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Developing a family-based diabetes program for Latino immigrants: Do men and women face the same barriers?

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Abstract

This study examined barriers and facilitators to diabetes self-management among Latino immigrants with diabetes; and whether similarities and differences were observed by gender. Eight gender-specific focus groups were conducted with 24 female and 21 male Latino adults. Themes were identified using a combined deductive/inductive approach and an iterative process of consensus coding. Gender similarities and differences emerged. Barriers to self-management were primarily social for the women whereas for men, structural aspects related to work were prominent. Interventions aimed at improving diabetes self-management among U.S. Latino immigrants should consider tailored approaches in order to help men and women overcome distinct barriers.

Keywords

Latino health; Diabetes; self-management; gender differences

Diabetes in the United States has risen to near epidemic proportions with 1.6 million new cases diagnosed each year and an additional 5.7 million cases undiagnosed.¹ Compared to non-Latino whites, Latinos living in the US are at increased risk for developing diabetes as well as many of its subsequent complications.^{2, 3} By 2031, it is predicted that an overwhelming 20% of adult Latinos in the US will have diabetes.⁴

Effective diabetes self-management, including elements of diet, physical activity and medical management, has been linked to better glycemic control and improved health outcomes.^{5, 6} Unfortunately, less than 50% of individuals with diabetes achieve recommended levels of glycemic control and there is evidence suggesting the proportion is less among adult Mexican Americans.⁷ Studies demonstrate that individuals often face difficulties when trying to implement clinically proven management strategies in their own lives.^{8, 9} Latino immigrants, now the largest minority group in the U.S.,¹⁰ face unique

challenges associated with navigating a foreign health care system as well as integrating self-management behaviors within the context of their own traditions and customs.¹¹ For example, compared with whites or blacks, Mexican Americans are significantly less likely to receive diabetes education, a deficit that contributes to poor adherence to self management behaviors such as self-monitoring of blood glucose.^{12, 13}

Culturally relevant interventions that incorporate community members' perspective during the intervention development phase are more relevant to the target population and associated with improved health outcomes in diverse populations.¹⁴ For Latinos with diabetes, some investigators have suggested that involving the family is culturally relevant.^{15, 16} Families play an important role in the Latino culture, represented by the values of *familismo* and allocentrism, and may be a natural point of intervention for programs promoting healthy behaviors, including those focused on diabetes self-management.^{17, 18} However, few studies to date have assessed how men and women's needs may differ with regard to self-management interventions and how those needs may best be met in a family-based intervention.^{19, 20} One study of 250 Mexican Americans with diabetes found that men perceived greater control over and more social support for their diabetes compared to women.¹⁹ These findings led the authors to suggest that diabetes management interventions address these gender differences to maximize effectiveness. We could find no studies that qualitatively assessed men and women's barriers separately. Studies that provide an in-depth exploration of gender differences in barriers and facilitators faced by Latinos when managing diabetes, particularly immigrants, are sorely needed to inform intervention efforts.

In this study, we explored modifiable barriers and facilitators to diabetes self-management, including healthy diet, physical activity and medical management, among groups of male and groups of female Latino immigrants with diabetes. We used focus group methodology to allow for a thorough discussion of the patients' experiences with barriers and facilitators for diabetes self-management, including cultural and socio-demographic issues.²¹

METHODS

Research Design and Sampling

Eight focus groups were held from July 2004 to June 2005. All participants provided informed consent and all study protocols were approved by the University of North Carolina-Chapel Hill Institutional Review Board. A bilingual, bicultural research assistant worked with primary care providers, translators, and other administrative staff to identify and recruit participants from a rural health department, a community health center, and a free clinic in central North Carolina. We used purposive sampling to identify non-clinic patients; recruitment efforts included contacts with community-based organizations serving Latinos, fliers posted in several community settings (e.g., clinics, grocery stores, laundromats and churches) and word of mouth. Individuals were invited to participate if they self-identified as Latino, were at least 18 years of age and reported previously diagnosed diabetes.

Approximately one quarter of the female participants was recruited via community contacts and word of mouth; the remaining three quarters as well as all of the male participants were

recruited through clinic referrals. Of the 74 persons approached for participation, 71 (96%) agreed to participate. Of those individuals who agreed to participate, 45 (63%) participated in the focus groups. Personal reminder calls were made by the research assistant one day prior to each focus group to minimize no shows. The most common reasons for no-shows included: illness of the potential participant or a family member, last minute changes to work schedules, or forgetting about the meeting. Some of the women also reported that their husbands did not want them to attend the focus group. The research assistant worked with those who agreed to participate to identify the best days and times for people to attend the focus groups. Groups were stratified by gender to allow exploration of potential differences and to minimize potential gender biases.

Development of the Moderator's Guide

The moderator's guide was informed by a review of existing literature. It addressed the following topics: strategies for diabetes management, perceptions of control, as well as perceived barriers and facilitators to self-management. The guide was initially written in English, translated into Spanish, back translated into English to verify content and then pilot tested with members of the target population. Table 1 provides some of the main questions from the moderator's guide.

Focus Group Procedures

A bilingual, bicultural research assistant with 15 years of experience conducting focus groups and working within the Latino community moderated all focus groups, joined by a bilingual/bicultural note-taker. Focus groups were held in a location convenient to all participants and lasted approximately 1.5 hours. As patients arrived, the moderator and note-taker approached each individual, spoke with him/her about the risks and benefits of participation, and then gave him/her the opportunity consent or decline participation. Participants completed a short survey before the focus groups to collect information on age, education, marital and employment status, country of origin and length of time in the US, time with diabetes and whether or not they had ever attended a diabetes education class. The survey was administered verbally to approximately one third of the participants due to limited literacy skills. Participants received a \$15 gift card for their participation. All groups were audiotaped and transcribed verbatim. A debriefing session was conducted immediately following each of the focus group sessions to compare notes and discuss impressions.

Coding and Data Analysis

Descriptive statistics were used to characterize the sample; analyses were conducted using STATA 8.0. In order to minimize the potential for loss of meaning during the translation process, one author (AC) read and coded each transcript in English, and another author (GXA) read and coded all transcripts in Spanish. The authors used a combined inductive/deductive approach to code the focus group data.^{22, 23} Inductive analysis allows themes to emerge from the data and is useful when the intent is exploratory and descriptive. Deductive analysis identifies themes related to a priori questions and is indicated when the intent is explanatory and confirmatory. The authors used specific questions taken from the moderator's guide to drive deductive analysis while remaining open to and noting emergent themes during the coding process consistent with inductive analysis. To develop a thematic

codebook, the two authors read a representative focus group transcript, developed a set of representative themes, and met for consensus on the themes; they used an iterative process to refine the thematic code book as new transcripts were reviewed. Using the final code-book, all transcripts were coded independently by both readers and then compared to reach 100% consensus. Transcripts from the women's groups were reviewed and coded first. The process was repeated with transcripts from the men's groups and then themes were compared for similarities and differences. All transcripts and codes were imported into Atlas TI to facilitate analysis.

RESULTS

We conducted eight focus groups, four with men and four with women, representing a total sample size of 45 participants (see Table 2 for sample characteristics). The participants had a mean age of 40 years (range: 18–65). Most participants were married (78%), reported less than a ninth grade education (76%) and were employed (58%); more men were employed than women (81% vs. 38%). Consistent with the demographic profile of Latinos in North Carolina, most participants were Mexican immigrants (82%), living in the US on average 9 years (range 6 months to 58 years); men reported living in the U.S. for more years than women (mean of 13.1 years versus 4.7 years, respectively). Participants reported a mean of 6.5 years since diagnosis of diabetes (range: 6 months to 35 years) and 67% reported receiving some form of diabetes education in the past.

Diabetes self-management knowledge and beliefs

In general, both men and women believed it possible to control diabetes through a combination of diet, physical activity and medical management. Participants reported several specific ways of improving eating habits, such as increasing intake of fruits and vegetables, decreasing intake of fatty foods and moderating food portion sizes. For example, *“I think it is possible to eat smaller amounts. If we are used to eating a lot of tortillas, now we can try to eat only one, or only half.” (female participant)*

Another diet-related theme was the perception that some foods are good and other foods are bad, specifically that certain foods are off limits for individuals with diabetes. For example, *“Somebody told me that eating tomato is pretty bad for diabetics, so I don't eat tomato anymore; but here in the U.S., it seems like tomato is far from being a problem for diabetics. I can tell you, what we need is a place where we can find a list of dishes that we can eat and a list of ones we can not eat.”(male participant)*

Physical activity was also identified as an important means of managing diabetes. For example, *“I think that when I was working, I used to eat a lot but I was very physically active. Then, when I retired, I stopped doing physical activity but I didn't change my eating habits. That is when I got sick with diabetes.”(male participant)* The most commonly cited form of physical activity was walking, though dancing, jogging and weight lifting were also mentioned. Both men and women talked about physical activity related to work; for women this mostly referred to housework while for men, occupational physical activity mostly referred to manual labor.

In addition to diet and physical activity, participants noted the importance of medical management for controlling diabetes, specifically regular visits to the doctor, following doctors' advice, and taking medications.

Barriers to self-management

Although participants felt control was possible through a combination of diet, physical activity and medical management, they voiced difficulty actually doing the things they felt they needed to do to in each of these areas. Barriers fell into one of three broad categories: intrapersonal, socio-cultural, and environmental (see Table 3).

Intrapersonal barriers—Intrapersonal barriers were defined as those related to an individual's knowledge, attitudes and behaviors. Participants reported intrapersonal barriers for all three dimensions of self-management: diet, physical activity and medical management (Table 3).

With regard to diet, participants reported difficulty giving up good-tasting, familiar foods, particularly since many healthy foods were not felt to taste as good in comparison. For example, *"Another thing about American diets, like my American friend eats, they eat lettuce mixed with other things, but basically lettuce. I don't like to eat lettuce; I prefer our traditional foods."*(female participant)

Participants also reported several barriers to physical activity, including lack of energy and perceived lack of time. For example, *"On TV there is a show at 6:30 every morning where they show you how to exercise, but I am too lazy to wake up so early in the morning!"* (female participant) And also, *"In our case, we come here to work. When I was in my country, I had free time to play soccer every Sunday; here we don't have the free time that we had in our countries. We work until 5:00pm or 6:00pm and if there is the opportunity to do some overtime, we will keep working until 10:00pm."* (male participant)

Both men and women reported fear of medication side effects as a barrier to medical management. For example, *"I didn't know what I was doing, so I took the medicine the first time and 30 minutes later I took it again. After that I was sick, feeling dizzy and my body was all shaking."* (female participant)

In terms of gender differences, men cited fatigue and somatic complaints as barriers to physical activity. For example, *"Everything is hard for me...My back hurts, so I can't have physical activity."* (male participant)

Socio-cultural barriers—Socio-cultural barriers have been defined as socially- and culturally-ascribed factors related to the change process²⁴. As with intrapersonal barriers, socio-cultural barriers were reported for each of the three components of self-management. Regarding diet, both men and women reported concerns that adopting a "healthy" diet would lead to a loss of culture and traditions, particularly since they perceived that many of their traditional foods were unhealthy and consequently off limits. For example, *"I was sad because I could no longer eat what I used to eat. You can't eat "carnitas" (fried meat) or*

“taquitos” (fried tortilla with meat inside)...I felt I was losing my traditions.” (male participant)

Regarding physical activity, both men and women reported that exercise was “not part of the culture.” For example, *“The ‘culture’ is another reason. I have some American neighbors. It doesn’t matter if there is rain, thunder or lightning; or if is hot or cold; they WALK every day of the year...365 days of the year I see them walking! (male participant)*

In general, participants described poor communication as a barrier to medical management. Language differences were felt to exacerbate the communication problems. For example, *“People do not say to the doctor about 95% of what they know because they don’t speak English...” (male participant)*

Environmental Barriers—Environmental barriers were defined as physical and social features that support or impede behavior. Men and women shared physical environmental barriers to physical activity, including lack of places to exercise and cost (related to gyms etc). For example, *“We need this kind of things here. In this city, our population is growing and we don’t have places to exercise.” (male participant)*

Regarding medical management, men and women cited difficulty navigating the health system, long wait times, and high cost as important barriers. For example, *“What I can do? I don’t have a job. My children need to go to school. We live off my husband’s salary, but it is only enough to pay the basic needs. So, how can I find the money I need to pay for the things I need for my diabetes?” (female participant)*

While men and women shared common physical environmental barriers to physical activity and medical management, the environmental barriers they noted for healthy diet were distinct. Women cited the high cost of healthy foods as an important barrier. For example, *“On my family budget, I try to include healthier food- like vegetables and skim milk. But, this kind of food is always more expensive.” (female participant)*

Men reported interference with work as a barrier to healthy eating, citing long, inflexible work hours that interfered with meals. For example, *“I know we have our rights; time to have lunch is one of them. We are guilty because we allow people to take advantage of us. I have been working in the US for many years and it has happened to me before; I didn’t ask for time to have lunch because I was afraid I would be fired...” (male participant)*

They also reported eating at fast food establishments and restaurants for convenience. For example, *“I am a construction worker. If I don’t bring some food with me to work... then I end up at McDonald’s.” (male participant)*

In terms of social environmental barriers, women reported lack of social support for healthy eating, especially when husbands did not themselves have diabetes. One woman explained, *“If a man is diabetic, his wife is going to cook the right food for him and is going to give him the right portion of food. If a woman is diabetic it is different, because her husband and children aren’t going to eat the same food that she needs to eat. So, in my case, when I cook for my family, I end up eating food that isn’t good for me.” (female participant)* They also

described difficulty resisting temptation, adhering to a healthy diet when preparing meals for family and friends. For example, *“I am always cooking for other people, so I am constantly eating.” (female participant)*

Women also cited lack of social support with regard to physical activity. For example, *“To have physical activity, as a group would be a great idea. When you are by yourself you don’t exercise.” (female participant)*

Facilitators for self-management

Participants reported two facilitators for optimal diabetes self-management. The first theme related to a desire to feel good, including decreased symptoms and improved self-esteem. For example, *“At that time, I didn’t know that the way you eat helps you to feel better and also improves your self-esteem, so you can be strong enough to do all kinds of activities.” (female participant)*

The second facilitator centered on the family, particularly children. For example, *“For me is extremely important because I have 3 little children. They need me to teach them how to “fly”...my children hardly have feathers. So, if I don’t take care of myself and I die, who is going to look after my children?” (male participant)*

DISCUSSION

In this qualitative study with recent Latino immigrants, men and women described multiple common barriers to diabetes self-management; they also described several distinct barriers within the areas of diet and physical activity. The differences between men and women’s barriers related more to socially constructed gender-based roles and environmental factors than inherent sex-based differences. Women described barriers related to lack of social support and their role within the home- specifically related to preparation of food. For men, barriers related more to intensity and lack of flexibility at work. For both men and women, the desire to feel good and family, especially children, provide strong motivation for improving diabetes self-management.

In this study, social support emerged as a critical construct for women with regard to both diet and physical activity. This came in the form of needed spousal support and female companionship, and amounted to what has been described as the emotional dimension of social support.²⁵ Research has previously demonstrated the importance of social support and its influence on health and health behaviors, including evidence to suggest distinct differences in men and women’s need for and utilization of social support.²⁶ For example, women tend to have more confidants and are more likely to draw on social support than men.²⁷ This is relevant to diabetes management as previous studies have suggested that dietary practices may be the most susceptible to the influences of social support- both positive and negative.^{25, 28, 29} In a study among Latinas living in Detroit, emotional support from husbands was one of the most important and consistent influences on women’s weight, diet, and physical activity-related beliefs and behaviors.²⁵ Mealtime patterns and food choices were highly influenced by husband’s preferences.²⁵ Women in the current study also described a tension between trying to prepare healthy meals and trying to attend to their

husbands' preferences. Taken together, these studies suggest that future efforts to promote healthy eating among Latinas may need to address the perspectives and preferences of other family members, particularly husbands during intervention development.

Women in the current study also voiced the need for support directly related to physical activity. A recent study of pregnant or post-partum recently immigrated Latinas noted absence of mothers and female relatives to provide advice and companionship for activities such as exercise.²⁵ In a separate study among African Americans, Latinos, Hmong and Native Hawaiians, participants overwhelmingly favored strategies that aimed to create or improve social support for physical activity.³⁰ While this study included both men and women, Latino participants consisted of 75 women and no men. Findings from the current study support those of previous studies suggesting that Latinas could benefit from interventions that promote increase in social support in order to change and sustain health behaviors.^{25, 31–33} Such interventions may be of increased significance in areas such as the southeastern U.S., so-called new settlement areas, where social networks are not as mature as those in areas of the country where Latinos have more traditionally settled.³⁴

Women described several barriers that related more specifically to their traditional role as the nutritional gatekeeper of the home.³⁵ These included the high cost of healthy foods and, temptations involving food preparation and social gatherings. The perceived high cost of healthy foods, particularly fruits and vegetables, has been noted before and is particularly salient for individuals coming from countries where the cost of fresh produce is lower compared to that in the U.S.²⁸ Similarly, difficulty adhering to a healthy diet during food preparation and at family and social gatherings has been noted previously among other groups.^{36, 37} Programs that address barriers related to traditional roles, such as food preparation in the home, may promote diabetes self-management among Latina immigrants more effectively.^{26, 38}

Nearly all of the barriers to dietary change and physical activity described by men related to work; men complained of long hours, lack of control, and poor flexibility in their schedules. These complaints are consistent with the fact that Latino men in the US often work in agricultural, chemical, lumber, refinery, and textile industries and as such are often exposed to hazardous working conditions, high stress levels and little control.^{39–41} Work related stress and the resultant negative emotional states have been shown to contribute to negative health behaviors such as decreased levels of physical activity, consumption of more food than usual and increased substance abuse, all conditions that worsen diabetes management.⁴¹ Not surprisingly, individuals dealing with high levels of stress tend not to make prevention and disease management priorities.⁴¹ Compounding the problem, there is evidence that high levels of stress may reduce the efficacy of many pharmacologic agents.⁴² These observations led Williams and colleagues in an overview on men's health to suggest that, "efforts to improve the conditions of work, enhance employee participation in decision making and redesign workplaces to reduce injuries could improve men's health."⁴¹ The results of the current study suggest that Latino immigrant men recognize these factors as impeding their diabetes management but may not have the necessary skills or confidence to overcome the barriers. Targeted educational outreach efforts designed to empower men and enhance

problem-solving skills could compliment more systemic interventions aimed at improving working conditions.

Men and women did describe some common barriers. For diet, there was a commonly held belief that healthy foods don't taste good and further, that good-tasting, "unhealthy" foods, including many traditional dishes, are completely off limits. Those barriers may be best addressed with increased access to culturally sensitive education programs and outreach. Similar to previous studies, participants in this study described access-related obstacles that interfered with both physical activity as well as medical management of diabetes, including education.^{43–46} Access to culturally relevant health care and education is particularly challenging in areas of the country where the growth of the Latino population has outpaced the development of infrastructure to support these new immigrants.³⁴ Despite the numerous barriers to diabetes self-management, this study also identified two important motivators common to both men and women, including a general sense of well-being and family, particularly children, both of which are consistent with findings from previous studies.^{28, 47}

This study has several limitations. First, despite our efforts to recruit from non-clinical venues, most participants were recruited from a clinical setting. This may explain the high rates of prior diabetes management training. As a result, our findings may overestimate knowledge of diabetes and self-management strategies. Second, a majority of the participants were Mexican. Although this is consistent with the demographic profile of Latinos in the state, these results may not generalize to other Latino subgroups. Finally, because we asked about perceived barriers very generally and did not probe regarding specific barriers, we cannot say with certainty that men or women would not corroborate each other's distinct barriers. The fact that they did not emerge in the alternate group does suggest that at a minimum they would not be weighted equally.

Conclusions/implications

While recommendations favoring family interventions in Latino communities build on an important social construct and source of motivation within many Latino cultures^{15, 16} the current study identified barriers to lifestyle modification specific for men and women that imply a need for tailored components within those family-based interventions. Such an approach would coordinate efforts to address the needs of men and women more specifically while working towards a common goal within the family unit. Further identification of gender-specific health determinants and strategies to address those factors will require community-based research methods that are truly participatory in nature.⁴⁸

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Table 1

Selected focus group questions

1	What sorts of things can a person do to manage their diabetes?
2	We have heard that some people believe that they can control their diabetes and other people think that it is not possible to control their diabetes. What do you think about this?
3	Are there some parts of having diabetes that are more under a person’s control than others?
4	Would anyone mind sharing one thing about their diabetes management that they feel they are doing very well?
5	Which things do you think are the most difficult to do?
6	Why are these things difficult to do? Are there things that make them hard to do?
7	What might make doing some of these things easier to do?

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Table 2

Sample characteristics

	All (N=45)	Women (n=24)	Men (n=21)
Mean age (range)	40.3 (13–65)	38.9 (13–65)	41.8 (15–62)
Married (%)	78	67	90
Employed (%)	58	38	81
Education (years)			
8th grade	76	75	76
> 8th grade	24	25	24
Years living in the US (range)	8.9 (0.3–58)	4.7 (0.3–20)	13.1 (2.2–58)
From Mexico (%)	82	79	85
Years with diabetes (range)	6.5 (0–35)	6.4 (0–35)	6.7 (0–28)
Attended a diabetes class (%)	67	67	67

Table 3
Perceived barriers to diabetes self-management among Latino men and women living in North Carolina

	Women	Common to men and women	Men
Intrapersonal			
Diet		Healthy food unappealing Preference for foods that "taste good"	
Physical Activity		Lack of energy Lack of time	Body aches/pain related to work
Medical management		Fear of medication side effects	
Socio-cultural			
Diet	Lack of social support	Giving up traditional foods will lead to loss of culture	
Physical Activity	Lack of social support	Exercise not a part of the culture	
Medical management		Poor communication with providers Language difficulties	
Environmental- physical			
Diet	Cost of healthy foods Temptations experienced during food preparation and at social gatherings		Interferes with work Fast food/restaurants convenient
Physical Activity		No place to exercise Cost (gym, equipment, etc.)	
Medical management		Difficult to navigate unfamiliar medical system Long wait times Cost	
Environmental- social			
Diet	Lack of social support		
Physical Activity	Lack of social support		