Published in final edited form as:

J Clin Nurs. 2016 August ; 25(15-16): 2367–2377. doi:10.1111/jocn.13291.

Sociocultural construction of food ways in low-income Mexican-American women with diabetes: a qualitative study

Sandra Benavides-Vaello, PhD, RN, MPAff and

Associate Professor/Campus Director Missoula/Kalispell, College of Nursing, Montana State University, Missoula, MT

Sharon A. Brown, PhD, RN, FAAN

Joseph H. Blades Centennial Memorial Professor in Nursing, School of Nursing, the University of Texas at Austin, Austin, TX, USA

Abstract

Aims and objectives—The aim of the study was to explore how low-income Hispanic women, with at least 10 years of having type 2 diabetes, successfully manage the disease within a sociocultural context, especially in relation to foodways.

Background—Managing type 2 diabetes is challenging, particularly for underserved populations such as low-income Hispanic women. This population segment has higher rates of type 2 diabetes, diabetes-related complications, obesity, and sedentary lifestyles than the general U.S. population. Dietary management is a critical aspect of diabetes care, but it is perhaps the most difficult health behaviour to modify.

Design—A qualitative and ethnographically based study was used.

Methods—Participant observation and individual interviews explored the interrelationships of culture, food habits and type 2 diabetes among 12 low-income Hispanic women residing in an impoverished rural community located on the Texas-Mexico border.

Results—Hispanic women used unique strategies to adjust their diet, particularly portion control; for example, they emphasised the ‘use of the fork’, based on the notion that Hispanic finger foods are less healthy. Women categorised foods as bad or acceptable, depending on the context, such as important family or social gatherings. Those with years of diabetes experience confidently took charge of the disease based on knowledge of their bodies and a desire to avoid complications, while acknowledging brief infractions of dietary ‘rules’ and balancing various social roles and expectations.

Conclusions—Hispanic women manage their type 2 diabetes within a sociocultural environment. Those with expertise make changes in how they eat to care for their diabetes, but also continue to maintain traditional foodways.

Correspondence: Sandra Benavides-Vaello, Associate Professor, Campus Director Missoula/Kalispell, Montana State University, College of Nursing, 32 Campus Drive #7416, N. Corbin Hall #131, Missoula, MT 59812-7416, USA. Telephone: +1 406 243 2521. s.benavidesvaello@montana.edu.

Contributions

Study Design: SBV; Data Collection and Analysis: SBV, SAB; Manuscript Preparation: SBV, SAB.

Keywords

cultural issues; diabetes; ethnography; self-management; women's health

---

Introduction

Diabetes is a global concern affecting nearly 350 million people and causing more than 1.5 million deaths in 2012 (WHO 2014a). By 2030 it is anticipated that diabetes will be the 7th leading cause of death in the world (WHO 2014b). In the United States (US) more than 29 million people have diabetes, and 1.4 million are diagnosed every year (ADA 2014). As in other countries certain populations are disproportionately impacted by diabetes including Hispanics, African Americans, and Native Americans (ADA 2014). The prevalence of diabetes among Hispanics is of concern as this population group is the fastest growing ethnic minority in this country. More than 13% of US Hispanics, 20 years of age and older, have type 2 diabetes (T2DM) and the risk of being diagnosed with the disease is 66% higher among this group than non-Hispanic whites (Centers for Disease Control and Prevention [CDC] 2014). The prevalence of diabetes among the growing population of Hispanics, the largest subgroup being Mexican American, is approximately two to five times greater than the general population; higher prevalence rates, some say at epidemic levels, are occurring along the Texas-Mexico border (Hanis *et al.* 1983, CDC 2011, Pan American Health Organization (PAHO) 2011, Texas Health and Human Services Commission 2014).

For Hispanic women the prevalence of T2DM and its adverse effects, as well as the risk factors for developing the disease, remain a serious concern, as the women of this population group, particularly Mexican Americans, experience higher prevalence rates of diabetes than do men and are more likely to experience serious adverse effects such as visual impairments (Office of Minority Health 2013, ADA 2014). Additionally, Hispanic women are more likely to be obese or overweight and sedentary, compared to other women in general. Approximately 57% of this population is sedentary, and 78% is obese or overweight (Office of Minority Health 2013). In Texas rates of sedentary lifestyle and obesity exceed that of the national average. In South Texas, a part of the state in which more than 80% of the residents is Mexican American, >37.9% of adults are obese compared to non-Hispanic whites (24.6%) (Ramirez *et al.* 2013).

Background

Successful management of T2DM poses challenges for most individuals with the disease, and requires a number of diabetes-related health behaviours, namely dietary changes, exercise, glucose self-monitoring, medication self-administration, and appointment keeping for follow up of diabetes status (Brown *et al.* 2015). Changing health behaviours, particularly one's diet, is a crucial yet challenging aspect of diabetes self-management. The challenges involved in following dietary guidelines are exacerbated in low-income Hispanic women as poverty, low socioeconomic status (SES), acculturation, and social expectations are significant contributing factors to obesity among this population. Low-income Mexican-American women frequently place their own health needs secondary to those of their family

(Morris McEwen *et al.* 2007, Lindsay *et al.* 2009, McCloskey & Flenniken 2010, Cersosimo & Musi 2011). While urgent self-care issues may possibly be addressed, behaviour change issues, such as making time for meal planning, are more likely to go unattended (Mier *et al.* 2007, Timmerman 2007, Lindsay *et al.* 2009, Hu *et al.* 2010, Lopez *et al.* 2007).

Also noteworthy is that impoverished women living in rural communities encounter well-documented health disparities in the treatment and management of type 2 diabetes (NRHA 2007–13, Massey *et al.* 2010, Remler *et al.* 2011, Ross *et al.* 2015). Some of the more common issues are the disproportionate number of rural residents living in poverty compared to non-rural residents; deferring treatment due to perceived costs of purchasing healthy foods and the lack of grocery stores that offer affordable and a wide array of produce (Massey *et al.* 2010, Remler *et al.* 2011). These obstacles further hamper the ability of rural residents, including impoverished Hispanic women, to actively and successfully engage in more healthy food choices (Ross *et al.* 2015).

Although Mexican-American women are entering the workforce in greater numbers, they remain the primary caregivers in the family, thus exerting substantial influence over what foods are maintained or introduced into the family's diet. Food, and the connection between food and health, is enmeshed in various cultural systems, including the health beliefs, of most societies (Helman 1994). Food habits are the ways in which individuals produce, consume, and serve food (Kittler & Sucher 2001). Food habits, or foodways, are socially oriented systems that play a crucial role in human interactions. Accordingly, the matriarchal influence on the dietary habits of the household has major implications for the health of its family members, particularly the health of the children in the household, whose food preferences and habits are being developed.

The reverence with which Mexican-American women regard their matriarchal responsibilities, including maintaining the health of their children, makes developing culturally sound diabetes-related interventions, particularly those focused on improving dietary choices, that target this group an undertaking of vital importance for the health of multiple generations. The qualitative study presented here examined how low-income Mexican-American women with T2DM for 10 years or more, thus having some degree of diabetes expertise, negotiate among cultural expectations, foodways, and disease self-management.

Methods

Design

This study used an interpretive descriptive approach, which incorporates elements of grounded theory, naturalistic enquiry and ethnography (Thorne *et al.* 2004). Due to the relevance of culture in this enquiry the approach was imbued with strong ethnographic undertones such as the use of participant observation; significant dependence on interviews with the members from the culture under study; as well as reliance on knowing and using their language (Spradley 1979, Roper & Shapira 2000). We created a menu of guiding questions that could be accessed during the interviews, which were pilot tested and published in detail elsewhere (Benavides-Vaello & Brown 2010). In brief, the investigators

asked individuals to describe their meal preparation routines, their favourite foods, the meaning of diabetes and its impact on their eating choices, how they coped with holidays or special celebrations, and the types and/or utility of dietary recommendations received from healthcare providers. Study procedures were approved by the university Institutional Review Board.

Recruitment and sample

Sixteen Mexican-American women with T2DM were recruited via purposive sampling methods. Four of the 16 who were recruited did not meet the eligibility criteria for this aspect of the study due to having diabetes for <10 years. Therefore, the data of the 12 participants are included in the study presented here. Staff from a research field office located in Starr County, Texas, identified potential participants from rosters of ongoing diabetes studies. Inclusion criteria for the study sample were: (1) non-pregnant adult female between 40–60 years of age; (2) resident of Starr County; (3) self-identified as Mexican American; (4) diagnosed with T2DM for at least 10 years; (5) a willingness to share stories about diabetes with the researcher, particularly related to foodways; and (6) able to speak English or Spanish.

Data collection

All of the participants, with the exception of one, selected the Starr County Research Field Office as the meeting place for the interview. Interviews were conducted in Spanish, English, or both, depending on the participant's language preference. Although the primary data collection approach was individual interviews, which were conducted over 1 week, extensive field notes and annotated observations of the surrounding and immediate communities were logged over several weeks to provide context. Prior to each interview, participants selected pseudonyms to avoid the use of proper names during the interviews. Demographic information, such as age, length of time since diagnosed with diabetes, educational level, and marital status, was collected prior to the qualitative interviews.

The interview sessions were between 45–90 minutes in length, audiotaped, and garnered information about how Mexican-American women manage their diabetes-related food practices within a sociocultural context. As briefly described above, a broad touring question, such as asking them about a typical day, introduced the informant to the topic. As the interview progressed the guiding questions became more specific and personal, such as how they changed their food preparation to follow dietary guidelines for managing their diabetes and how they adapted their diets for special occasions, such as birthdays or weddings. For a more detailed listing of questions on the interview guide, please see Benavides-Vaello and Brown (2010).

Analysis

Aligned with interpretive description, strategies used in the verification of data included concurrent data collection and analysis, constant comparative analysis and iterative analysis. In the study described here, analysis of data began with the observations of community, facility and participants, and continued with participant individual interviews. The analysis was completed by following well-described techniques and included organising the data

collected; reviewing and initial coding of transcripts; describing the setting, participants, and events; developing themes; and interpreting findings (Rubin & Rubin 1995, Spradley 1979, Streubert Speziale & Rinaldi Carpenter 2007, Creswell, 2013). Electronic or paper document files, when appropriate, were created for each type of data collected: field notes, transcripts, literature reviewed, audio-recordings, and demographic information. Spanish translations or transcripts were managed by four transcriptionists, all of whom were fluent in the local form of Spanish used along the Texas-Mexico border. Three of the four transcriptionists were Mexican Americans from Texas-Mexico border communities. All translated transcripts were reviewed by the first author who is a native Spanish speaker and originally from South Texas.

The analysis of the transcripts was initiated by conducting a general review of all transcripts, which generated a broad picture of the collected data. Each transcript was scrutinised for data that could be grouped into topics. Once this was accomplished, transcripts were reviewed again, similar subject matter was merged into major topics or issues, and lone subject matter was isolated as outlying information. We developed a database in Microsoft Excel® to efficiently organise, modify, and re-code data as necessary (Microsoft® Excel, 1985–2001). The database contained discrete spreadsheets for the: (1) domains, (2) broad themes, (3) subthemes, (4) demographic information, (5) other analyses, and (6) selected narrative pieces rendered from this study. Finally, at the end of every session a synopsis of the interview was shared with each participant to ensure that notes taken and information gathered were aligned with participants' narratives and perspectives. Additionally, at the completion of data collection, findings were verified with some of the participants and clinical experts from the area.

Results

On average, the women participants were 52.8 years of age and diagnosed with T2DM for 17.2 years. The majority was married (75%) and employed full-time outside the home (67%). One of the 12 study participants had a graduate degree, three had instruction beyond high school, three had completed 12 years of education, and five had not completed high school (Table 1). Analysis of the data generated six themes: (1) '*la dieta*'; (2) the location and fluidity of food; (3) confidence-defiance self-management connection; (4) negotiating sociocultural and biomedical expectations; (5) eating for diabetes is a family affair; and (6) strategies for self-management (Table 2).

'*La dieta*': a new way

Theme one was developed around a term that frequently surfaced during the interviews, '*la dieta*' in Spanish, 'the diet' in English. The term functions as a proxy for the healthy foods and new techniques or ways (as defined by this group) that should be eaten and used to manage diabetes. Examples included: reducing calories, increasing vegetable and fruit intake, limiting and careful monitoring of carbohydrate consumption by reducing the intake of bread and flour tortillas, reducing saturated fats through baking versus frying foods, limiting the use of oil to prepare most meats, and increasing lean protein sources such as fish and chicken. The most frequently used technique associated with '*la dieta*' was portion

control, or limiting the amount of particular foods one consumed. An interesting cultural operationalisation of portion control was the focus on the ‘use of the fork’, implying that it is healthier to eat foods that require a fork as opposed to ‘finger foods’, such as less healthy tortillas or certain breads:

A friend of mine told me that to lower the amount of tortillas you eat, get a fork ... Like a picadillo (ground beef stew), con papas (with potatoes) ... instead of using the flour tortillas, I get two corn tortillas and a fork and that’s it. That’s (how) I limit how much I can eat.

‘*La dieta*’ was also analogous to abiding by a set of tacit rules established by the individual based on experiences in managing diabetes, as well as social and cultural norms for how diabetes should be managed. The values were derived from a variety of sources, such as family, friends, and health care providers.

Location and fluidity of food

The participants organised food into categories: good, bad, acceptable, profane, and deistical. Unlike biomedical models of diabetes care that have discrete labels for ‘good’ or ‘bad’ foods, categorisations developed by the women in this study were fluid. When necessary, food could be reassigned from the ‘good’ category to the ‘bad’ or vice versa. Conditions that precipitated food relocation were personally motivated or influenced by culturally and socially accepted values. Personally motivated values could encompass the need to satisfy a craving, while socially generated values might be preeminent at a wedding reception.

Good foods—Good foods were generally those used by the participants in caring for their diabetes and perceived to be less likely to elevate glucose levels. Vegetables, fruits, salads, and lean protein sources fell into this category. Although flour *tortillas*, *menudo* (beef tripe stew), rice, or other traditional cultural favourites were not labelled as ‘good foods’, most participants viewed them as *acceptable*, as long as portion sizes were controlled. Thus, a balanced approach that emphasised portion control and included eating a varied cuisine that incorporated vegetables and fruits would allow bad foods to be recategorised as acceptable:

You can eat anything you want, but limit the amount. Like if you like menudo, just get a small cup. You don’t have to drink the whole bowl ... There are many things you can eat... If it is candy, just don’t eat the whole bar (laughing), get a little portion.

Bad foods—Bad foods were foods that participants learnt, either through formal or informal education, had a negative impact on diabetes. Fried foods, lard, a high intake of carbohydrates via foods such as *tortillas*, breads, potatoes, and candy were normally relegated to the ‘bad food’ category; again, these items could be shifted to ‘good’ dependent upon personal motivation and sociocultural values.

Profane or common foods—These types of food were eaten on a daily basis and normally were a household staple, easy and/or quick to prepare, and inexpensive; they remained a primary source of pleasure and a critical component of the participants’ cultural

identification. Food items in this category included beans, rice, tomatoes, chillies, *nopalitos* (cactus), *tortillas*, ground beef, steamed vegetables, cereal, and eggs:

I like cactus a lot ... I like them boiled or I eat them like pills [chunks by themselves] ... Well ... I didn't boil all of them. They were crispy, really good ... Oh, forget about it. Very tasty. I ate them only with a fork. I didn't get any tortillas or anything. And that was breakfast.

Deistical foods—Although rituals are associated with nearly every meal, the conventions and meanings tied to ceremonial related food events involving *deistical foods*, such as birthdays, weddings, and holidays (Easter, Christmas, Thanksgiving) had a profound significance for the women in this study. '*La dieta*' as a treatment for their diabetes played on the subconscious minds of many of the participants, but most made a resolute decision to enjoy the food, and were confident they would get 'back on track' following the event. Religious holidays or celebrations were occasions for foods to be prepared in customary ways and trespasses of '*la dieta*' were forgiven. Obligations to family and culture preceded any contracts with '*la dieta*'. Deistical foods included *tamales*, *cabrito* (goat), turkey, *barbacoa* (primarily beef cheek and tongue), *fajitas* (beef skirts), *mollejas* (beef adrenal glands), and *menudo* (beef tripe stew). When asked if diabetes had changed how food was prepared, one informant replied, 'Not when it comes to home gatherings'.

Taking charge

The ability to take charge of their disease was cultivated by participants from over more than a decade of living with a diabetes diagnosis, and was based on an intimate knowledge of their bodies, a desire to avoid diabetes-related complications, momentary infractions of '*la dieta*' rules, balancing various social roles and expectations that others had of them, being able to negotiate with their providers in the management of their disease, and remaining as stress-free as possible. Those with children were intently engaged in activities, such as using nonfat milk, having children switch from flour to corn tortillas, or reducing the amount of flour tortillas consumed at one time, as ways of preventing diabetes in these youngsters and other family members, refusing to passively allow diabetes to claim more lives. Thus, many of the activities the participants were engaged in were not only considered indicators of their confidence in managing their disease but were also viewed as defiance against a disease that was epidemic in their communities. Their willingness to provide guidance about diabetes to strangers and family ('*eat this instead or eat only a kid's hamburger meal*'), negotiate with providers regarding their therapeutic management plans ('*I'm going to eat barbacoa, but then I will take a long walk*'), and take action to deal with a diabetes issue based on personal body cues were interpreted in this study as measures taken to defiantly confront the disease. Nonetheless a respectable fear of diabetes was noted as well:

It's something that people don't take very seriously... But the older I get the more people I know that have diabetes and they say that the Mexican Americans have more than any other.

I'm glad that I found out in time so that I didn't lose my eyesight. And for me, for what my mother and grandmother went through, it was terrible, so it's something that I'm coping with [her mother died eight months previously]. Anything I find

about diabetes, I read it. Any new medicine, I read it right away..., I try to research. I read what it's about because we need to know...

Confidence in the management of diabetes also compelled the participants to share their knowledge and experiences with others:

She was eating a burger with fries and regular coke. And she knows she has diabetes, like she is in denial. I remember one time she got angry because I called her at her job and asked her ... I asked somebody else to give her a message [inaudible] to come here [health clinic] and she got angry at me. I see her basically every Sunday, she is eating at [name of the fast food restaurant] and she is drinking regular coke. She never changed.

This group of women had also gained tremendous insight into the workings of their bodies, and had the confidence to trust these cues when noted:

I was at [name of restaurant] and I don't know what I ordered and they put a bunch of potatoes and I said, "Don't put it on my plate!" I monitor my blood sugar and if I eat potatoes, it's just through the roof. It's almost worse than sugar ... I have a stronger reaction to potatoes than I do bread or even sugar. There's some sugar things that I can actually eat that I won't react to ... where potatoes, it shoots up, and I know it...

Negotiating sociocultural and biomedical expectations

Although the women in this study recognised how important modification of food habits was to their diabetes management, social expectations were powerful influences on behaviour. Careful negotiations between failing to meet sociocultural expectations and staying true to '*la dieta*' required higher level mediation skills. During social events, such as weddings, nearly all the participants recognised that refusing food offered would be considered offensive, an insult. Instead, they opted not to attend, to accept a plate of food but consume less, or to make it appear they had eaten by moving the food around with a utensil:

Of course I accept it [pan de polvo (Mexican shortbread)] ... but just a small piece. Then I share the rest with family. And only 3 pieces of pan de polvo ... [then] straight to trash.

The transmission of norms, values, and foodways is a requisite for any culture to sustain itself and much of the transmission falls onto the women of any cultural group (Helman 1994). The majority of the study participants had garnered knowledge regarding foodways from their mothers and had vivid accounts of these encounters. Additionally, the participants were able to bargain on what aspects of the transmitted food rituals would change, in an effort to support their and their family's health:

So just learning how to cook differently. I think teaching them how to use fresh vegetables... Getting away from all that processed food back to the way our parents used to cook, our grandparents when they brought in stuff from the garden ... They think that all bread has to be a loaf of white bread and people buy 4, 5, 6 loaves to take home a week. And before it was tortillas. They've come down, they don't want to cook anymore.

Diabetes is a family affair

Immediate family – siblings, cousins and parents – and friends played a vital role in supporting and patrolling what the participants consumed. Most issues among family members related to the purchases, preparation and negotiations of food had been experienced and resolved. Caring for themselves to fulfil their other roles and duties was a major focal point in their approach to foodways. Moreover, family was normally a great source of support and their involvement was part of the management plan. Children and grandchildren were frequently mentioned as patrols or sentries who sounded the alarm when food violations were imminent or when other issues merited attention:

Actually, my family got me to change after I had been diagnosed. My kids were still small at the time and they take sugar away from my hands ... somebody would bring me something to eat, they put the fork in it and eat it first and then they leave me a little piece for me to taste. “And my mom can’t eat that, my mom can’t eat that”...

The grandkids will also remember. I was outside and I forgot to take the injection. “Grandma, Grandma, the shot, the shot!” [laughing].

My children are the most important. If I don’t take care of myself, my son will tell me, “Mom, what am I gonna do if you die?” That was just last week. “No, I miss you. What is going to happen to me?”[son] “... Don’t do it for yourself, you must think of the future of your children”.

Family involvement can be crucial to success in dietary management but input from others could be viewed as intrusive and unwelcome:

I tell my sister, “Don’t you dare ever criticize me for eating a piece of cake; don’t you dare take it away from me.” [crying] ... I tell my family and these are my words, “Don’t [expletive] with me.” If I have a little piece of candy or a little piece of cake, I know that I can have a little piece of cake. I know that I’m not supposed to, okay. But let me eat it. Let me enjoy that little piece of candy, because I just might be gone tomorrow.

Living the strategies for self-care

Over time, the participants had developed strategies for managing changes in food habits to control their diabetes while meeting sociocultural expectations. These ‘lived’ strategies provided the women with an arsenal of skills to manage a myriad of complex social situations and to manoeuvre through the roles and responsibilities expected of them. The more commonly articulated strategies were related to: (1) environmental controls; (2) avoiding overeating or stress eating; (3) lifestyle changes; (4) family; (5) cooking tips; and (6) active self-management. Just as when food could be moved from ‘bad’ to ‘good’ categories depending on need or purpose, strategies were also not bound to a single category, but instead were fluid and could be applied to multiple situations, depending on changes within their daily lives. For issues related to food cravings, one informant suggested limiting availability of the desired foods as a strategy to avoid overeating. Balance was once again overwhelmingly put forth as an essential part of the participants’ approach to health

(including food management for her diabetes) and was frequently included in strategies for managing their diabetes:

But if I don't satisfy that craving, I'll be picking at things. I'm just eating for no reason. I'm not hungry. I'm just eating and eating and eating. And I never satisfied that craving I had from the beginning. And if you satisfy that craving in the very beginning, you don't have to be grabbing here and grabbing there and getting a cracker, some popcorn, that didn't work, oh, let me go get some Triscuits, no that didn't work. Excuse me, let me grab some Fritos, they're too salty, that still doesn't work. You know what I'm gonna go try a corn tortilla with a piece of cheese. No, that didn't work. I'll go through that little phase, you know, and in the beginning if I would've eaten that little piece of candy that would have worked from the very beginning. That usually works for me.

In social situations or in preparation for a weekend respite, planned cheating from '*la dieta*' was a tact used to enjoy traditional foods and simultaneously manage their diabetes. By planning, the participants could meet social expectations, fulfil desires for taste, and engage in self-care for their diabetes as revealed in the following:

Sometimes, like we don't have *menudo* (beef tripe stew) or red meat during the week, we stick with chicken or fish. So we want to go and have steak. We want to go have something good like *menudo* (beef tripe stew) or *barbacoa* (primarily beef cheek and tongue). Like when we go to Red Lobster on the weekends those little breads that they give you, that's tasty. So you want to have tasty foods because you haven't had it all week. Maybe on weekends we can. But we don't do it everyday, it's something we do once in a while.

Discussion

The participants in this descriptive qualitative study provided new insight, via a cultural lens, of the interplay among foodways, culture and illness for low-income Mexican-American women with years of experience in managing their T2DM. Their narratives revealed the inextricable links between food habits and this culture. In addition, invaluable knowledge was gained regarding how diabetes creates tremendous, but not impossible, challenges for low-income Mexican-American women with expertise in chronic disease self-management.

Findings from this study were consistent with work by Paterson and other researchers that showed that after at least nine years of experience with a chronic disease, a person develops some expertise and confidence in disease self-management (Paterson *et al.* 1999, Aljaseem *et al.* 2001, Campbell *et al.* 2003). While having diabetes for 10 years or more does not guarantee expertise in diabetes self-management, people naturally learn about their bodies and individual responses to various lifestyle choices, including their responses to different foods; patient education contributes to this awareness and expertise (Snow *et al.* 2013). For the cultural group reported here, dietary self-management involved more than a biomedical approach and extended to include an emphasis on the sociocultural elements of illness, such as balancing family needs and wishes, negotiating expectations at social gatherings, or modifying self-management recommendations, dietary changes in particular, to reflect the

person's cultural belief system. Learning to manoeuvre among a host of cultural and societal expectations, including those of family and health care providers, was a significant skill the participants in this study had gained. Striking a balance between dietary diabetes guidelines and traditional Mexican-American foods required insight into their bodies, prioritisation of the social values of foodways, and the ability to balance these tensions against those of traditional matriarchal roles.

Limitations

As with any investigation, possible limitations in the framework employed, and interpretation of findings should be addressed. One such potential limitation is related to sample size. Qualitative enquiries, such as ethnographic studies, are exploratory and descriptive in nature, produce voluminous amounts of data, and are limited in sample size. Therefore, the generalisation of findings to broader populations is not appropriate. However, the findings do provide valuable insight to the lives of low-income Mexican-American women with T2DM residing in an impoverished, underserved rural community on the Texas-Mexico border.

Another potential limitation is associated with guiding questions employed. Although the guiding questions used in this enquiry were pilot tested in a prior study, culture is dynamic and temporal in nature. The cultural milieu in the study presented here may or may not be identical to the sociocultural environment of the pilot study participants in that study. Such shifts in sociocultural events can impact the researcher's ability to gather and interpret narratives from the participants in this study. Nonetheless, study participants did seem to comprehend what was being asked of them and were able to respond accordingly.

Finally, the participants were recruited from the rosters of ongoing diabetes studies in the community. Therefore, it is possible that the participants had been involved in other research studies and had received diabetes self-management education through such investigations. Nonetheless, the narratives delivered by participants emerged as sincere and plainspoken experiences.

Relevance to clinical practice

Given the explosion in chronic disease levels the USA has experienced within the last few decades, and the limited success in addressing this issue via the biomedical model, it stands to reason that approaches need to be broadened to include disease as a cultural experience. Exploratory studies, similar to this enquiry, are required to understand how diabetes operates within the realm of the culture and subcultures of low-income Mexican-American women. As the data of this study indicate, dietary management of diabetes went beyond changes in nutrient choices. Food habits were part of a greater social system, thus the indoctrination of eating to manage diabetes required the incorporation of various values and norms.

Healthcare providers can use the knowledge gained in this work when providing dietary self-management guidance to patients with diabetes (Table 3). Some of the major points to consider are that patients experience and manage most of their disease within a sociocultural environment, rather than the clinical setting; and after 10 years of disease experience

develop expertise in self-management strategies. These strategies tend to be more practical (limiting the availability of desired foods in the home) and action oriented (planning ahead for strategic cheating from '*la dieta*'). Further, the women in this study made changes in how they eat to care for their diabetes, but also continue to maintain traditional foodways, particularly at family and religious functions. The key to maintaining these cultural ties was through attempts to balance food intake via moderation, portion size and frequency of consumption.

Acknowledging the role culture has on an individual's beliefs regarding their health and disease processes is imperative for educators and health care providers. Extant evidence supports the importance of addressing social, environmental and personal issues in the design of programs aimed at improving health outcomes, especially for populations with limited resources (Cersosimo & Musi, 2011; Clark, Vincent, Zimmer, & Sanchez, 2009; Livaudais *et al.*, 2010, Vincent 2009, McCloskey & Flenniken 2010, Metghalchi *et al.*, 2008).

While there are exceptions, facilitating family involvement has also shown to be valuable for Hispanic individuals in long-term diabetes management. Improvement in self-management has been noted when family members accompany the individual with diabetes to clinical appointments and education programs (Cersosimo & Musi, 2011; McCloskey & Flenniken 2010). As food and family are both central aspects of Hispanic cultures, educating both the individual with diabetes on diet modifications along with the family can play an important role in overcoming barriers. Logically, suggested alterations to diet should also be culturally appropriate to ensure success (Vincent 2009, Hu *et al.* 2010). Cultural congruency for this population may include focusing on portion size and frequency of particular food items rather than asking a patient to completely remove them from their diet (Brown *et al.* 2002). Additionally, the inclusion of traditional foods and folk remedies should be considered and explored, such as the consumption of cactus and aloe vera (Brown *et al.* 1998).

Conclusions

The study findings revealed that low-income Mexican-American women who reside on the Texas-Mexico border and who have been diagnosed with T2DM for at least 10 years maintain traditional foodways, while gaining self-management expertise and making dietary changes to care for their diabetes. The key in maintaining these cultural ties is balance via moderation, portion size, and frequency in consuming certain traditional foods. With diabetes self-management experience one could obtain confidence in taking charge and making the difficult day-to-day decisions about dietary choices for themselves and their families. However, diabetes self-management went beyond biomedical confines of how this is usually defined. For the women in this enquiry, self-management meant learning about one's body, taking control of one's health, asserting foodways in the home for themselves and their families, defying diabetes, offering advice to strangers and family, and negotiating care plans with their healthcare providers. As research, interventions and education in diabetes management related to foodways expands, the sociocultural relevance of how this and other populations define self-management will need to be closely examined. Additionally nursing is in an ideal position to expand its cultural competence in relation to

diet and self-management. Nurses are the likely the clinician spending most time with the patient and nurses are one of the most trusted professions by patients. The beauty of nursing gaining learning cultural competence in relation to food and foodways for self-management of chronic disease, is that the basic tenets of why food is so sacred and important for one cultural group can be applied to most others cultural groups. Food is a major way by which how most cultures identify themselves. Thus, a framework can then be developed and operationalised as nurses work with patients to make the best food choices to manage their health, but supporting patients in remaining true to their sociocultural values.

The results of this study emphasise the importance of taking culture into consideration when designing diabetes self-management interventions; otherwise, good intentions will have little effect. The traditional approach of teaching rigid dietary guidelines based on the food preferences of non-Hispanic Whites has not been particularly successful with minority groups. Clearly, different approaches are required. One informant of this study perhaps stated it best:

You would still have a good life, you could still enjoy life, and it's just the way of changing the way we eat. Not exactly what we eat, but the way we eat ... I mean I'm not too much into the nutrition that I could speak about nutrition, but having a nutritionist come in and just explain a little details, but in simple, in simple language ... show them. Cook for them maybe and just show them the difference. That should work, I mean, we're not idiots, we all have a head above our shoulders, you know, and sometimes we may [be] contradistas [stubborn or contradictory]...

References

- Aljaseem LI, Peyrot M, Wissow L, Rubin R. The impact of barriers and self-care efficacy on self-care behaviors in type 2 diabetes. *Diabetes Educator*. 2001; 27:393–404. [PubMed: 11912800]
- American Diabetes Association. Diabetes Among Hispanics: All Are Not Equal. 2014. Available at: <http://www.diabetes.org/newsroom/press-releases/2014/diabetes-among-hispanics-all-are-not-equal.html> (accessed 18 December 2015)
- Benavides-Vaello S, Brown SA. Evaluating guiding questions for an ethnographic study of Mexican American women with diabetes. *Hispanic Health Care International*. 2010; 8:77–84.
- Brown SA, Becker BJ, García AA, Brown A, Ramírez G. Model-driven meta-analysis for informing health care: a diabetes meta-analysis as an exemplar. *Western Journal of Nursing Research*. 2015; 37:517–535. [PubMed: 25142707]
- Brown SA, García AA, Kouzekanani K, Hanis CL. Culturally competent diabetes self-management education for Mexican Americans: the Starr County Border Health Initiative. *Diabetes Care*. 2002; 25:259–268. [PubMed: 11815493]
- Brown SA, Upchurch S, García A, Barton SA, Hanis C. Symptom-related self-care of Mexican Americans with NIDDM: preliminary findings of the Starr County Diabetes Education Study. *The Diabetes Educator*. 1998; 24:331–339. [PubMed: 9677951]
- Campbell R, Pound P, Pope C, Britten N, Pill R, Morgan M, Donovan J. Evaluating meta-ethnography: a synthesis of qualitative research on lay experiences of diabetes and diabetes care. *Social Science and Medicine*. 2003; 56:671–684. [PubMed: 12560003]
- Centers for Disease Control and Prevention. National Diabetes Fact Sheet: National Estimates and General Information on Diabetes and Prediabetes in the United States, 2011. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2011. 2011. Available at: http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf (accessed October 12 2015).

- Centers for Disease Control and Prevention. National Diabetes Statistics Report, 2014. 2014. Available at <http://www.cdc.gov/diabetes/pdfs/data/2014-report-estimates-of-diabetes-and-its-burden-in-the-united-states.pdf> (accessed 17 December 2015)
- Cersosimo E, Musi N. Improving treatment in Hispanic/Latino patients. *The American Journal of Medicine*. 2011; 124(10):S16–S21. [PubMed: 21939794]
- Clark L, Vincent D, Zimmer L, Sanchez J. Cultural values and political economic contexts of diabetes among low-income Mexican Americans. *Journal of Transcultural Nursing*. 2009; 20(4):382–394. [PubMed: 19376966]
- Creswell, JW. *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. 3rd. Sage; Thousand Oaks, CA: 2013.
- Hanis CL, Ferrel RE, Barton SA, Aguilar L, Garza-Ibarra A, Tulloch BR, Garcia CA, Schull WJ. Diabetes among Mexican Americans in Starr County, Texas. *American Journal of Epidemiology*. 1983; 118:659–672. [PubMed: 6637993]
- Helman, CG. *Culture Health and Illness*. 3rd. Butterworth-Heinemann; Oxford: 1994. Diet and nutrition.
- Hu J, Wallace D, Tesh A. Physical activity, obesity, nutritional health and quality of life in low-income Hispanic adults with diabetes. *Journal of Community Health Nursing*. 2010; 27:70–83. [PubMed: 20437288]
- Kittler, PG., Sucher, KP. *Food and Culture*. 4th. Wadsworth; Belmont, CA: 2001.
- Lindsay AC, Sussner KM, Greaney ML, Peterson KE. Influence of social context on eating, physical activity and sedentary behaviors of Latina mothers' and their preschool-aged children. *Health Education Behavior*. 2009; 36:81–96. [PubMed: 18689491]
- Livaudais JC, Coronado GD, Espinoza N, Islas I, Ibarra G, Thompson B. Educating Hispanic women about breast cancer prevention: evaluation of a home-based promotora-led intervention. *Journal of Women's Health*. 2010; 19(11):2049–2056.
- Lopez Stewart G, Tambascia M, Rosas Guzmán J, Etchegoyen F, Ortega Carrión J, Artemenko S. Control of type 2 diabetes mellitus among general practitioners in private practice in nine countries of Latin America. *Revista Panamericana de Salud Pública*. 2007; 22(1):12–20. [PubMed: 17931483]
- Massey C, Appel S, Buchanan K, Cherrington A. Improving diabetes care in rural communities: an overview of current initiatives and a call for renewed efforts. *Clinical Diabetes*. 2010; 28:20–27.
- McCloskey J, Flenniken D. Overcoming cultural barriers to diabetes control: a qualitative study of southwestern New Mexico Hispanics. *Journal of Cultural Diversity*. 2010; 17:110–115. [PubMed: 20860336]
- Metghalchi S, Rivera M, Beeson L, Firek A, De Leon M, Cordero-MacIntyre ZR, Balcazar H. Improved clinical outcomes using a culturally sensitive diabetes education program in a Hispanic population. *The Diabetes Educator*. 2008; 34(4):698–706. [PubMed: 18669812]
- Microsoft® Excel X for Mac® Service Release 1. © 1985–2001 Microsoft Corporation. All rights reserved.
- Mier N, Medina AA, Ory MG. Mexican Americans with type 2 diabetes: perspectives on definitions, motivators, and programs of physical activity. *Preventing Chronic Disease*. 2007; 4:1–8.
- Morris McEwen M, Baird M, Pasvogel A, Gallegos G. Health-illness transition experiences among Mexican immigrant women with diabetes. *Family & Community Health*. 2007; 30:201–212. [PubMed: 17563482]
- National Rural Health Association (NRHA). What's Different About Rural Health Care?. 2007–13. Available at: <http://www.ruralhealthweb.org/go/left/about-rural-health/what-s-different-about-rural-health-care> (accessed 20 November 2015)
- Office of Minority Health. Health Status of Hispanic/Latinos. 2013. Available at: <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=70> (accessed 11 October 2015)
- Pan American Health Organization (PAHO). The U.S.-Mexico Border Diabetes Prevention and Control Project: First Report of Results. 2011. Available at: <http://www.cdc.gov/diabetes/projects/border.htm> (accessed 1 March 2013)
- Paterson BL, Thorne S, Crawford J, Tarko M. Living with diabetes as a transformational experience. *Qualitative Health Research*. 1999; 9:786–802. [PubMed: 10662259]

- Ramirez, AG., Thompson, IM., Vela, L. Behavioral risk factors in adults. In: Ramirez, AG. Thompson, IM., Vela, L., editors. *The South Texas Health Status Review*. Springer; New York, NY: 2013. p. 85-100.
- Remler D, Teresi J, Weinstock R, Ramirez M, Eimicke J, Silver S, Shea S. Health care utilization and self-care behaviors of Medicare beneficiaries with diabetes: comparison of national and ethnically diverse underserved populations. *Population Health Management*. 2011; 14:11–20. [PubMed: 21241171]
- Roper, JM., Shapira, J. *Ethnography in Nursing Research*. Sage; Thousand Oaks, CA: 2000.
- Ross S, Benavides-Vaello S, Schumann L, Haberman M. Issues that impact type-2 diabetes self-management in rural communities. *Journal of the American Association of Nurse Practitioners*. 2015; 27:653–660. [PubMed: 25776183]
- Rubin, HJ., Rubin, I. *Qualitative Interviewing: the Art of Hearing Data*. Sage; Thousand Oaks, CA: 1995.
- Snow R, Humphrey C, Sandall J. What happens when patients know more than their doctors? Experiences of health interactions after diabetes patient education: a qualitative patient-led study. *British Medical Journal Open*. 2013; 3:e003583.
- Spradley, JP. *The Ethnographic Interview*. Hold, Rinehart, and Winston; Florida: 1979. Ethnography and culture; p. 3-16.
- Streubert Speziale, HJ., Rinaldi Carpenter, D. *Qualitative Research in Nursing: Advancing the Humanistic Imperative*. Lippincott Williams & Wilkins; Philadelphia, PA: 2007.
- Texas Health and Human Services Commission. *Factors Influencing Health Care on the Texas-Mexico Border*. 2014. Available at: <http://www.hhsc.state.tx.us/reports/2015/Factors-Influencing-Health-Care.pdf>. (accessed 7 December 2015)
- Thorne S, Reimer Kirkham S, O'Flynn Magee K. The Analytic challenge in interpretive description. *International Journal of Qualitative Methods*. 2004; 3:1–11.
- Timmerman G. Addressing barriers to health promotion in underserved areas. *Family Community Health*. 2007; 30:S34–S42. [PubMed: 17159630]
- Vincent D. Culturally tailored education to promote lifestyle change in Mexican Americans with type 2 diabetes. *Journal of the American Academy of Nurse Practitioners*. 2009; 21:520–527. [PubMed: 19845810]
- World Health Organization (WHO). Fact Sheet No. 310. 2014a. Available at: <http://www.who.int/mediacentre/factsheets/fs310/en/> (accessed 10 December 2015)
- World Health Organization (WHO). Fact File: 10 Facts About Diabetes. 2014b. Available at: <http://www.who.int/features/factfiles/diabetes/facts/en/index1.html> (accessed 10 December 2015)

Relevance to clinical practice

Foodways are critical to most cultural groups and modifying dietary behaviours can be challenging. Clinicians must develop self-management guidance within the sociocultural context of the patient if diabetes outcomes are to improve and be sustained.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

What does this paper contribute to the wider global clinical community?

- The results confirm that traditional foodways remain an important part of one's culture even among those with diabetes and who have developed expertise in diabetes self-management.
- Food habits and/or foodways are a key aspect to most cultures. Asking persons with diabetes to remove foods from their diet can be similar to severing important sociocultural linkages. It is critical to work with patients in devising strategies and approaches that will support successful diabetes self-management but allow them to maintain positive connections to their culture.
- Persons experience or live with diabetes in complex sociocultural environments on a daily basis. Their illness experience is not limited to clinical appointments. Persons with diabetes need tools and resources, at the emotional and cognitive level, to navigate between cultural expectations.

Table 1

Demographic information (n = 12)

Descriptor	Mean (range)	Frequency
Age (Years)	52.8 (47–60)	
Marital status:		
Married		9
Divorced		1
Widowed		1
Single		1
Level of education (Years):		
18		1
12+		3
12		3
<12		5
Employment:		
Full-time		8
Part-time		1
Homemaker		3
Years Diagnosed with	17.2 (10–29)	
Type 2 Diabetes:		
10–15		5
16–20		4
>20		3

Table 2

The six major themes that emerged from the data

	Themes	Descriptors
Theme 1	<i>'La dieta': a new way</i>	• Portion control • Using the fork • Less flour <i>tortillas</i> • Increased intake of fruits and vegetables • Baking versus frying
Theme 2	The location and fluidity of food	• <i>Bad</i>: excessive flour <i>tortillas</i>, refined carbohydrates or high-fat content foods • <i>Good</i>: fruits, vegetables, whole wheat • <i>Profane</i>: common foods like rice, beans, <i>nopalitos</i> • <i>Acceptable</i>: flour <i>tortillas</i>, refined carbohydrates or high-fat content foods • <i>Deistical</i>: <i>Tamales, cabrito, menudo, pan de polvo</i>
Theme 3	Taking charge	• Familiarity with one's body cues or changes • Confidence to take action came with experience • Defying the enemy with confidence gained
Theme 4	Negotiating sociocultural and biomedical expectations	• Social situations create tension between social rules and disease limitations • Willing to breach provider guidance for special occasions • Conflict between severing cultural transmission and endangering self and family
Theme 5	Diabetes is a family affair	• Children and grandchildren are food police • Children and grandchildren are motivation to manage diet
Theme 6	Living the strategies for self-care	• Balance • Concerned about health to take action, but not stress • No deprivation • Planned cheating from '<i>la dieta</i>'

Table 3

Relevance to clinical practice

	Themes	Implications for clinical practice
Theme 1	<i>'La dieta': a new way</i>	Dietary guidelines may be too loose of a concept for this population, whereas a diet (or a new way) is more concrete and easier to visualise. These are foods that will help you manage your diabetes better, these are foods that will make it harder, so avoid, or limit as much as possible
Theme 2	The location and fluidity of food	Culture-bound foods, or rather those items inextricably linked to cultural identity, continue to be an important part of dietary self-management for those with diabetes. Clinical guidance and support must acknowledge this and allow for strategic inclusion of all such foods
Theme 3	Taking charge	Experience with diabetes helps to develop confidence in managing the disease. Share with patients that over time their ability to self-care will improve, as will their ability and desire to play a more active role in clinical decisions
Theme 4	Negotiating sociocultural and biomedical expectations	Family, friends and clinicians have different expectations for the person with diabetes. Persons experience or live diabetes in this complex environment on a daily basis. Their illness experience is not limited to clinical appointments. They need tools and resources, at the emotional and cognitive level, to deal with these various expectations
Theme 5	Diabetes is a family affair	This is a very family oriented culture, thus diabetes impacts the entire family, especially in terms of dietary management. Not all family members will want to make the necessary dietary modifications, while others will diligently oversee what the person with diabetes is consuming. Patients with diabetes should be asked if an appointment with family is desired, so that all can hear the same message and the practitioner is oriented to the patient's environment
Theme 6	Living the strategies for self-care	Experienced persons with diabetes have developed creative but concrete ways of addressing everyday self-management issues. Clinicians should consider sharing these with other patients, particularly those early in their disease trajectory