

Influences on Diabetes Self-Management Education Participation in a Low-Income, Spanish-Speaking, Latino Population

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■ ABSTRACT

Objective. To investigate influences on participation in diabetes self-management education (DSME) classes in a low-income, Spanish-speaking, Latino population.

Methods. Fifteen patients from an Oregon clinic participated in semi-structured interviews designed to understand influences on their participation in DSME classes, and the authors conducted a thematic analysis.

Results. Four themes characterized the data: 1) limited resources, 2) culture, 3) relationship with diabetes, and 4) relationship with clinic. Barriers to class attendance included lack of time, childcare, and transportation; male participants' shame of illness and lack of interest in health; and difficulty contacting participants by telephone. Motivators of class attendance included interest in being healthy for the sake of family; interest in nutrition; knowledge of the effects of diabetes on self, friends, and family; and positive experiences with group support and self-efficacy in class.

Practice implications and conclusion. Participation in DSME classes in this low-income, Spanish-speaking, Latino population was influenced by many factors. Understanding these factors is an important step toward creating classes that are successful in increasing attendance rates for this and similar populations. Creative, targeted approaches to designing DSME classes for low-income, Spanish-speaking, Latino patients and similar populations are needed. These may include classes that remove the barriers of shame and lack of interest for male participants; focus on family involvement, celebration of culturally appropriate foods, group support, and self-efficacy; are accessible to resource-limited participants; and use alternative methods to recruit hard-to-reach participants.

In the United States, 9.3% of the population has diabetes (1). Diabetes is a risk factor for cardiovascular disease and is associated with multiple medical complications, including nephropathy, retinopathy, and peripheral neuropathy (2,3). It is the seventh leading cause of death in the United States (1). Total costs resulting from diabetes in the United States are estimated at \$245 billion annually (1). Diabetes disproportionately affects U.S. Latinos in terms

of prevalence and severity; 12.8% of Latinos have diabetes compared to 7.6% of non-Latino whites (1), Latinos experience a higher rate of hospital admissions for uncontrolled diabetes, and Latinos have a higher incidence of diabetes-related complications compared to non-Latinos (4,5).

Diabetes self-management education (DSME) offered in the primary care setting is an important tool that can empower participants to successfully self-manage their diabetes (6).

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DSME is effective at improving glycaemic control and diabetes knowledge (7–10). Culturally tailored DSME is also effective at improving diabetes outcomes for ethnic and racial minorities with diabetes, including Latinos (11).

The American Diabetes Association (ADA) endorses DSME as a necessary component of diabetes management (12). However, in the United States, only 57.4% of all people with diabetes (13) and 45.4% of Latinos with diabetes (14) have ever attended a DSME program, and attrition rates range from 12 to 50% (15). Patients in the United States who do attend DSME tend to be Caucasian and English-speaking (16). Ensuring that all people who have diabetes are equally represented in DSME classes is an important step toward addressing health disparities, in accordance with the ADA standard of providing access to DSME for all (12).

Because Latinos are disproportionately affected by diabetes and yet are not similarly represented in DSME, which is a key component of diabetes care, it is important to investigate why this is true. The body of literature on this topic is quite small. Several qualitative studies (17–19) have examined influences on general diabetes self-management for Latinos; however, only a study by Francis et al. (17) specifically focused on DSME class participation in a Latino population. Given the limited research on this topic, this study adds useful additional insights. The aim of this study was to investigate the influences on DSME participation in a low-income, Spanish-speaking, Latino population to inform future efforts to design DSME classes for similar populations and thereby increase participation in DSME and work toward ameliorating DSME disparities.

Methods

Design

This was a descriptive, qualitative study designed to observe a particular subject matter of interest to gain

a general understanding of why and how it occurs without influencing the subject matter in any way (20). A descriptive, qualitative design was chosen because this is an effective method for establishing a baseline understanding of an understudied topic.

This research project was approved by the Oregon Health & Science University institutional review board.

Setting and Participants

The setting for this study was the Volunteers in Medicine (VIM) Clinic of the Cascades in Deschutes County, Ore. To receive medical care at VIM, patients must have an income greater than zero but <200% of the federal poverty level and must lack health insurance. More than 75% of VIM's patients are Latino. In Deschutes County, most people who do not qualify for subsidized government health insurance through the Affordable Care Act (due to citizenship requirements) and cannot afford to buy private insurance are Latino immigrants (21).

Approximately 25% of the patient population at VIM has a diagnosis of diabetes. VIM offers a free group DSME class for its Spanish-speaking patients with diabetes. The class consists of eight weekly sessions held from 5:00 to 7:00 p.m. during the months of January and February.

To promote the classes, bilingual flyers are posted at VIM. Before each class, all Spanish-speaking patients with a diagnosis of diabetes who have not yet participated in a class are invited to attend via both mailed invitation letter and telephone call. Patients with prediabetes and family members of patients are welcome to attend; however, the classes are primarily for patients with diabetes. Patients are also welcome to attend as many sessions as they would like.

Classes are taught by an English-speaking volunteer diabetes educator with simultaneous Spanish-language interpretation provided. The classes are offered in a group format and focus on the physiology of diabetes,

nutrition, healthy eating, exercise, use of glucose meters, preventive care, stress management, and mental health. Participants receive a free glucose meter, and healthy snacks are provided at each class session (J. Goodwin, personal communication, 1 October 2014).

VIM has offered the annual Spanish-speaking DSME class since 2009. On average, half of the 15–20 patients invited to each 8-week program attend at least one session. However, an average of only 2–3 patients have perfect attendance at all 8 sessions (J. Goodwin, personal communication, 18 November 2014).

Study participants were recruited from the group of Spanish-speaking, Latino patients with diabetes at VIM who had been invited to attend DSME classes in 2014 and 2015 and the group of DSME class participants in 2014 and 2015. There was some overlap between these groups. Class attendees included one family member who attended classes with a spouse but did not have diabetes and one patient with prediabetes. All of these 34 potential participants were contacted by J.T. via telephone and asked in Spanish to participate in one interview.

Difficulty contacting participants was a significant issue that arose during recruitment for the study. Of the 34 potential participants identified by VIM, 14 were not reachable by telephone. Many patients had telephone numbers that had changed, been disconnected, or did not have a working voicemail system. The patients who were reached by telephone were primarily female and attendees of previous classes. Difficulty contacting patients by telephone was observed to be a factor that also affected recruitment for the DSME classes.

Data Collection

Semi-structured in-person interviews with participants were conducted at VIM by J.T. in January and February 2015. There were 12 interview ses-

sions, 9 involving one participant each and 3 involving two participants (in 2 sessions, spouses were interviewed together, and, in 1 session, a father and daughter were interviewed together). Interviews with two participants were conducted according to participant preferences to be interviewed along with their family members.

The interview questions were asked in English, with simultaneous interpretation provided by one of five volunteer Spanish-language interpreters. Five different interpreters were used because no one interpreter was available for all of the interview sessions.

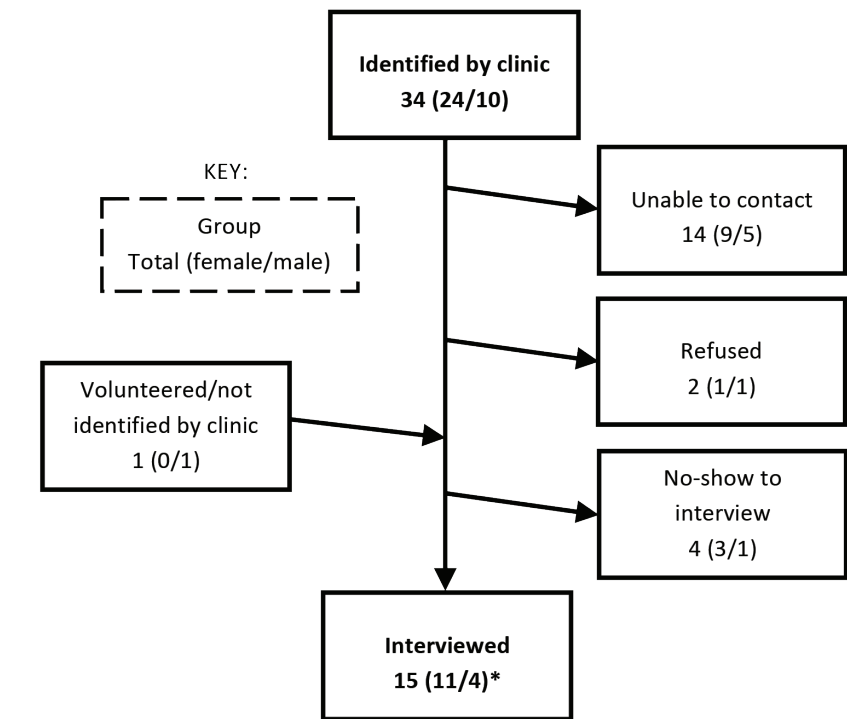
The interviews lasted from 20 to 60 minutes each and followed an open-ended guide designed to explore participants' general background, experiences with diabetes, attitudes toward the DSME classes at VIM, and influences on attendance of these classes. The interview guide was reviewed for cultural appropriateness by a bilingual, bicultural VIM employee. Age and sex were recorded on written data collection forms for each participant.

All participants who completed an interview received a \$10 gift card for a local grocery store. Each participant provided written informed consent.

Data Analysis

Audio-recorded interviews were transcribed into English by J.T. The transcripts were reviewed and corrected by one Spanish-language interpreter, who compared them directly to the audio recordings.

The transcripts were coded independently by J.T. and D.C. To code the data, each researcher divided the interview data into discrete ideas, then grouped similar ideas together and assigned a code to each group. A consensus on codes was reached, and the relationships between codes were analyzed to develop themes that characterized the findings of the interview data. The selection of themes was based on both the plurality of similar ideas within certain codes and also



*Of the 15 participants interviewed, 12 had been to DSME classes, and 3 had not.

■ FIGURE 1. Participant recruitment flowsheet.

the relevance of certain codes to the study aim.

The themes that emerged from the data were reviewed with a focus group of VIM Spanish-speaking DSME class participants at one of the class sessions to gain feedback about their relevance. This focus group session was also audio-recorded, transcribed, and coded to assist with final theme development.

Results

Participant Characteristics

Fifteen participants were recruited and interviewed from a pool of 34 potential participants (Spanish-speaking patients who had been invited to attend and/or who had attended DSME classes at VIM in 2014 and 2015) (Figure 1). An exception was one participant with diabetes who was not a clinic patient, but was the father of a participant and volunteered to be interviewed.

Table 1 summarizes participant characteristics. Thirteen of the

participants had diabetes, one had prediabetes, and one did not have diabetes but had attended the class with her spouse who had diabetes. Four of the 15 participants were male. Patients' average age was 46 years, and their average duration of diabetes was 8.5 years. All of the participants were Spanish-speaking, with little or no English-speaking ability, and most had immigrated to the United States from Mexico or Central America. Participants reported a range of diabetes symptoms, from being asymptomatic to experiencing pain, vision problems, fatigue, dental problems, headache, thirst, shakiness, overeating, loss of appetite, moodiness, heart palpitations, chest pain, and kidney problems.

The focus group participants were attendees of one of the 2015 Spanish-speaking DSME classes at VIM. This group was a mix of males and females, some of whom had par-

TABLE 1. Participant Characteristics

	<i>n</i> (%)
Sex	
Male	4 (27)
Female	11 (73)
Age (years)	
36–40	5 (33)
41–45	2 (13)
46–50	3 (20)
51–55	3 (20)
56–60	0 (0)
61–65	1 (7)
Unknown	1 (7)
Diabetes type	
Type 2 diabetes	13 (87)
Prediabetes	1 (7)
No diabetes (spouse of patient with diabetes)	1 (7)
Diabetes duration (years)	
0 (no diabetes or prediabetes)	2 (13)
1–5	3 (20)
6–10	2 (20)
11–15	4 (27)
16–20	1 (7)
>20	1 (7)
Unknown	2 (13)
Number of sessions attended (out of 8)	
0	2 (13)
1–4	3 (20)
5–8	9 (60)
NA (not a patient at VIM)	1 (7)

ticipated in this study and some of whom had not.

Themes Influencing DSME Attendance at VIM

Four main themes emerged from the interview data regarding influences on DSME attendance among study participants: limited resources, culture, relationship with diabetes, and relationship with clinic. These themes were vetted with the focus group participants, who agreed with their accuracy.

Limited Resources

Resources that influenced DSME participation in this population includ-

ed time, childcare, transportation, money, and availability of classes (Table 2). Many participants stated that they were not able to attend or were late to classes, which started at 5:00 p.m., because of their work hours. Several participants explained that it was difficult for them to attend because of a lack of childcare during class time. While children were allowed to attend class, this could be disruptive to other class members, as one participant stated. Lack of transportation was also described as a barrier to class attendance. Many participants either did not drive, lived far from the clinic, did not have money

for public transportation, or were not able to navigate the roads during wintry weather. Because the class sessions occur during the months of January and February, wintry weather was often an issue. Some participants did acknowledge that the fact that the classes were free and offered in the evenings encouraged their attendance.

Culture: Family, Gender, and Food

The cultural factors of family, gender, and food were brought up frequently during participant interviews (Table 3).

Family emerged as an important influence, both positive and negative, on class attendance. Several people stated that family commitments occasionally made it difficult for them to attend class. However, many participants, both male and female, also indicated that they wanted to be healthy for the sake of their family. This was described as a motivator of class attendance. In addition, several participants mentioned that support from their family members encouraged them to attend class.

Male gender emerged as a significant barrier to class attendance in this study population. Men were underrepresented both in the VIM DSME classes and in the study participants. Both male and female participants had ideas about why this was the case. Several men shared that they think Latino men are ashamed of having diabetes and do not want to admit to others that they are sick. Both women and men thought that Latino men are not as concerned about their health as women and instead just want to enjoy life. A man suggested that offering beer in class would be a motivator for men to attend. However, as was described above in the discussion about the influence of family, men also expressed motivation to attend class because they said they wanted to be healthy for the sake of their families.

Many participants spoke about their important relationship with

TABLE 2. Participant Quotes Illustrating the Influence of Limited Resources on Participation in DSME (With Participant Number and Sex)

Theme: Limited Resources	Quotes
Time conflict with work	<p>"... some people get out of work at 5:00, and come to the class late, and they miss part of the session . . ." (#2, F)</p> <p>"When I get out of work late . . . I'm tired, I'm sleepy, or I'm hungry, and sometimes I can't come . . . I work . . . in housekeeping . . . I'm almost always leaving work at 6:00 in the evening." (#11, F)</p>
Childcare	<p>"... I couldn't come . . . because I didn't have childcare . . . With the two of them, [the class] was more like playing for them, and I couldn't listen. And . . . I'm not the only one listening, but also my fellow students." (#3, F)</p>
Transportation	<p>"... I live [15 miles away] . . . I don't drive, and my husband brings me. So, this was something that was hard for my husband, too, when he was tired. And . . . when there's lots of snow, it's dangerous." (#9, F)</p> <p>"... sometimes I don't have the money . . . It's \$12 for the taxi . . . It takes about 45 minutes to walk . . . The little one can walk now . . . Before I would have to carry her . . ." (#7, F)</p>
Advantage of free, evening classes	<p>"I think that in another clinic, maybe they would offer [these classes], but for some people, it's economically out of reach . . . I wouldn't go [to classes that are not free] because . . . we don't have the resources." (#9, F)</p> <p>"... there's no other place that offers free classes, and we have to take advantage of it." (#1, F)</p> <p>"... it was an advantage that the classes were later." (#9, F)</p>

F, female.

food. Several people indicated that they did not think typical Latino diets were healthy for someone with diabetes and that changing their dietary habits was very difficult. However, most participants said that they were interested in learning about healthy eating, and people who attended classes generally enjoyed the parts about food and requested more nutrition curriculum.

Relationship With Diabetes

Participants spoke about a range of experiences they had with diabetes, and consistencies emerged regarding the impact of these experiences on class attendance (Table 4).

Participants who did not understand the chronic nature of diabetes or who were asymptomatic were less likely to engage in diabetes self-management behaviors. One participant shared that her depression, which was partly a result of having diabetes, made it difficult to engage in self-care. Conversely, several participants who had developed symptoms

that they attributed to diabetes were motivated to learn more about diabetes and attend class.

Many participants described the effects of diabetes on their family and friends, observing that people with diabetes who did not take care of themselves died or suffered from complications of diabetes, whereas people who took care of themselves lived longer and healthier lives. These observations of the effects of diabetes on family and friends generally motivated class attendance.

Relationship With Clinic

The majority of participants spoke highly of VIM and the DSME classes there, although two participants acknowledged having negative experiences at VIM or in the classes (Table 5).

Participants described the clinic as offering valuable medical services that were not available in their countries of origin and thought the clinic staff members were caring. The classes themselves were generally

received positively by attendees, and participants stated that they especially enjoyed the tangible results they got from classes, the group support, and the increased self-efficacy they felt. The two participants who had negative experiences with the clinic described being confused by translation issues and feeling that they did not have good continuity of care because of the all-volunteer clinic staff.

Discussion

DSME has the potential to improve diabetes outcomes in a low-income, Spanish-speaking, Latino population, but it cannot be effective if the targeted audience does not participate. This study revealed four themes regarding DSME class attendance in this population of low-income, Spanish-speaking Latinos with diabetes (Figure 2). These themes are described as follows:

1. Lack of resources (i.e., time, childcare, transportation, finances, and limited class session

TABLE 3. Participant Quotes Illustrating the Influence of Culture on Participation in DSME (With Participant Number and Sex)

Theme: Culture	Quotes
Family	
Busy with family	"I am very busy, and I haven't been able to [come to class]. Because my kids are doing sports . . . Mondays to Thursdays and Saturday . . . and Friday night is family time." (#10, F)
Motivated to be healthy for family	". . . they diagnosed me with diabetes . . . I try to eat less of the bad things that I eat . . . I want to continue in this world so that I can see my kids grow up." (#3, F)
	". . . the reason I am in treatment is because of my wife, and my daughters . . . My wife really supports me with these classes . . . Now I'm really more motivated for it, because of the baby." (#15, M)
Gender	
Male: shame	". . . it's embarrassing for men to say [they are] diabetic. They make fun of you . . . My siblings and my parents, they don't know . . . I don't want them to feel sorry for me . . . As a Mexican, maybe it's from being <i>machista</i> . . . It's from the culture we're coming from. It's very hard." (#15, M)
Male: not interested in health	". . . the men, they aren't as interested as we are. Because my husband also has diabetes, and sometimes I tell him, 'Come to the class with me,' and he's like, 'No you go . . . I can take you, and then I can pick you up.'" (#4, F)
	"I think that lots of men just ignore this . . . And I heard men say, 'One day, we're all going to die. I'm going to give my body what it wants.' . . . It's like, when you tell them to go to the doctor [for] colon cancer [screening] at 50 . . . and they're like, 'Oh, no, I'm going to be fine.' . . . I think that's why they don't go to the classes . . ." (#3, F)
	". . . because I don't think [men] are concerned about their health . . . They just want to relax and watch TV and eat Doritos . . . a little beer!" (#11, F)
	"I have an idea, but it's crazy. Tell them that there will be beer! . . . [Going to class is] not that important to men. You just want to feel good, and sometimes drink a beer . . ." (#15, M)
Food	
Dietary changes difficult	"Yeah, it's very hard . . . especially the food. If we're going to go out to eat, [I] eat a salad, but they're eating really good things, and it looks delicious. So, it's better if I don't go. I'd rather stay at home." (#11, M)
Motivated to learn more about nutrition	". . . It's very hard, this illness, because we have very delicious food, but we're killing ourselves with it . . . Tortillas are . . . the worst, so they asked, 'How many do you eat?' I said, 'Like 12 with a meal?' They're like, 'No, about 2!'" (#15, M)
	"I like the part about diet the best. This is very important . . . I know that we Latinos tend to eat too much." (#4, F)
	"I would like to know what I should eat and what I shouldn't eat . . . because what I want is for my blood sugar level to always be normal. When it's 180, I'm scared! . . . If I have a goal to eat what I should eat with this disease, I will do it." (#8, F)

F, female; M, male.

- offerings), which discouraged attendance
2. Cultural influences, which both motivated attendance (e.g., desire to attend DSME to be healthy for the sake of family and interest in learning more about healthy food choices) and discouraged attendance (e.g., shame and lack of interest on the part of male participants and difficulties with dietary changes)

TABLE 4. Participant Quotes Illustrating the Influence of the Relationship With Diabetes on Participation in DSME (With Participant Number and Sex)

Theme: Relationship With Diabetes	Quotes
Do not understand chronic nature of diabetes	"I ignored many things when I got this illness . . . I didn't pay a lot of attention to it . . . I thought of it like a cold, because I didn't know what it was." (#3, F)
Motivated to take care of self when symptomatic	". . . and [the doctor] prescribed me some pills, and I didn't take them When I felt like I had diabetes, that's when I started taking the medication." (#12, M) "I felt that I was in good health. But . . . my bone pain brought me here to learn more . . . because I think that all human beings don't look for help until we are going through something difficult." (#3, F)
Comorbid depression	". . . when people first get the news, it hits them so hard, that they get depressed This happened to me. I said, 'Well, now I'm sick. I'm not interested in anything else.'" (FG, F)
Effect of diabetes on family and friends	"When I was told that I had diabetes, I almost had a heart attack My mother, when she had diabetes . . . she lost her sight. Later, my [aunt got] diabetes, and she said, 'Oh, I'm going to die anyhow.' She didn't do anything. She didn't diet . . . and she died So, when I was told I had diabetes, . . . I thought, 'Well, this is as far as I am going to make it.' But thanks to God, they started to tell me how it was possible to live with diabetes, as long as it is well regulated." (#2, F) "I've seen friends . . . that sadly have lost their lives because they didn't take care of . . . their diabetes The disease kept growing until they had to start to amputate a finger, a foot, up to the knee, and later these people died This was something I saw in my country But I also knew a woman who had diabetes who took care of herself, and she lived a long time." (#9, F)

F, female; FG, focus group participant; M, male.

3. Relationship with diabetes, which both motivated attendance (e.g., the desire to reduce personal diabetes symptoms and to avoid diabetes symptoms observed in friends and family) and discouraged attendance (e.g., among patients who were asymptomatic, lacked understanding of the chronic nature of diabetes, or had comorbid depression)
4. Relationship with clinic and DSME classes, which both motivated attendance (e.g., positive experiences with supportive clinic staff, group support, and self-efficacy gained from classes) and discouraged attendance (e.g., translation issues in class, inconsistent clinic staff, and difficulty contacting patients by telephone)

Understanding these themes can help diabetes educators and

HCPs design DSME classes that are more accessible to low-income, Spanish-speaking Latinos and more effectively recruit patients for these classes. Although no two patient populations are exactly the same, the qualitative data provided by the participants in this study add valuable insights into possible ways to improve DSME attendance among similar populations.

Relationship of This Study's Findings to Previous Research

Many of the influences on DSME participation that emerged from this study are consistent with findings from previous research on DSME participation in Latino populations. Financial constraints, work conflicts, family conflicts, and lack of transportation have been described as barriers to DSME attendance (17,18,22), whereas family support, positive re-

lationships with HCPs, and group support received from classes have emerged as motivators for DSME attendance (17,19) in Latino populations. In addition to strengthening existing research about Latino participation in DSME, this study also contributes several unique findings.

The findings offer insight about the relationship between Latino men and DSME attendance, which is a topic that has not been well studied. It has been documented that Latino men are less likely to attend DSME than Latino women (22), but little research has been done specifically to explore motivators of and barriers to DSME attendance in a male Latino population. Although there were only four male participants in this study and data gained from such a small sample size should be interpreted with caution, their insights were augmented by the viewpoints of female

TABLE 5. Participant Quotes Illustrating the Influence of the Relationship With Clinic on Participation in DSME (With Participant Number and Sex)

Theme: Relationship With Clinic	Quotes
Clinic care is valued	<p>“... in my town [in Mexico], a lot of people have this disease, and they die very young They don’t last a long time like we do Thank God, they are taking care of us very well here Each appointment that we come to, they ask us everything, and they make us another appointment again ” (#13, F)</p> <p>“I have gone to all of the classes and enjoyed them We learned so many things . . . that in my country, nobody has leaned about. Because of this, my aunts didn’t take care of themselves. For me, this information is very valuable.” (#2, F)</p>
Clinic care is inconsistent	<p>“I see one doctor who says one thing and another says something else, and I realize that they’re volunteers And I don’t want to complain, because . . . what am I going to do if they send me away from here?” (#15, M)</p>
Translation issue in classes	<p>“I feel like I didn’t learn a lot, and the reason was the language. They changed the people who were translating It was confusing With diabetes . . . even the smallest word can be confusing ” (#3, F)</p>
Positive experiences in classes	<p>“... and yes, as I told you, I’ll come back again. I have learned a lot from the classes Last year, I weighed 178 lb. And with the lessons that we had here, . . . I lost 10 lb.” (#11, F)</p> <p>“... it’s better if there’s . . . a big group That way, we can talk about what’s going well, what’s not going so well . . . all together ” (#14, M)</p> <p>“... and classes like this help [me] to realize that it’s not just me that has this problem, . . . and listening to stories helps you to understand that you have to move forward, that you have to take care of yourself, because there are people here who love you and support you.” (FG, F)</p> <p>“Here, they taught me to value myself and follow my goals, and I have reached them.” (FG, F)</p> <p>“I have learned more, and I know I can keep feeling better following the advice. The world can change, and I can, too.” (#3, F)</p>

F, female; FG, focus group participant; M, male.

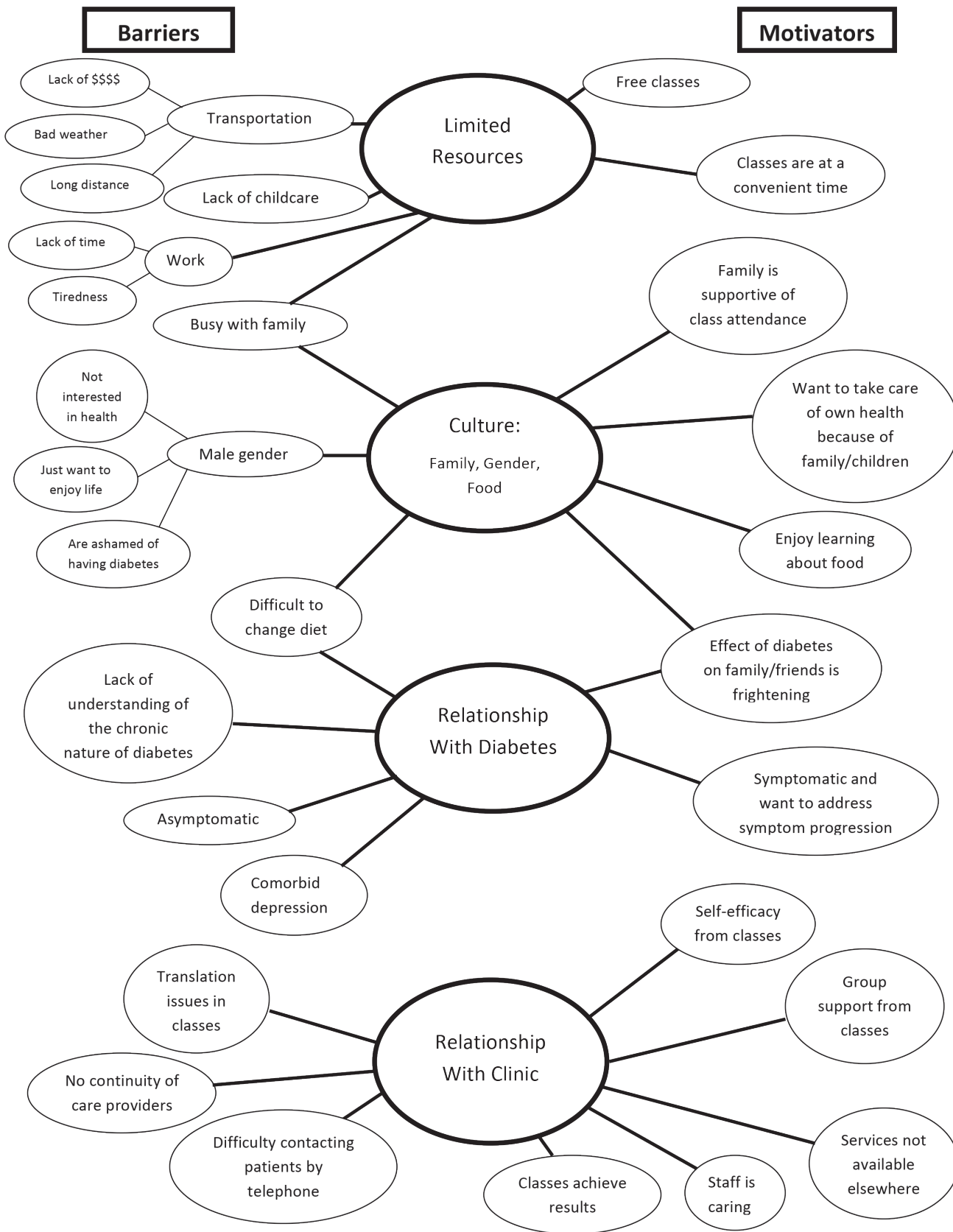
participants and offer a useful foundation for understanding this issue.

Male and female participants alike described Latino male participation in DSME as being negatively influenced by shame and a lack of interest in health, both of which could discourage DSME attendance. They indicated that Latino men with diabetes may experience shame related to having an illness and are generally not interested in their health, preferring instead to just “enjoy life.” These attitudes are consistent with *machismo* culture, in which men are expected to be masculine, strong, and proud (23), attributes that are not consistent with having a chronic

illness and may engender shame or a cavalier attitude toward diabetes. This contention is supported by research indicating that Latino male *machismo* characteristics can lead to a general lack of interest in preventive health measures (24,25). Paradoxically, *machismo* culture, in addition to the expectation that men embody masculine characteristics, also designate men as strong protectors of and providers for family (23), and, in fact, being healthy for the sake of family was the strongest motivator to attend DSME classes for male participants.

Family also has been an important theme in previous studies about Latino patients and DSME, which

have documented that Latino patients tend to consider family needs as more deserving of attention than individual needs (19,26) and that Latino participants cite the strength they derive from family as a motivation to participate in DSME (19). This study had similar findings, but both male and female participants also uniquely described wanting to be healthy for the sake of their families as a motivation to attend DSME. The concept that Latino patients may be motivated to attend DSME specifically because they want to be healthy to be able to provide for and be present for their family, both now and in the future, adds further insight into



■ **FIGURE 2.** Interconnecting themes describing influences on participation in DSME in this study population.

the relationship between Latinos and DSME participation.

The motivating influence of the presence of diabetes symptoms (in self and others) in this population is also a unique finding. Several participants indicated that they were not motivated to care for their diabetes when they did not realize diabetes was a chronic illness or when they were asymptomatic, which is consistent with previous research indicating that people who do not identify as being “diabetic” are less likely to accept an invitation to DSME (27) and that Latinos with diabetes often do not seek medical care unless they are ill (28). However, many participants stated that they became motivated to attend class or engage in self-care behaviors once they became symptomatic or observed the effects of diabetes on their family and friends.

Difficulty with DSME recruitment because patients in this population are difficult to reach by telephone has not been specifically described in other studies on this topic. Because many potential DSME class participants in this population will not be successfully invited to attend if telephone calls are relied on for recruitment, this is an important issue that needs to be addressed.

Limitations

This study, like most qualitative studies, had a small sample size from a limited geographical area. The sample mostly consisted of women and previous class attendees from one clinic in central Oregon. Ideally, men and patients who had not attended previous classes would have been more equally represented in the participant sample. The makeup of the participants makes it difficult to fully generalize the results to other Latino populations or to the general population. However, with this caveat in mind, the results are still a useful step toward understanding similar populations.

Another limitation involves the linguistic and cultural discrepancy between the researchers and partic-

ipants. Interviews were conducted by J.T. in English with Spanish-language interpretation, and both language and cultural mismatches between J.T. and participants could have influenced the responses. Also, having several different interpreters and conducting some interviews with paired participants versus single participants meant that interviews were not conducted in an entirely uniform manner. Despite these limitations, the consistency of themes across interviews and the saturation of comments within themes is promising for the validity of these results. Themes were also vetted with a focus group of Spanish-speaking DSME VIM class participants who corroborated their accuracy.

Practice Implications and Conclusion

This study adds important insights to aid in understanding the influences on DSME participation in a low-income, Spanish-speaking, Latino population. For the participants in this study, significant barriers to DSME participation included lack of time, transportation, childcare, and available classes; shame of illness and lack of interest in health in male participants; struggles with adopting dietary changes; translation issues in class; and difficulties in contacting patients by telephone. Significant motivators of DSME participation included a desire to be healthy for the sake of family; interest in learning more about nutrition; motivation to address existing diabetes symptoms and avoid the observed effects of diabetes in friends and family; and the reinforcing aspects of classes, including supportive clinic staff, group support, and increased self-efficacy.

For this population and similar ones, tailoring DSME classes to address these influences on participation will be an important step toward improving attendance and reducing DSME disparities. Creative changes to existing DSME formats are necessary to recruit and retain class participants in low-income, Spanish-

speaking, Latino populations. Based on this study’s results, these changes could include:

- Making classes accessible in terms of time, place, and available child-care
- Providing additional class sessions at various times of the year
- Reaching out to male participants with class themes that focus on healthy men as strong supporters of family and using male instructors and male *promotoras* to reduce shame, overcome lack of interest in health, and encourage more men to attend classes
- Celebrating family by encouraging family participation in classes
- Incorporating culturally appropriate nutrition content and cooking instruction in class
- Emphasizing group support and self-efficacy activities in class
- Motivating DSME attendance by exploring patients’ specific relationship with diabetes symptoms in their own lives and in the lives of their family and friends
- Teaching classes in participants’ native language whenever possible
- Maintaining a consistent and supportive staff presence in the classes
- Recruiting difficult-to-reach patients with a variety of modalities, which could include text messages, social media, community events, and the employment of trusted, motivated peer recruiters

Although these findings add to the knowledge of influences on DSME attendance in this population, there is a need for more research because there have been few studies specifically devoted to this topic. The results of this study also highlight the need for further examination of the relationship between Latino men and diabetes to better serve the needs of this population, which is underrepresented in DSME classes (22).

This study’s findings can help guide DSME educators who work with low-income, Spanish-speaking Latino patients, but it is important

to remember that factors influencing DSME participation vary based on the characteristics of each target population. No two clinic populations are exactly alike, and Latino patients, like other patient populations, are a diverse group. To customize DSME programs that will be well attended, meet the needs of patients, and be able to reduce the impact of diabetes, educators and providers will benefit not only from learning about what influences have been identified in similar patient populations such as this one, but also by characterizing the unique characteristics of their own target populations.

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Duality of Interest

No potential conflicts of interest relevant to this article were reported.

Author Contributions

J.T. researched and analyzed data, contributed to the discussion, and wrote, reviewed, and edited the manuscript. D.C. analyzed data, contributed to the discussion, and reviewed and edited the manuscript. J.T. is the guarantor of this work and, as such, had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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