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BRIEF REPORT

¡Ojo! What to expect in recruiting and retaining older Latinos in physical activity programs

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Abstract

Older Latinos are the fastest growing cohort among older adults in the USA, and their lives are often fraught with comorbidities, such as diabetes and obesity. Strong evidence has demonstrated health benefits of regular physical activity for older adults. In spite of this, older Latinos participate in low levels of physical activity. Interventions designed to increase the physical activity of older Latinos are lacking, yet more are emerging as the number of older Latinos grows. Unfortunately, older Latinos face many impediments to participating in physical activity interventions that researchers are unaware of. The purpose of the current article was to identify barriers that researchers are likely to face in conducting physical activity interventions for older Latinos, highlighting recently identified barriers, and providing barriers we encountered specifically with *older* Latino adults; and strategies to overcome these barriers to implementation.

Keywords

Physical activity, Health disparities, Racial/ethnic minority, Recruitment

Implications

Practice: To overcome safety concerns, use a phone app to share real-time location with others/research staff; and/or advise participants to walk with someone (e.g., another participant).

Researchers and community partners should agree upon modes of physical activity that are accessible, available, and appealing to older Latinos.

Policy: Research institutions must consider enforcing federal policies and require inclusion of diverse populations in physical activity-related research protocols.

Research: Future researchers should consider employing promotoras or community health workers and/or bilingual, bicultural staff, and use established community connections to disseminate study materials.

Do not use lack of insurance as an exclusion criterion; use the Exercise Assessment and Screening for You tool, so that only participants who have new or uncontrolled conditions need to get medical clearance.

To overcome attendance barriers, have flexible testing times and class times (e.g., early evenings and weekends as possibilities), with opportunities to make up missed sessions; and consider reimbursing for travel.

Budget time and personnel when working with low literacy Latinos, adapt consent forms to a lower reading level (e.g., sixth grade level), and have a data collector administer questionnaires interview style.

INTRODUCTION

Older Latinos are the fastest growing cohort among older adults in the USA with a projected growth from 3.6 million in 2014 to more than 21.5 million in 2060 [1]. As their lives are often fraught with comorbidities such as diabetes and obesity [2], interventions that can prevent or lower risk for chronic diseases are critical for maintaining older Latinos' quality of life. The demonstrated health benefits for older adults who engage in regular physical activity (PA) are well documented [3]. Unfortunately, most older Latinos do not meet PA recommendations [4].

Although Latinos make up 17% of the population, only 1% participate in clinical research trials [5], resulting in low numbers of older Latinos participating in PA research trials [6]. This lack of representation can generate questions about the generalizability of findings as they apply to the Latino population. Reported barriers to study recruitment and retention include lack of culturally appropriate approaches, language strategies and measures [7], little inclusion of bilingual and culturally competent staff [8], distrust of the research community and fears of exploitation [9], competing demands for time [10], and cost of travel to study sites [11].

In order to address these barriers, suggestions have been made to (a) design community-based PA interventions that take place in neighborhoods,

(b) include social support components, enjoyable and acceptable physical activities, and (c) culturally adapt programs [12]. Suggestions have also been made to address study-related barriers, including employing culturally and linguistically competent staff [13], emphasizing relevant cultural values (i.e., familismo, personalismo) [14]; and building trust through community involvement (e.g, community health workers (CHW)/promotoras) [15]. These are all important issues to consider in working with older Latinos. Yet, even in addressing these, other challenges are likely to be encountered by researchers conducting interventions that cannot currently be found in the literature, and there are few examples of actual implementation. Furthermore, specific examples of "cultural considerations" are difficult to find. Thus, the purpose of the current article was to identify barriers researchers are likely to face in conducting PA interventions for older Latinos, highlighting recently identified barriers, and providing barriers we encountered specifically with *older* Latino adults; and strategies to overcome these barriers to implementation.

DESCRIPTION OF INTERVENTIONS AND RECRUITMENT STRATEGIES

Information for each of the three interventions follows, including a brief description and logistics of each program, followed by recruitment strategies used.

BAILAMOS. BAILAMOS is a Latin dance, Spanish-language intervention that encompasses four dance styles. The program meets twice-weekly for 60 min per session during a 4-month adoption phase followed by a 4-month twice-weekly maintenance phase (for extensive details see Marquez et al. [16]). See Table 1 and Supplementary Appendix for attendance and adherence data. The aim of this randomized controlled trial was to increase PA and examine the effects of PA on cognitive and physical functioning. Participants were recruited using established community relationships developed by the principal investigator. The Community Engagement Advisory Board of the Center for Clinical and Translational Science at the Blinded for Review also provided assistance by recommending strategies and specific community-based

Table 1 | Characteristics of PA interventions

Physical activity program	Sample characteristics		Dose	Attendance rate	Recruitment strategies
BAILAMOS	Screened	1731	4-month, twice-weekly, 60-min/session program, followed by a 4-month twice-weekly maintenance phase	Dance group = 65%	Churches
	N	333		Control group = 60.7%	Senior centers
	% female	81.6%			Senior housing
	BMI	31.16 (4.8)		Dance maintenance = 50.8%	Health fairs
	Education	8.4 (4.4)			Health centers/clinics
	Age				Supermarkets
	Dance group	64.1 (6.4)			Advertisements
	Control group	65.7 (7.6)			University CCTS
¡En Forma y Fuerte!	Screened	120	8-week, thrice weekly, 90-min/session program	Arizona site = 62%	Health centers/clinics
	N	56		Chicago site = 69%	Churches
	% female	80%			Senior housing
	BMI	31.9 kg/m^2			Senior center
	Education	87.2% < high-school level			Community health workers
	Age	58.8 (8.1)			
Tai Chi	Screened	156	12-week, twice-weekly, 60-min/session	Tai Chi group = 62%	Community health workers
	N	49			Physician distribution of flyers
	% female	73.2%			Churches
	BMI	34.5 (7.1)			Health centers/clinics Health fairs
	Education	9.9 (4.9)			
	Age	60.66 (8.3)			

BMI body mass index; *CCTS* Center for Clinical and Translational Science; *PA* physical activity.

organizations to consider contacting. Recruitment focused on a two-mile radius around the study site to reduce travel distances for participants. Recruitment was primarily conducted through presentations at the study sites and at Roman Catholic churches, where study staff made announcements at Sunday Spanish masses, placed flyers in weekly bulletins, and stood at the church exits after masses to distribute flyers and ask people to sign a form expressing interest in the study. Recruitment also took place within the noted two-mile radius at parks and coalition meetings; health centers and clinics, word of mouth, flyers in mailboxes of senior housing facilities, presence at supermarkets, senior fairs and health fairs, and articles and ads in neighborhood and city-wide newspapers and websites.

¡En Forma y Fuerte!. ¡En Forma y Fuerte! is a tailored, Spanish-language adaptation of the evidence-based program, Fit & Strong [17–20]! The Fit & Strong! program was translated into Spanish by a team of five translators [20] and is consistent with the original format of Fit & Strong! ¡En Forma y Fuerte! is an 8-week program in which participants attend three, 90-min sessions per week. It was delivered by bilingual and bicultural-certified exercise instructors. The aim of the program was to increase PA and exercise self-efficacy, improve arthritis-related symptoms, physical function and stiffness, and improve lower-extremity strength and aerobic endurance.

In Blinded for Review, participants were recruited through tables at events at a community health center. Flyers were also placed in the community health center and in local organizations near the clinic site including a fitness center, senior housing, churches, and senior centers. In the Blinded for Review location, the same recruitment approach was initially implemented, but it was not successful. Thus, a CHW who worked for the health center and was well established and trusted in the community was hired. She discussed the study with people who were waiting for appointments in the health center and invited their participation in the study, and went to nearby community organizations and spoke to people about the study.

Tai Chi. A randomized pilot study enrolled low income Latino men and women 50 years and older, and compared Tai Chi versus health education [21]. The aim of this study was to assess the feasibility of using Tai Chi as a PA intervention for older Latinos with diabetes and to examine its effect on levels of hemoglobin A1C, blood pressure, and psychosocial stress. The Tai Chi program consisted of 60 min sessions, held twice per week for 12 weeks, and led by a certified bilingual Tai Chi instructor. The instruction focused on postures and breathing exercises of the short version of Yang style (24 forms).

The program took place in a community clinic with free parking and easy access by bus. Recruitment strategies included contracting with a local community organization that employed promotoras or CHWs—as the local point of contact. CHWs distributed information about the study, identified and screened potential participants, scheduled appointments, and supported data collection. Also, with the support of already established community ties, the team engaged local churches, distributed flyers and engaged the community at the end of Sunday services. Study messages were also printed in the churches' newsletters to their congregations. At the clinic where the intervention was to take place, researchers received physicians' support in disseminating study information to the patients meeting the inclusion criteria. Letters of invitation were sent by mail to patients in the clinic's database who met the inclusion criteria. Study flyers and posters were visible in the waiting areas. Other recruitment strategies included conducting brief presentations at community gatherings and health fairs.

CHALLENGES AND SOLUTIONS

Recruitment-related challenges and solutions

Across the three studies, similar challenges were experienced in the recruitment and retention phases. See Table 2 for recruitment and retention challenges, respectively, and potential strategies and solutions. Some of the challenges are associated with cultural factors whereas others refer to Latinos' socioeconomic conditions. Recruitment and retention challenges may be related to Latinos' gender roles, "familismo" (feelings of mutual obligation, reciprocity, and solidarity toward one's family members) and "simpatia" (Latinos' sensitivity to formal, kind, and respectful social interactions) or lack thereof, whereas other challenges obey to conditions of many Latinos' experiences in America: lack of health insurance, immigration status, low education and literacy, and poverty. For enrolling older Latinos in PA interventions, needing medical clearance may pose a challenge. If medical clearance is needed before joining, but a person does not have access to a physician, or it will take months to get an appointment and physician approval, then that person will likely not be able to join the trial. One way to overcome this is through use of the Exercise Assessment and Screening for You (EASY) tool [22], which encourages PA participation and emphasizes the benefits of PA rather than focusing on the potential risks of engaging in PA. The EASY tool was used in the BAILAMOS study and in the Tai Chi study. There were participants that would have been eliminated from participation using other screening tools, and the EASY allowed for a more nuanced assessment, and expanded the pool of eligible candidates. The use of the EASY allowed individuals with the greatest need of a PA intervention to enroll in such interventions.

Table 2 | Recruitment and retention strategies and solutions

Recruitment challenge	Recruitment solution/strategy
Lack of trust of the researchers and the research process	Promotora/CHW to assist with recruit, identify and screen potential participants, schedule appointments, and support data collection
	Bilingual, bicultural staff working on the program
	Use established community connections to disseminate study materials (e.g., churches to invite congregations)
	Do not ask for social security numbers
Lack of insurance	Do not use lack of insurance as an exclusion criteria
	Use the EASY tool, so that only participants who have new or uncontrolled conditions need to get medical clearance
Working late into life	Conduct data collection in the community
	Flexible testing times and class times (e.g., early evenings and weekends as possibilities)
Acute and chronic illnesses	Flexible testing times (e.g., to make up missed classes due to appointments)
Reliable phone contact	Get the name and phone number of three other people who could be contacted
Low literacy makes consent and data collection a lengthy process	Adapt consent forms to a lower reading level (e.g., sixth grade level) and have a data collector administer questionnaires interview style
	Break up data collection appointments to avoid overwhelming participants in one sitting
Lack of safety (e.g., potential participants who would rely on walking to the intervention site)	Advise participants to walk with someone (e.g., another participant)
	Use phone app to share real-time location with others/research staff
Retention challenge	Retention solution/strategy
Travel to home country (e.g., Mexico)	Flexible class times (e.g., to make up missed classes)
Work responsibilities (e.g., changes in work schedules for participants during the study)	Flexible class times, including early evening (e.g., to make up missed classes)
Caring for family members (e.g., child care)	Involve family members in classes
Acute and chronic illnesses	Flexible class times (e.g., to make up missed classes due to appointments)
Transportation problems (e.g., car trouble, too expensive, rely on another participant who can no longer attend)	Reimburse travel expenses; provide bus passes
	Create a carpool among participants
Religious holidays (e.g., Day of the Virgin of Guadalupe, Christmas days in December)	Flexible class times (e.g., to make up missed classes)
	Add classes to the end of the program
Lack of safety (e.g., potential participants who would rely on walking to the intervention site)	Advise participants to walk with someone (e.g., another participant)
	Use phone app to share real-time location with others/research staff
Spanish speakers and bilinguals in the same class	Have a bilingual instructor and maintain a comfortable emotional climate for all to feel received
	Have classes in Spanish only
Weather	Host PA interventions during warmer months
Caregiving	Offer childcare during PA interventions
	Create intergenerational PA interventions

CHW community health workers; *EASY* Exercise Assessment and Screening for You; *PA* physical activity.

Recruitment of older Latino *men* was also challenging for each of the three studies. It is possible that the type of PA being offered was not appealing to men, despite our studies including three domains of PA. It is possible that our places of recruitment, including churches and senior centers, might not be the most effective. Research could consider using face-to-face recruitment efforts at a location frequented by Latino men, such as a swap meet/outdoor marketplace [23]. Furthermore, the ¡En Forma y Fuerte! study also focused on arthritis, and the prevalence of arthritis is higher in females than males, which would leave a smaller population pool of participants. Further, socioeconomic conditions could have played a role, as some men could not participate because their economic needs had priority.

Immigration status also influences whether older Latinos will participate in a program. For example,

¡En Forma y Fuerte! was conducted at the time of SB 1070, a law that targeted undocumented individuals, and participants feared deportation. They did not trust the researchers and thus the researchers had to employ a known CHW within the federally qualified medical center to help with recruitment, data collection and program delivery. Once the CHW was employed, recruitment was less difficult. The Tai Chi study also engaged a community organization known for their advocacy on behalf of immigrants; recruitment materials made no reference to immigration status; the confidentiality and anonymity of the data were emphasized; and they did not require participants to give their social security numbers. It is unknown how immigration status influenced participation in the BAILAMOS study.

Intervention and PA component-related challenges and solutions

A challenge related to the implementation of the intervention regards scheduling the PA intervention. Day classes work for many older Latinos' schedules, but many older Latinos in our three studies were working part-time or full-time, and could not attend day classes. An alternative is to offer night classes; however, many senior centers are closed at night. Also, many Latinos live in high-crime neighborhoods where older adults do not want to be out at night. Working with the community partner to agree upon the best option for all is essential. Night classes were only a viable option for the Tai Chi study. For ¡En Forma y Fuerte! and BAILAMOS, the centers were closed in the evenings or not enough participants wanted night classes to make it worth the cost of paying the instructor to teach more classes.

Low education and literacy levels also posed a challenge for data collection and class administration. We have found that questionnaires and daily class logs are difficult to administer, especially if they are asked to complete these on their own. In our studies we had staff (in all three studies) and CHWs (in Tai Chi study and ¡En Forma y Fuerte!) who administered questionnaires to the participants in an interview style, as many could not complete the surveys on their own. This time commitment limits the number of outcome measures that can be included given the time constraints.

Retention and attendance-related challenges and solutions

Across our three interventions we experienced several challenges in which caregiving duties affected retention. First, a scenario that we encountered was older Latinos having to care for their grandchildren, regularly and often without advanced notice. At times this was more planned, such as during the summer when the grandchildren were not in school. Second, some older Latinos in our studies were caring for a spouse, which is somewhat common, as Latinos are less likely to admit their spouse into a care facility and are more likely to care for the loved one in their own home [24,25]. Related, Latinos are less likely to have finances to hire help for their loved one [26]. Third, older Latinos in our three studies frequently returned to their country of origin for long periods of time, often to care for a sick family member. These all negatively influenced attendance at classes. Offering caregiving of children or older loved ones could address this challenge.

Consistent contact with Latinos was also challenging. Phones were disconnected; participants could not take study phone calls because their cell phone bill was not paid; or they had changed cell phone numbers. At times, we were unable to talk to the participants about reasons for not attending classes and could not help them with potential solutions. Obtaining contact information of family members and/or neighbors could help address this challenge.

Whether classes were during the day or evening, for some people, change in their job status influenced retention. Many older Latinos were still working, and do not "retire," making it difficult to attend classes. Some participants did not have a job when the intervention began, but during the intervention they began working, and thus dropped out of the program. For others, their job shift was changed, and they did not have control over it. This was common in the Chicago samples of all three of our studies. Offering flexible testing times and class times may address this challenge in future interventions.

Some challenges we encountered, such as, weather, transportation, and health-related challenges had been previously reported in younger Latinos [27,28] or non-Latino white older adults [29,30], however, in our three studies we found them to be frequent among older Latinos as well. For example, the weather was a major challenge for the BAILAMOS study but was not a challenge for ¡En Forma y Fuerte! or Tai Chi because of the time of year the interventions were offered. The range of extreme cold and ice to extreme heat made it difficult to get to sessions at a senior center or community center, even if it was somewhat near to their houses. Researchers can try to implement interventions during periods of good weather, but that might not be possible.

Lack of transportation and frequent car trouble led to classes missed. Many of our participants relied on the bus or public transportation services to get to the intervention, which do not run as regularly in the evening. The BAILAMOS program and ¡En Forma y Fuerte! in Blinded for Review recommended carpooling to address this challenge. The Tai chi study implemented recommendations from the focus groups to have free parking and easy transportation to the study location.

Doctor appointments and not feeling well caused participants across the three studies to miss classes.

Poor health and frequent doctor appointments influence the lives and activities of older adults, and participants may experience new health issues or worsening of prior health conditions during the interventions. This was particularly true in the Tai Chi study, as the participants were those with diabetes. Thus, offering flexible times to make up missed classes may be a potential solution to address this challenge.

DISCUSSION

With a list of potential solutions to challenges presented here, it is possible to successfully recruit and retain older Latinos into interventions that will affect the health of individuals and communities and improve quality of life. In order to implement PA interventions in the community, a considerable amount of time, energy, and resources must be allocated toward relationship building, a critical factor for successful implementation [31]. Through such partnerships, program champions and promotoras or CHWs may emerge, and with proper training and effective communication, the PA community interventions may be sustained. Current PA community interventions may also benefit from conducting an evaluation of their interventions to assess the communities reached. If there is lack of representation of diverse populations, such as Latinos, using various recruitment strategies (Table 2) to include community members and local resources in intervention development may increase participation among targeted populations. Furthermore, interventions may need to be tailored to appeal to other populations. Also, a major consideration is enforcement of federal policies in which researchers are held accountable for including diverse populations into their studies.

Efforts to increase PA among older Latinos have the potential to reduce risk of chronic disease within this underserved and understudied demographic group. The mode of PA must be one that is accessible, available and appealing to the targeted community. Researchers must know the cultural and psychosocial processes at work, the historical and social context of the community and the behavior, and the physical and economic environments.

Aside from implementing solutions to individual challenges that arise, consideration could be given to using a research paradigm to guide the work. One example is the African American Collaborative Obesity Research Network (AACORN) expanded obesity paradigm [32]. Though the paradigm was designed for African Americans, the unique perspectives of Latino researchers and community members as insiders, and the recognition of factors that influence health behaviors, is important for developing intervention strategies that recognize and appreciate elements of Latino culture that might influence intervention participant engagement and success in interventions.

In sum, the growing older Latino population is overall physically inactive in leisure time, and interventions are needed to address this. Implementation challenges are likely to arise, many of which are not found in the literature. These challenges may be related to Latinos' gender roles, cultural values or related to conditions of many Latinos' experiences in America (e.g., lack of health insurance). Keen awareness of challenges and potential solutions, along with knowledge of the local ethnic community, could lead to successful recruitment and retention of older Latinos in PA trials.

SUPPLEMENTARY MATERIAL

Supplementary material is available at *Translational Behavioral Medicine* online.

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Compliance with Ethical Standards

Conflicts of Interest: Authors declare that they have no conflicts of interest.

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. IRB Approvals: Protocol #2009-1164, Protocol #2011-0763, Protocol #2012-0851, Protocol #1105006445, Protocol #2003-0663 Protocol ##2010-0816.

Informed Consent: Informed consent was obtained from all individual participants included in the studies.

Welfare of Animals: This article does not contain any studies with animals performed by any of the authors.

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