1919 West Taylor Street, M/C517, Room 613, Chicago, IL 60612, USA. gbalbi2@uic.edu or guimoraes.ef@gmail.com.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. Supplemental Material

Supplemental material for this article is available online.

Introduction

The number of older adults with Alzheimer's disease and related dementias (ADRD) is rapidly increasing, leading to growing concern from the public health community. In 2018, there were 5.7 million cases of Alzheimer's disease in the United States alone, with projections for this number to increase to 7.1 million and to 13.8 million by 2025 and 2050, respectively (Alzheimer's Association, 2018). Despite its prevalence, ADRD are frequently underdiagnosed in primary care settings, with 50% of cases receiving a formal diagnosis (Alzheimer's Association, 2017). Moreover, only 33% of the diagnosed and 45% of their caregivers are aware of their diagnosis (Alzheimer's Association, 2017).

The number of Latinos diagnosed with ADRD is expected to grow by 832%—from 379,000 persons in 2012 to 3.5 million people by 2060 (Wu et al., 2016). This increase may be partially explained by both the increasing number of Latinos in the United States and the aging of the population. Projections are that the proportion of Latinos aged 65 years and older in the U.S. population will increase from 7.3% in 2012 to 18.4% in 2050 (Ortman et al., 2014).

Furthermore, Latinos in the United States are 1.5 times more likely than age-equivalent non-Latino Whites to develop ADRD and less likely to receive services for diagnosis until later stages of the disease (Alzheimer's Association, 2018; Cooper et al., 2010). Latinos experience a younger age of ADRD onset than non-Latino Whites and non-Latino Blacks, and typically express greater cognitive impairment and more symptoms of dementia on initial presentation (Livney et al., 2011). Early detection might help patients and their families when making diagnostic and treatment decisions and also might help health care professionals anticipate potential problems associated with the disease progression (Moyer, 2014). Among the biggest challenges ahead of prevention and treatment intervention is the ability to screen to studies those at higher risk of developing ADRD (Babulal et al., 2019).

Factors that may delay ethnic minority groups from seeking a diagnosis include differing perceptions about normal aging, inadequate access to medical care, distrust of health care providers, lack of knowledge of available services, language barriers, and stigma (Chin et al., 2011; Kenning et al., 2017). Latinos, in particular, are more likely to attribute the cause of ADRD to mental illness, negative emotions, the individual "going crazy," or an act of "God's will" (Ferguson et al., 2005; Gray et al., 2009). This view of ADRD is related to a Latino cultural value called *fatalismo*. *Fatalismo* is the belief that all events are predetermined in advance for all time and human beings are powerless to change those. A study showed that acculturation levels could also be considered when seeking dementia diagnosis; however, among Latino adults acculturation did not predict knowledge about ADRD and diagnosis, whereas education did (Ayalon & Areán, 2004). Together, these factors pose significant barriers to early detection efforts targeting the Latino community.

ADRD is frequently diagnosed in response to a caregiver or family member voicing concerns, and more than one third of older adults regularly attend primary care visits with a family member or friend (Moyer, 2014; Wolff & Roter, 2019). Thus, it is important for ADRD awareness campaigns to target adult children and caregivers, so these individuals can

advocate for their older adult loved ones to receive ADRD diagnostic testing and treatment, as appropriate.

Awareness campaigns and other forms of public health messaging are vital for highlighting the topic of cognition and brain health and can help both normalize and destigmatize cognitive changes in older adults (The Gerontological Society of America, 2017). The Alzheimer's Association and Centers for Disease Control and Prevention (CDC) through the Healthy Brain Initiative 2018–2023 Road Map (Alzheimer's Association & CDC, 2018) have called for educating the public on cognitive changes and the need to see a health professional through the use of culturally appropriate messaging techniques. Previous efforts investigating public health messaging on brain health have targeted non-Latino Blacks and Puerto Ricans (Alzheimer's Association & CDC, 2018), yet there is no research on effective public health campaigns among mainland U.S.-born and foreign-born Latinos. Thus, this study aimed to evaluate the acceptability of public health messages encouraging adult Latino children to accompany their older adult loved one for cognitive evaluation.

Material and Method

We adapted methods from a study at the University of Pennsylvania intended to develop public health messages for non-Latino White and non-Latino Black adults in the Philadelphia metropolitan area (Jordan et al., 2019). We used methods similar to the University of Pennsylvania to evaluate how well adapted public health messages were received by Latino adults.

Design

With the assistance of the Healthy Brain Research Network (HBRN) coordinating center at University of Washington and the HBRN collaborating center at University of Pennsylvania, we used a concurrent triangulation mixed-method design. The HBRN is a CDC thematic network aligned with the "educate and empower" public health domain in the Alzheimer's Association and CDC Healthy Aging Program's The Healthy Brain Initiative: The Public Health Road Map for State and National Partnerships, 2018–2023 (Alzheimer's Association & CDC, 2018). HBRN is a multicentered collaborative network with six leading academic institutions across the United States (https://www.cdc.gov/aging/healthybrain/research-network/index.html).

We (University of Illinois at Chicago HBRN collaborating center) conducted formative research to assess the resonance of minimal adaptations to Jordan et al.'s (2019) public health messages in Latino adult children. We collected quantitative and qualitative data simultaneously to answer the same research question by comparing results to see if they reached the same conclusion (Creswell, 2014; Palinkas et al., 2011). We used guidelines for mixed-methods research (Teddlie & Tashakkori, 2009) to inform study methods and manuscript preparation. We received institutional review board approval from the University of Illinois at Chicago (Protocol No. 2016–0557).

Public Health Messages

The University of Pennsylvania created public health messages to urge adult children to bring their older parents and/or in-laws for a cognitive evaluation if they had concerns about their cognitive functioning. Details of the original messages and its development are found elsewhere (Jordan et al., 2019). The development and assessment of the messages were based on the integrative model of behavior change (Fishbein & Cappella, 2006). This model proposes that intention to perform a given behavior is the best predictor of behavior and is determined by one's favorableness toward the behavior (attitudes), perceptions about what others might think toward the behavior performance (norms), and beliefs around the abilities to perform the specific behavior (self-efficacy; Fishbein & Cappella, 2006). The messages were developed to encourage adults with a living parental figure to become a knowledgeable informant in the diagnosis and care of cognitive impairment.

We made adaptations to the University of Pennsylvania public health messages for our study with Latinos. First, we changed the call to action to the national Alzheimer's Association (instead of the Penn Memory Center) since we did not have a specific memory center to refer people to, and we adapted images to feature Latinos. The Alzheimer's Association offers forums, educational opportunities to communities, help with care navigation, and a community resource finder. The taglines (Figure 1) were kept the same. Second, we used stock photos of Latinos rather than African Americans, aiming to adapt to surface structure elements, that is, superficial manifestations of culture such as people's appearance, places, language, and clothing familiar to a specific culture (Resnicow et al., 1999). Those adaptations were the first steps in our formative work and were made with other important factors in mind: (a) the messages were also being adapted to other racial/ethnic and sexual orientation minority groups (manuscript under review). Other HBRN's collaborating centers were responsible for conducting other minority groups' adaptations. This cross-minority group approach contributed to the decision to not translate the first round of messages to each group's native language in order to keep consistency across the collaborating centers and (b) to keep the taglines (Figure 1) consistent with Jordan et al.'s (2019) messages across HBRN collaborating centers. Figure 1 provides the eight messages, taglines, and underlying beliefs that we evaluated.

Participants

Inclusion criteria were the following: (a) self-identify as Latino/a; (b) adult aged 18 years and older; (c) have at least one Latino living parent, step-parent, or parent-in-law aged 65 years and older; (d) speak and write English. We did not translate messages into Spanish in order to keep the language of all messages consistent across HBRN sites. We did not require participants to have concerns about older loved ones' memory or cognition, or for their older loved one to have or not have a dementia diagnosis. We used our existing partnerships and relationships with community-based organizations to recruit participants. DXM has been working collaboratively with the Latino community and community-based Latino organizations such as senior centers in Chicago since 2007.

We used word-of-mouth, flyers at local stores, community events, and at the University of Illinois at Chicago as the primary forms or recruitment. Potential participants interested in

the study contacted the research team staff via phone. At this call, the research staff assessed the participants' eligibility. If eligible, we provided the participant with potential dates for the focus groups. As soon as we had enough participants for a focus group, we contacted participants to confirm their availability.

Data Collection

We collected data using focus groups and surveys between September and November 2016. The focus group moderator and staff present were Latino/a, thus matched with the target audience's ethnicity. Male and female facilitators conducted sex-matched focus groups, two male-only, and two female-only focus groups. We opted for sex-matched groups to control for potential sex-based confrontation and to ensure participants felt more comfortable sharing their thoughts with sex-matched peers. Focus groups were capped to a maximum of eight participants so that every participant has a chance to provide their insights about the messages.

Each focus group lasted 60 to 90 minutes and was held at the University of Illinois at Chicago. We provided participants with refreshments, a \$50 gift card, and reimbursement for transportation. At the start of each session, the research staff obtained written informed consent. Trained moderators then followed a structured discussion guide (Supplementary Appendix 1, available online) that included ground rules; introductions; warm-up to share about older loved ones; open-ended questions about each message, which messages and taglines were their favorites and which should be further developed; and closing remarks from participants and the research team. Each group discussed eight messages, which were randomly reordered for each focus group. We audio-recorded each group with participants' permission and research staff took notes.

We used self-administered, close-ended surveys for participants to rate messages and taglines during each focus group. Before the discussion of each message as a group, participants individually rated eight statements with reference to how much they agreed or disagreed that the message (a) caught their attention, (b) was believable, (c) was convincing, (d) was important to them, (e) helped them think about accompanying a parent to a visit with a memory specialist, (f) helped them feel able to accompany their older loved to a cognitive evaluation, (g) provided good reason to accompany their older loved one to a cognitive evaluation, (h) was agreeable, and (i) was enjoyable. These individual ratings were each on a 5-point Likert-type scale from *strongly disagree* to *strongly agree*. After all the messages had been discussed, participants completed surveys to rate each message and tagline on a 10-point Likert-type scale (from 1 = *strongly dislike* to 10 = *strongly like*). The surveys were the same developed and utilized by Jordan et al. (2019). We also collected demographics and information about older loved ones' cognitive function.

Data Analysis

We (GMB and DXM) uploaded survey data into RedCAP and descriptive statistics were prepared using STATA by the University of Pennsylvania HBRN participating center. Focus group transcripts were uploaded into Atlas.ti, and data were initially analyzed by the University of Washington HBRN coordinating center.

We (LS and team) used thematic analysis to identify, organize, describe, and report themes found within the data set (Braun & Clarke, 2006). This approach highlights similarities and differences across diverse research participants and generate unanticipated insights (Nowell et al., 2017). The six phases for thematic analysis articulated by Nowell et al. guided the data analysis (Nowell et al., 2017). We (LS and team) converged the data by comparing survey findings to findings from the thematic analysis. First, the research team at the University of Washington HBRN coordinating center familiarized themselves with the data after reading each transcript multiple times searching for patterns. Second, initial codes were generated with short code names, definitions, and sample quotes. Third, the team searched for themes from the coded text, including both deductive themes from the messages (e.g., call to action, taglines, and photos) and inductive themes from the data (e.g., sociocultural norms). Fourth, the coded text was reviewed within each theme when needed. Each theme was defined, named, described, and exemplified. Finally, a summary report of findings was produced after applying the final codebook to the transcripts.

Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability were used to help establish the trustworthiness of our data. For credibility, we conducted research triangulation with multiple members of our HBRN team at the University of Washington (HBRN coordinating center) and triangulation with the survey data. For transferability, we (HBRN coordinating center) provided participant's descriptions of their perspectives so that readers can judge whether the findings would be applicable to the context of other Latino communities. For dependability and confirmability, we (HBRN coordinating center) kept track of changes on the codebook to document decisions made throughout the study until the final version of the codebook.

The analysis was organized by three predetermined overarching themes: taglines, images, and call to action. That choice was made because the focus group discussions were largely centered on participants' perceptions of these, and we wanted to analyze the data in such a way that findings were actionable for improving future messages. We (HBRN coordinating center) created our first codebook version identifying subthemes in two different ways along with these three overarching themes. First, each tagline, image, and call to action had their own subthemes. Second, we also created subthemes to capture other content that did not fit within these three overarching themes and each tagline and image subthemes. During the analysis phase, we summarized the key subthemes that emerged within taglines, images, and call to action, and some of these were similar to the codes that organized the data in the first place.

After the University of Washington team analyzed the qualitative data, our HBRN research team at the University of Illinois at Chicago conducted an extra round of data analysis to ensure the accuracy of the analysis for the Latino-specific data. Three investigators (GMB, AM, and AE) participated in this additional process. First, two investigators (AM and AE) who were not familiarized with the codebook and the first data analysis, independently read the transcripts to familiarize themselves with the dynamics of the focus groups. The two investigators were then joined by a third investigator (familiarized with the codebook and the first data analysis; GMB) and applied the codebook to a clean version of the transcripts to ensure the confirmability of the first data analysis. In this process, the investigators identified

five extra subthemes specific to Latinos that were not present in the first version of the codebook. As a committee, we compared the coding with the coded transcripts from the University of Washington. Disagreements were discussed in an effort to reconcile them and generate a final version in which discrepancies were resolved, creating a final version of the coded transcripts and codebook (Campbell et al., 2013; Supplementary Appendix 2, available online). The final coded transcripts were then uploaded into the ATLAS.ti 8.0 software to pull out textual data organized by code. We (GMB, AM, AE, and DXM) then reviewed each group of coded text to pull out key subthemes that emerged from the data and were meaningful to our formative work. Member checking was not conducted based on the arguments from a nonfoundationalism perspective, that there is no universal fixed reality, and because understanding is co-created through dialogue and experience, there is no static truth to which the results of an interview or focus group can be compared (Angen, 2000).

Results

Descriptive Data

We conducted four focus groups, two with males (n = 13) and two with females (n = 11), totaling 24 Latino adult children. Participants' mean age was 41.3 + 10.6 years, they were primarily U.S.-born (91.7%), and considered Spanish as their first language (60.9%), and their older loved ones were non-U.S. born (83.3%). Most participants had a college degree (62.5%), were working full-time (62.5%), and had an annual household income of at least \$50,000 (54.2%).

Messages and Taglines Surveys

The median rating for the eight messages ranged from 4 to 8 out of 10. Three messages (5, 7, 8; Figure 1) were evaluated with a median of 8 (Q1–Q3 = 7–9) out of 10. Messages 3 and 4 (Figure 1) received the lowest ratings (Mdn = 4, Q1–Q3 = 3–5). The median tagline ratings ranged from 6 to 8 out of 10. Taglines 4 (Be there for them now like they were there for you then) and 5 (Is your loved one experiencing memory loss or confusion that disrupts their daily life?) were the best evaluated with a median of 8 (Tagline 4: Q1–Q3 = 5–9; Tagline 5: Q1–Q3 = 7–10). Tagline 2 (There is something you can do) had the lowest rating (Mdn = 6, Q1–Q3 = 4–8).

Even Tagline 2 (There is something you can do) exhibiting the lowest rating, the message associated with this tagline (Message 8; image β tagline β call to action) received the highest ratings (Mdn = 4, Q1-Q3 = 3-5) on all nine aspects (see Data Collection section). Message 3 (Figure 1) had the lowest ratings with a median of 2 on five aspects (attention, convincing, thoughts, able, and reasons). Messages 1, 2, 5, 6, and 7, respectively, received a median rating of at least three of all the nine aspects.

Focus Group Discussion

Results of focus groups are presented according to the organization previously explained in the Data Analysis section. The taglines, images, and call to action are the overarching themes, which presented subthemes specific to each tagline, image, and call to action and additional subthemes that emerged from the data analysis. We chose to present the

overarching themes without mentioning the names and definitions of specific subthemes to facilitate the process in which the feedback will be incorporated to improve the messages according to participants' inputs. The final codebook version with the names, definitions, and sample quotes of subthemes is available in Supplementary Appendix 2, available online.

Taglines

Each tagline was discussed as a group after the participants had rated it individually in the surveys. The tagline "Together make a visit, together make a plan" had a positive impact, mainly due to its depiction that the children and older loved ones were in the process together (see the first quote below). However, participants also mentioned the challenges behind the process of planning a visit for a cognitive evaluation. Participants also pointed out that the tagline was somewhat vague, and the planning process was not clear enough (see the second quote below). Those reactions confirm the median rates described in the Results section.

It's really nice to go together, but it's mostly like just a regular doctor's visit. It's not necessarily a memory doctor, but it just like makes me want to go to the doctor with her just in general.

(Latina woman)

I think that you have to put together a plan. And then once you have that plan together, once you realize that there is a problem, then you've got to make that appointment.

(Latino man)

The taglines "They were there for you, now be there for them" and "Be there for them now, like they were there for you then" had mixed reactions. Some participants acknowledged that they want to be actively present in taking care of their loved ones and wanted to accompany their older loved ones not only for cognitive assessment but also for other activities of daily living and medical appointments of different specialties (see the first quote below). On the other hand, a feeling of guilt was triggered by some participants. Being told what they "should be doing" was not well received because the tagline was transmitting a sense of obligation (see the second quote below). Both taglines are similar by nature and received similar feedback. These findings somewhat go against the tagline ratings (Mdn = 7 and 8, respectively) with participants highlighting reasons the tagline should be improved. However, "Be there for them now, like they were there for you then" received more positive reactions (see the first quote below), which was reflected by a slightly better median rating (Mdn = 8).

If I'm walking down and I see this, the red [tagline] will speak to me. While it may not be memory loss, there are other issues. I'll be like go with them to see the cardiologist or whatever, because of the red [tagline]. It's universal and I like that.

(Latino man)

That [tagline] was a little demanding and, like, don't tell me what to do. Right, like giving you a guilt trip. I think as Latinas we already experience enough guilt.

(Latina woman)

"There is something you can do" had positive reactions (see the first quote below) and received feedback on different ways to make it better. It was pointed out that the tagline did not offer enough information about what to do and the reasons to act. Participants mentioned that it would be useful to have some introductory sentence before making clear that it is related to cognitive health (see the second quote below). Participants mentioned the possibility of putting this tagline together with others to complement each other (e.g., put together the four taglines in only one message). The higher volume of feedback for this tagline confirmed the lowest tagline rating (Mdn = 6) with participants highlighting reasons the tagline should be improved.

I think that I like the idea, though, that you're getting to see the scene of this, is what it's like to see a memory doctor. There's something that you can do. You can sit at that table with an expert and they'll help you out.

(Latino man)

If there was a topic on like something before of there is something you can do about it—memory problems or forgetfulness or something to that effect—then it would at least tell you what it's about.

(Latina woman)

The tagline "Is your loved one experiencing memory loss or confusion that disrupts their daily life" received the most positive feedback. Participants highlighted that this tagline was clear it was about memory loss and some of the consequences of that. Those reactions highlighted the completeness of the sentence and was the most highly rated (Mdn = 8). However, this tagline was perceived as excluding those with cognitively intact older loved ones and being effective only for those with cognitive decline (see the second quote below). Additionally, the sentence was mentioned as being too long and would need to be shortened.

I like it. I think it's direct and it's asking an important question, "Is your loved one experiencing memory loss." I mean, who doesn't want to know that? Everyone has a loved one and everyone has a concern for them. If you read this, it makes you think about the people in your life who might be heading in that direction. Yes, it's a good message.

(Latino man)

To me if I read it, I could think well, does my mother suffer this or that? No, okay, I'd keep on going. But if it's [if mother presents cognitive decline], wait a minute, she did and so then I'd probably read the rest of it.

(Latino man)

Each message included text in addition to the tagline, including questions or prompts such as "You might think your mother doesn't want you to visit a memory doctor with her, but she needs you there," "Go with them to see a memory doctor," and "What can we expect in the future? Are their memory problems part of normal aging? What resources are available to help them?" Participants exhibited positive reactions to the questions. They highlighted that the questions made them think about what they should expect, and about what is normal aging.

And then the questions, it's appealing. It's not much to read, but then also just the fact that those are bullet point questions. It kind of gives me the person who would try to seek help for my parent at least a little bit of guidance of where to begin, because sometimes I feel overwhelmed when I do have an issue with my parents. I don't know where to begin, or what kinds of questions to even start asking. In that way I would appreciate something like that.

(Latina woman)

Male participants pointed out the impact of explicitly saying "mother," which raised the Latino-specific topic of the importance of the mother figure for the male participants:

I really like it, man. I had a totally different reaction to it. I think that it's because it says "mother" and not "parent." It makes me think of my mother. I guess, I don't know if the focus is only men, but your mom is the one that you really want to take care of. You know, your dad is great too, but you get a different feeling when you think of your dad and when you think of your mom. And then also "she needs you there." It's like hey, your mother needs you.

(Latino man)

The majority of participants expressed uncertainty about the term *memory doctor* used in the messages. It was not clear who "memory doctor" refers to and how to access this specialty. A woman stated, "What is a memory doctor? Is there a memory doctor? If you Google it what's going to come up?" Participants suggested that using the primary care doctor could be more effective because this type of care is more familiar to them. Some participants brought up the possibility of a psychiatrist being considered a memory doctor (see the quote below). That caused concerns about a mental health stigma among Latinos.

When I saw the memory doctor, I'm like "Isn't that too general?" Isn't that too wide of a memory doctor? We should be specific. But then one of the doctors may be a psychiatrist. ... If you say psychiatrist they're going to think stigma and it's going to be more taboo. "Wait, I need to see a psychiatrist?" ... Because when you say psychiatrist then right away automatically people are like "Wow, I'm not crazy."

(Latino man)

Some comments and suggestions from participants were not specific to one tagline in particular. Comments were about formatting (e.g., increasing font size), better linking between the tagline and questions, and reordering of questions or taglines. A suggestion that was deemed as essential to the success of the messages is the need to translate them into Spanish. A participant suggested two versions, one in English and another in Spanish or even the use of *Spanglish*.

Images

The image showing the adult, the older loved one, and a doctor (Message 8; Figure 1) resonated with the participants most because they saw themselves at a doctor's appointment with their older loved one (see the quote below). Also, we received comments about how this image was well connected to the content, which was a missing component of other

messages. These reactions confirm the highest median overall rate (Mdn = 8) and for all nine aspects evaluated (Mdn = 4). However, some participants mentioned the need to add some component (i.e., brain scans) to the photo that makes it clear the doctor's specialty is related to brain health.

Yes, it got my attention, too. I like that image. That's how it looks when I go to the doctor. Sometimes it's two of us that go with my mom or that go with my dad. We're sitting down at a table talking with a doctor and so I relate to that. It resonated with me.

(Latina woman)

Another discussion topic was about the facial expressions conveyed in the images. Participants said the images depicted excessive happiness that does not match with the seriousness of discussing dementia. They suggested a balance between serious and happy facial expressions. In that way, both the seriousness of the topic along with feelings of hopefulness and love could be conveyed. Furthermore, stock images were not well received, they were judged as having forced facial expressions and were not appropriately depicting the message about cognitive decline.

I just don't think that like the whole thing around memory loss is something to be happy about. I think that there should be a little more serious picture or something. It's like not everyone is going to be happy like this. They're going to be concerned or stressed out and worried, and so I think that this whole image is covering up, you know, like the truth about memory loss or the effects of it.

(Latino man)

Participants were not clear about the messages' intended target audience. It was stressed that some images did not adequately represent Latinos' appearance and diversity, which led them to feel that some images were not relatable with the diverse Latino community. Age-appropriateness was an issue for some images, in which participants mentioned the adult child or parent was too young. Those reactions support the lowest rating for the overall message (Mdn = 4) and for the nine aspects evaluated (Mdn = 2-3) in Messages 2, 3, and 4 (see Figure 1), in which the parents or children were younger compared with those in other messages.

It was also brought up that some messages could have images in sequence, telling a story, like a *novela* (photographs combined with small dialogue bubbles to depict a story). Some women and men highlighted the importance of showing men's role in caregiving in the images (see the first quote below). Participants also mentioned that caregiving and accompanying an older loved one involves multiple family members, so different family members should be depicted on the images to reflect this (see the second quote below).

I kind of saw it as more that it's always about girls or women. I can understand them trying to put a picture of guys, you know, and to kind of try and get them thinking maybe. It makes me feel like they're also trying not to just target women, but then also get men to try and think about it.

(Latina woman)

The other thing is that you can add like a brother or a sister, because together it's not only one son or one daughter with the parent. It's like the whole team of your brothers—two brothers or one brother and one sister with the parent in the middle helping them to go to that appointment.

(Latino man)

Call to Action

The primary purpose of a call to action was to encourage the adult children to contact the Alzheimer's Association to help them in their search for a memory doctor. Participants provided feedback regarding content, format, and placement of the Alzheimer's Association contact information at the bottom of the advertisement. Participants identified some extra information that needed to be addressed to make the call to action more convincing. They mentioned informational, attitudinal, and motivational aspects that could be used to increase the effectiveness of the messages.

I want more information so that I can make an informed decision. If they're trying to highlight Alzheimer's, then just give me a little bit more information so that I can make an informed decision of what next step to take.

(Latina woman)

Dementia was discussed as a sensitive topic. Some participants brought up how difficult starting a conversation about dementia with their older loved ones would be. The loved ones may be resistant to get a cognitive evaluation because they think cognitive decline is part of normal aging. The stigma around dementia and mental health was highlighted again as one reason it is difficult to take action. A Latina woman stated, "If I'm going to be talking to my mom and we're going to see the memory doctor, she's going to be like 'What! It's like not, like oh'."

At times, the discussion revolved around themes that were not necessarily related to specific elements of the messages but came up as different topics. For example, participants discussed types of media through which the advertisements could be disseminated and that some messages were more directed to adult children who were already noticing some signs of cognitive decline in their older loved ones. Also, participants pointed out sociocultural norms around caregiving and how these are influenced by cultural values, especially gender roles and expectations, the importance of the mother figure for men, a need to show more family members in the messages, and a feeling of guilt sparked by messages among women.

Discussion

From our evaluation of the eight messages targeting adult Latino children, the messages with the greatest resonance were those with images depicting adults with their older adult loved ones interacting with a doctor alongside them, and taglines that clearly identified memory loss as the topic and empowered them with actionable steps. In addition, participants expressed a desire for messages to include more information about ADRD, disliked the vagueness of the term *memory doctor*, and expressed a strong preference for realistic photos with age-appropriate subjects.

Participants preferred taglines that were clear and concise in identifying memory loss as the topic of the message and gave them actionable steps to address any issues or concerns they had regarding their parents' cognitive health. The messages made some participants feel empowered to take a role in their parents' health, yet for other participants, they evoked feelings of guilt and obligation. Participants also expressed a desire for taglines or portions of the messages to be communicated in Spanish in order to better connect with their bilingual culture.

While the inclusion of general contact information for the Alzheimer's Association gave further context as to the topic area of the advertisement, participants asked that more information regarding ADRD be provided. Including definitions and symptomatology would allow individuals to gain a better understanding of the disease progression and come to an informed decision. This aligns with previous studies that depicted the need for more education about ADRD for family members (Borrayo et al., 2007; Clark et al., 2017; Hughes et al., 2009).

Five major sociocultural themes emerged that affected how the messages were received: stigma, gender roles, the importance of the mother figure, guilt, and family togetherness. Our major sociocultural findings correspond well with evidence from other fields on preferences and values within the Latino community.

The topic of brain health and ADRD provoked discussion of negative attitudes toward cognitive decline among some participants due to its confusion with mental illness. Participants worried that their older loved ones would assume being judged as "crazy" by suggesting a doctor's visit to address their brain health. This finding corresponds with previous research on mental illness within the Latino community. Compared with non-Latino Whites, Latinos frequently expressed greater shame and embarrassment about having a mental illness and were concerned about how seeking mental health treatment would affect others' thoughts about them and their family (Jimenez et al., 2013; Marquez & Ramírez García, 2013). ADRD carries a strong stigma within the Latino community with perceptions that the older adult has "gone crazy" (Gray et al., 2009). To overcome the barrier of mental health stigma related to ADRD, participants suggested that having a conversation with their older parents about going to a primary care physician could be a more natural first step.

Although our findings suggest a lack of support and resources to Latino adult children due to stigma, public health campaigns may be an effective means of addressing stigma related to ADRD in the Latino community. Recommended language for these campaigns includes avoidance of the term *demented*, with a preference for less stigmatizing words such as "significant memory loss" or "no longer able to do everyday things" (Coon et al., 2003). This type of language was adopted in our proposed messages but participants still presented concerns due to stigma.

Another sociocultural component we identified was related to gender roles. Specifically, the cultural norm that women rather than men are expected to be the primary caregivers for family members. Several female participants expressed that the caregiver role was designated for women and therefore the responsibility of care for older adult parents fell

primarily to adult daughters. Consequently, images displaying male caregivers received mixed reactions, with some participants describing these health messages as unrealistic due to the images not abiding by traditional gender roles. Others expressed that the novelty of depicting a male caretaker provided a platform to challenge traditional gender roles. Those findings are supported by previous research that reported females, more specifically daughters, were the most common primary caregivers (Borrayo et al., 2007; Harwood et al., 2000; Mendez-Luck & Anthony, 2015). Women are expected to be the primary caregivers of the aging parents and provide care at home as long as possible (Henderson & Guitierrez-Mayka, 1992) even if it causes personal hardship (Mendez-Luck & Anthony, 2015). This expectation is based on the cultural norm that women should be self-sacrificing and nurturing, the *marianismo* (Zea et al., 1994).

While messages directed toward males may not significantly increase their potential to become caregivers considering traditional gender roles, it is of value to portray males as potential caregivers in public health messages. Our participants' mixed reviews of images depicting males in the caregiver role demonstrate that these images, although contrary to the sociocultural norm within the Latino community, may spark conversations about the caregiving role, particularly among males. Thus, it is likely that similar images may increase the chances that Latino adult male children will initiate valuable conversations regarding brain health and Alzheimer's disease with their family when cognitive concerns emerge with their older adult loved one. As such, the development of future ADRD campaign messaging directed at Latino males would benefit from further investigation to determine what image content is most impactful to this target audience and inspiring these individuals to act on behalf of their aging parents to improve early ADRD diagnosis.

Male participants identified that messages and images portraying the mother figure elicited greater motivation to take action on behalf of the older parent. We detected again the cultural value of *marianismo* with feelings of high regard for mothers because of their self-sacrifice and the suffering they endured as caretakers of their children (Mendez-Luck & Anthony, 2015). Our findings suggest that including images of or references to the mother in public health messages would elicit more of an emotional response in Latino adult male children.

The least preferred message among the participants was the one depicting the tagline "They were there for you, now be there for them." Participants stated that the tagline evoked feelings of guilt. Latinos are known for valuing the family and putting family values above the individual (Flores et al., 2009). This is known as *familismo*, which embraces the family as central in life and influences the perception that caregiving is a form of showing loyalty, reciprocity, and solidarity to an older relative (Aranda & Knight, 1997). There are benefits and downfalls to *familismo* when it comes to caregiving. While *familismo* can be a facilitating factor in providing satisfaction and meaning in the role of caretaking for a relative with ADRD, it can also be a burden for the caregiver (Gelman, 2014). It is important to be sensitive not to evoke feelings of guilt within public health messages directed toward adult children. This feedback should be taken into account when developing and adapting public health messages.

We also found a desire for images including more family members other than parents. Participants suggested the inclusion of multiple family members. This might be related to feelings of *familismo*. Previous studies developing culturally tailored programs for Latinos have affirmed the importance of honoring this value by including all members of the family in the program or inviting main caregivers to attend along with less-involved family members (Coon et al., 2003; Suarez-Balcazar et al., 2018). Therefore, we should be aware of this aspect when developing public health messages to Latinos.

In spite of the novel findings present, we highlight some limitations. This study included a sample that is not nationally representative of Latinos as for educational level and self-reported income. Additionally, our study grouped different Latino subgroups together into one sociocultural group. Future studies should examine the effectiveness of brain health messaging within each subgroup of the Latino population for differences between ethnic subgroups. We did not measure acculturation levels, which could influence participants' perceptions and adoption of Latino cultural values, and affected their feedback related to cultural features of the messages. Finally, all focus groups were conducted in English, which may exclude the perspectives of adult Latino children who are primarily Spanish speaking.

The findings of this study provide a valuable starting point in the development of brain health messages directed toward adult Latino children. We recommend that future brain health messages targeting Latinos use clear and thought-provoking taglines, readily communicate the purpose of the message, incorporate some or all portions of the message in Spanish, include realistic and natural images, be aware of Latino cultural values depicted in the messages, and provide additional education on the topic or resources for follow-up education to viewers.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Thank you to our focus group participants for taking the time to share their perspectives. We thank our focus group facilitators, Jonathan Lopez and Yadira Montoya, and our research assistant, Karen Aguirre, who assisted with data collection and analysis. We also thank all HBRN scholars and investigators involved in the study, especially those involved in the data analysis. REDCap services were provided by the Institute of Translational Health Sciences at the University of Washington under the National Center for Advancing Translational Sciences and the National Institutes of Health (Award Number UL1 TR002319).

Funding

The author(s) disclose receipt of the following financial support for the research, authorship, and/or publication of this article: This work is the result of research conducted by the HBRN, which is funded by the CDC's Alzheimer's Disease and Healthy Aging Program. The HBRN is a thematic network of CDC's Prevention Research Centers Program. Efforts were supported in part by cooperative agreement U48 DP 005010, U48 DP 005053, and U48 DP 005013. The views and findings reported in this publication are those of the authors and do not necessarily represent the official views of the CDC. Additional support was provided by the Rush Alzheimer's Disease Center.

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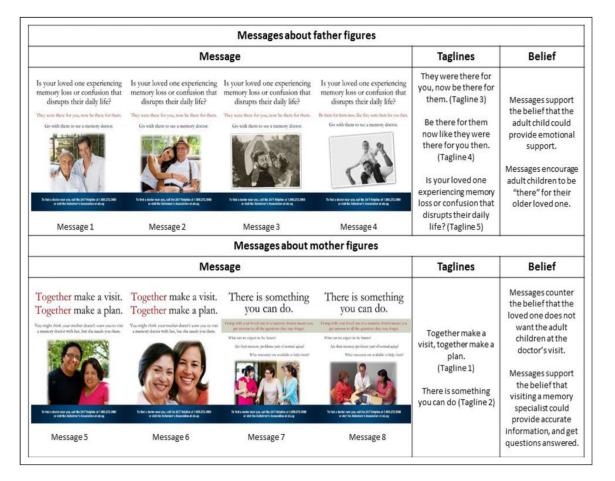


Figure 1. Public health messages, taglines, and underlying beliefs.