

Narrowing the Cultural Divide in Diabetes Mellitus Care: A Focus on Improving Cultural Competency to Better Serve Hispanic/Latino Populations

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ABSTRACT

Background: The number of people who belong to minority groups is increasing in the United States. Many of these groups are more prone to diabetes mellitus (DM), possibly due to a genetic predilection for DM and perhaps as a consequence of a disproportionate lack of access to adequate health care. Understanding different cultural perceptions is pivotal in providing health care (and DM care specifically) for people in the Hispanic/Latino community, currently the largest minority group in the United States.

Objective: The objective of this article was to discuss how to improve health outcomes for patients in minority groups, with specific emphasis on Hispanic/Latino populations with DM.

Methods: English-language articles were identified through an online search of MEDLINE/PubMed and Google (1990–2006) using the search terms *prevalence, diabetes, Hispanic/Latino, and cultural barriers*.

Results: DM is a growing epidemic among the Hispanic/Latino population in the United States. Research has shown that genetically driven insulin resistance, high rates of abdominal obesity, increased visceral fat, and various lifestyle factors contribute to this epidemic. The fact that many Hispanic/Latino individuals lack access to adequate health care leads to health disparities. Another reason for such discrepancies in DM care may be the way different cultures view DM. These differences may include a stronger emphasis on family support in DM management; a fatalistic view of life and a belief that DM is the result of divine intervention; the predominant use of Spanish, rather than English, as the primary language; and having fewer economic resources, including adequate health insurance. These factors can lead to increased DM complications because health care providers are missing opportunities to enhance communication of health information to their patients from certain minority populations. Specific strategies to reduce racial and ethnic disparities include providing interpreters, hiring bilingual staff members, and becoming more familiar with the cultural factors that may impact on the delivery of health care services. Efforts to increase health literacy among patients also are important.

Conclusions: Understanding and reducing disparities in health care can help improve health outcomes for patients who belong to minority groups. Effective communication by DM care providers and efforts to improve health literacy among patients can often lead to improvements in DM management, with an emphasis on achieving glycemic control and reducing the risk for DM-related complications. A better understanding of cultural differences and their impact on health care can influence how clinicians treat their minority patients with DM, leading to effective interventions that may help patients better manage their DM and narrow the cultural divide in DM care. (*Insulin*. 2006;1:70–76) Copyright © 2006 Excerpta Medica, Inc.

Key words: diabetes mellitus, Hispanic/Latino, minority, cultural competency, health literacy.

INTRODUCTION

According to US Census Bureau data, 25% of the population living in the United States now belong to a racial/ethnic minority group; this figure has doubled in the last 35 years and is expected to double again by 2050.¹ Projections have been made that 1 out of every 2 Americans in 2050 will be African American, Hispanic/Latino, Asian American, Pacific Islander, or Native American.¹ Providing effective interventions to address the health care needs of the entire population requires widespread awareness of the role of cultural factors and their impact on provider–patient communication.

As a chronic disease, diabetes mellitus (DM) has a disproportionate impact on people who belong to these racial/ethnic minority groups. A higher prevalence of DM occurs among minority populations than among whites, and some minority groups have higher rates of DM-related complications and death. For example, data from a national survey of the US Department of Health and Human Services found that Mexican American adults were twice as likely as non-Hispanic white adults to receive a diagnosis of DM by a physician, with higher rates of DM-related end-stage renal disease compared with non-Hispanic white men.² Further-

more, survey findings show that Hispanics/Latinos were 60% more likely than non-Hispanic whites to die of DM-related complications.²

DM is a growing epidemic among the Hispanic/Latino population in the United States. According to data from the National Institute of Diabetes and Digestive and Kidney Diseases, an estimated 2.5 million American adults (≤ 20 years of age) of Hispanic and Latino origin have been diagnosed with DM; this is $\sim 9.5\%$ of the total population of Hispanic and Latino Americans.³ Hispanic/Latino Americans are, on average, 1.9 times more likely to have DM than non-Hispanic whites of similar age.³ Estimates have been made that nearly half of Hispanic/Latino children born in 2000 are likely to develop DM within their lifetimes.³

Regardless of minority group status, overall health outcomes for many Americans with DM appear to be suboptimal. DM-related complications, including heart disease and stroke, blindness, kidney disease, nervous system disease, amputations, and other life-threatening events associated with uncontrolled DM, remain serious concerns for patients with DM.⁴ These outcomes occur despite the relatively high rates of health care access and utilization, screening for DM complications, and treatment of hyperglycemia, hypertension, and dyslipidemia for people with type 2 DM.⁵

The objective of this article was to discuss how to improve health outcomes for patients in minority groups, with specific emphasis on Hispanic/Latino populations with DM.

MATERIALS AND METHODS

English-language articles were identified through an online search of MEDLINE/PubMed and Google (1990–2006) using the search terms *prevalence, diabetes, Hispanic/Latino, and cultural barriers*.

RISK FACTORS RELATING TO DIABETES MELLITUS CARE FOR MINORITY GROUPS

Some people who belong to various racial/ethnic minority groups may be at a particular disadvantage in terms of receiving effective DM care for several reasons. First, the possibility exists that some groups may have a genetic predilection for DM. For example, research has found that mutations in the insulin promoter factor-1 gene—the β -cell transcription factor that is essential to pancreatic development and the maintenance of β -cell mass—can increase susceptibility to type 2 DM among African Americans, whereas the same gene is not a cause of type 2 DM in white individuals.⁶ In another study of 207 healthy but overweight Latino children (8–13 years of age) with a family history of type 2 DM, impaired fasting glucose was associated with impaired β -cell function and therefore may be useful for identifying children likely to be at risk for progression to type 2 DM.⁷ Research has shown that genetically driven insulin resistance, high rates of abdominal obesity, increased visceral fat, and various lifestyle factors (including dietary intake) contribute to the growing epidemic of DM within the Hispanic/Latino population.⁸ Although the role of genetics appears signifi-

cant in the development of DM, obesity and physical inactivity are also important risk factors.⁸

Another factor that has an impact on DM care for the Hispanic/Latino population is the lack of access to adequate health care, leading to health disparities among these individuals. A major determinant of access to care is health insurance coverage, as well as having a usual source of health care and having recent contact with a health care provider. Compared with people in other racial/ethnic groups, individuals of Hispanic origin and American Indians < 65 years of age are more likely to have no health insurance coverage, according to data from a National Health Interview Survey conducted by the National Center for Health Statistics.⁹ For example, people of Mexican origin were the most likely to lack health insurance in 2003, compared with non-Hispanic white individuals (38% vs 12%, respectively). Among adults (18–64 years of age), 29.4% people of Hispanic or Latino origin reported no usual source of health care in 2003 versus 13.6% of white Americans.⁹ Furthermore, people of Hispanic or Latino origin have reported fewer health care visits to physicians' offices, emergency departments, and home visits within the past 12 months than white Americans; also, data from 2003 show that 25.3% of the Hispanic/Latino population had no health care visits versus 13.5% of white Americans.⁹

However, perhaps a more striking reason for discrepancies in DM care among minority group populations may be found in the way different cultures view DM and in the way some clinicians view different cultures. For example, the Hispanic/Latino population has increased substantially over the years. In 2003, this population became the largest minority group in the United States, comprising almost 13% of the total population; the number of people with Hispanic origins is estimated to triple by 2050, while the non-Hispanic white population is estimated to increase by 8%.¹⁰ Understanding different cultural perspectives is pivotal, therefore, for providing effective health care (including DM care) to this growing population of Americans. In addition to overcoming any language barriers that exist when English is not the primary language of some patients, these individuals may be at particular risk for cultural misconceptions by their health care providers.

IMPACT OF CULTURAL PERCEPTIONS ON DIABETES MELLITUS CARE

The Hispanic/Latino population is a mixture of many nationalities. The term *Hispanic* generally includes all persons from Spanish-speaking countries but does not factor in specific differences in cultural beliefs, values, education, socioeconomic status, or the influence one country has on another. *Latino* is a term used to describe individuals from Latin American countries, recognizing that each of these countries has its own cultural traditions, beliefs, and values.¹¹ Although the Hispanic/Latino community is a composite of many cultures, some similarities exist across these distinct nationalities.

First, family is important in the Hispanic/Latino culture and affects health care practices. A study of Latinos from 4 different communities (Hartford, Connecticut; Edinburg, Texas; Guadalajara, Mexico; and rural Guatemala) demonstrated that family support was vital in ensuring patient adherence to DM management behaviors.¹² If family support was lacking, then patients were less likely to be motivated to properly manage their DM.

Second, some Latino groups have a fatalistic view of life and believe that DM is the result of divine intervention; they also use folk medicine to treat DM. In a study of 104 Hispanic adults, 78% of these patients believed they had DM because it was God's will; 17% of these patients used herbs to treat their DM.¹³ Such study findings help illustrate the importance of better understanding each patient's religious and spiritual perspectives when dealing with health issues in this population.

Third, acculturation as measured by language (namely, one's ability to speak English) has been found to be associated with DM and DM-related complications among Hispanics.¹⁴ Using data from the 1999–2002 National Health and Nutrition Examination Survey (NHANES), an analysis of 2696 Hispanic adults found that individuals with low acculturation were more likely to lack a routine location for health care, have no health insurance, and have low levels of education.¹⁴ In adjusted analyses, individuals with low acculturation, as measured by language, were almost twice as likely to have DM; of those with DM, individuals with low language acculturation were 40% more likely to develop peripheral neuropathy as a DM complication.¹⁴

An analysis of 1988–1994 NHANES data found that urban Hispanics were more likely to have undiagnosed DM than rural Hispanics (3.7% vs 2.7%, respectively; $P = 0.04$); 2.3% of rural whites and 2.8% of urban whites had lower rates of undiagnosed DM than urban Hispanics.¹⁵ These findings may be due to the perception that the urban culture provides an environment for non-English enclaves, whereas community-minded rural areas may foster a more homogeneous mix of cultures in which acculturation of Hispanic individuals occurs more readily.¹⁵

Fourth, research has found that Hispanics with DM often face economic barriers to treatment.¹⁶ The economic status of the Hispanic population is lower than that of non-Hispanic whites.⁷ For example, among those aged ≥ 65 years, 21% of Hispanic men and 26% of Hispanic women live in poverty, compared with 6% of non-Hispanic white men and 12% of non-Hispanic white women.¹⁰ This economic disadvantage has important implications for the health and health care of the Hispanic/Latino population. Notably, low-income Americans, particularly if they belong to a minority group, run the highest risk of being uninsured. In 2003, a study by the Center on Budget and Policy Priorities—a fiscal policy organization that coordinates public programs affecting low- and moderate-income individuals—showed that Hispanics were the least likely among minority groups to have health insurance, with fewer than 1 in 3 Hispanics having such coverage.¹⁷

While emigrants who come to the United States tend to be healthier than those individuals who stay in their native land,¹⁰ this healthier status can erode when newer, and often less healthy, American behaviors and diets are adopted. Experts in the field of Latino health care have observed that “the longer Latinos live in the United States, the less healthy they become.”¹⁸ Coupled with an inability to successfully negotiate the US health care system, the results can include the emergence of chronic diseases, such as type 2 DM, which now disproportionately affect minority groups throughout the United States.

All of these factors work together to erode the possibilities for effective DM management. A study by Thackeray et al¹¹ was designed to assess the racial and ethnic disparities in DM management, based on data from 8129 whites and 1327 Hispanics (**Table I**). Data from a cross-sectional survey called the Behavioral Risk Factor Surveillance System included an optional module on DM that was completed by participants who reported that their physician told them they had DM (**Table II**).¹¹ This study found wide variations in selected DM management variables across different levels of race/ethnicity. The only variable in which Hispanics fared better than whites was in taking prescribed oral antidiabetic medications. However, insulin use was ~30% less in Hispanics than in whites.¹¹

ATTITUDES OF HEALTH CARE PROVIDERS

Studies have shown that understated, perhaps even subconscious, prejudices can lead to inequitable decisions made by health care providers. A literature review that assessed published evidence for racial/ethnic disparities in the quality of physician–patient communication revealed that race, ethnicity, and language have substantial influence on the quality of the relationship between the patient and the health care provider.¹⁹

Schulman et al²⁰ surveyed 720 physicians who viewed videotaped scenarios of patients and made recommendations for their care. The investigators concluded that patients' race and sex impacted the physicians' decisions about referral for additional testing, even after adjusting for symptoms, estimates of clinical probability, and clinical characteristics.

Poor communication is another factor that can negatively influence DM management. Health literacy in patients is defined as the reading and numerical skills needed to function in the health care environment. In a study of primary care physicians and patients with low health literacy, researchers found that when conveying new information to patients with DM, the physicians assessed recall and comprehension of new concepts only 12% of the time.²¹ Patients with physicians who assessed recall or comprehension were more likely to have glycosylated hemoglobin (A1C) levels below the mean ($\leq 8.6\%$) compared with patients whose physicians did not do this assessment ($P = 0.02$). Neglecting this step in communication translates into a missed opportunity that can have important clinical implications.

Table I. Results of a study that assessed diabetes mellitus (DM) management variables in white and Hispanic groups. Values are given as percentage of subjects.

Variable	White (n = 8129)	Hispanic (n = 1327)
Attendance at a DM management class ($P < 0.001$)	53.5	39.7
Taking oral antidiabetic medications ($P < 0.011$)	66.5	71.8
Taking insulin ($P < 0.001$)	27.1	19.1
Monitoring blood glucose daily ($P < 0.001$)	45.3	35.0
Never monitoring blood glucose ($P < 0.001$)	20.3	38.0
Never heard of "A1C" ($P < 0.001$)	14.7	27.0
Never checking feet for sores/irritations ($P < 0.001$)	15.1	28.9
Never had cholesterol checked ($P < 0.001$)	4.2	10.0

A1C = glycosylated hemoglobin.

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Table II. Selected diabetes mellitus–related questions from the Behavioral Risk Factor Surveillance System.

1. Have you ever taken a course or class in how to manage your diabetes yourself?
2. How old were you when you were told you have diabetes?
3. Are you taking diabetes pills?
4. Are you taking insulin?
5. About how often do you check your blood for glucose or sugar? Include times when checked by a family member or friend, but do not include times when checked by a health professional.
6. About how often do you check your feet for any sores or irritations? Include times when checked by a family member or friend, but do not include times when checked by a health professional.
7. A test for hemoglobin "A one C" measures the average level of blood sugar over the past 3 months. About how many times in the past 12 months has a doctor, nurse, or other health professional checked you for hemoglobin A1C?
8. When was the last time you had an eye examination in which the pupils were dilated? This would have made you temporarily sensitive to bright light.
9. Blood cholesterol is a fatty substance found in the blood. Have you ever had your blood cholesterol checked?
10. Vigorous activities cause large increases in breathing or heart rate while moderate activities cause small increases in breathing or heart rate. In a usual week, do you do vigorous activities for at least 10 minutes at a time, such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate?
11. About how many times in the past 12 months have you seen a doctor, nurse, or other health professional for your diabetes?

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REDUCING DISPARITIES IN DIABETES MELLITUS CARE

Bridging the cultural gap between a patient with DM and a health care provider relies strongly on whether that provider can effectively communicate with the patient, preferably in a culturally competent manner that can help increase the health literacy of each patient. Such culturally competent clinicians are able to adjust their own attitudes and beliefs to focus on those of the patient to arrive at the best clinical outcome, regardless of the patient's background. The clinician must not only establish a bond with each patient but also take into account the patient's perspective on medicine and disease management.

It is possible for a health care provider to have cultural awareness (eg, be employed in a minority-dominated clinic) and be

culturally literate (eg, be able to speak Spanish) but not be culturally competent. Achieving cultural competence requires more than providing Spanish-language disease management education materials to Spanish-speaking patients with DM.

Some methods to reduce disparities in DM care include increasing effective communication methods, cultural competence, and health literacy.

Increasing Effective Communication

Because DM is a complex disease that also requires lifestyle modifications, the patient needs to be clearly informed about the many different aspects of DM management. It is helpful for patients to understand why ongoing monitoring

of such variables as A1C levels and proper diet and exercise regimens are important.

Communicating this information to a non-English-speaking patient in a culturally competent manner can be challenging. With respect to language translation requirements, federal law originally mandated that non-English-speaking patients must be provided with an interpreter to ensure that they are not denied complete access to health care services.²² The Office of Civil Rights later amended this law to allow for patients with limited English proficiency to select family members or friends as their interpreters.

A cross-sectional study of 194 physicians in 3 outpatient settings who used interpreters were assessed for their comfort in communicating medical information through interpreters to non-English-speaking patients.²³ The study showed that while 85% of physicians felt satisfied with their ability to diagnose and treat a medical condition, only 45% felt comfortable with their ability to empower the patients with sufficient information to manage the condition. However, previous training in interpreter use was associated with an increased utilization of interpreters and increased satisfaction with the medical care provided. Thus, DM care may be enhanced when clinicians are trained in the effective use of interpreters.

Some clinics hire patient health advocates, or *promotoras*, who are members of minority communities and receive training in the delivery of health care services.^{11,24} These advocates can help build trust between the people living in a minority community and the local health care system. Their responsibilities may include patient education, outreach, screening, and case management. Not only do some clinics employ well-trained interpreters, but they also hire bilingual staff members to help patients feel more comfortable during office visits. Their primary goal is to help patients achieve a better understanding of their health and how to maintain good health.

A randomized study evaluated the impact that completion of a promotora-conducted DM education program had on patient knowledge, self-care behaviors, and glycemic control in an inner-city Hispanic population ($N = 64$).²⁵ The results showed a substantial improvement in knowledge levels and selected self-care practices for the study participants. Furthermore, A1C levels improved from a baseline level of 11.7% to 9.5% at the postprogram follow-up assessment ($P < 0.001$); greater improvements were seen in those who completed the program compared with those who did not ($P = 0.007$).²⁵ The question arises: Why were the A1C levels in this inner-city Hispanic population allowed to be so high? Such study findings may imply a level of complacency in treating these patients that is unacceptable. Although improvements in A1C values were made in a relative sense, these improvements are inadequate when applying current guidelines for achieving glycemic control.

Increasing Cultural Competence

Clinicians who provide care to people from various minority groups need to take the initiative to become familiar with

the cultural factors that can impact health care in the target population. Efforts may include participating in community events and developing a basic understanding about the diversity of cultural beliefs, dietary traditions, and religious/spiritual perspectives.

Participation in focus groups can also increase awareness regarding culture-specific concerns in a certain minority community. The University of Arizona College of Nursing (Tucson, Arizona) conducted 4 focus groups, which included 40 Mexican American patients with type 2 DM and their caregivers.²⁶ The focus groups found lack of information about DM care was an important concern among participants, as well as the need for timely access to this information in a way that makes DM management understandable to them. Support and understanding from family members were regarded as crucial in maintaining lifestyle changes. Patient and family caregiver participants wanted a self-management program to incorporate information on how to modify traditional foods and home remedies. Preferences for information delivery included group didactic and interactive sessions, written information, and videotapes. However, higher technology strategies using computers were not seen as useful.²⁶

A structural model designed to assess the need of physicians to consider cultural factors in the delivery of DM care takes into account demographic information, as well as cultural awareness and competence specific to treating Latinos with DM.²⁷ This study by Reimann et al²⁷ found that experience in community clinics ($P = 0.002$) and participation in diverse educational settings ($P = 0.03$) predicted greater cultural knowledge. Cultural knowledge ($P = 0.001$), participation in diverse educational settings ($P = 0.001$), Latino ethnicity ($P = 0.002$), and Spanish-language skills ($P < 0.001$) predicted greater cultural awareness. Other parameters—such as age, sex, and percentage of Latinos seen in practice—did not predict greater cultural knowledge, awareness, or competency. Only cultural awareness predicted culturally competent actions ($P < 0.001$). This model is seminal in that it contributes to an empirical base on which future research can be built. Awareness of this model calls attention to the effectiveness of diverse educational programs and the importance of personal perceptions as integral to cultural competency. Applying this model can guide the efforts of health care providers to better serve patients from diverse cultural and linguistic backgrounds.

Physicians who have developed cultural awareness about the patients they serve do understand that it is difficult to care for the whole patient without addressing socioeconomic factors that impact the patient's health care. Increasing cultural competency can help physicians deliver effective DM care to their patients. More attention to the role of cultural competency during medical school training is warranted, with the goal of exposing younger physicians to the value of developing cultural awareness and sensitivity early in their careers. Furthermore, continuing medical education (CME) programs can enhance the development of cultural competency. For example, New Jersey now mandates CME content

that includes cultural competence as part of its CME requirements for licensure reregistration.²⁸

In New Braunfels, Texas, a nonprofit organization has been established called The Institute for Public Health and Education Research Inc. (TIPHER; www.tipher.com) as a vehicle to address sociocultural issues relating to health care. With funding support from various foundations, this collaborative initiative with both private and public organizations provides a community center to serve people living in the most indigent section of our service area. Free DM education classes are provided to help patients manage their DM, as well as classes to help participants achieve their General Educational Development credential that documents high school-level academic skills and instruction in English as a Second Language (ESL) to help improve workforce skills. Medical ESL classes are also provided to help participants learn medical terminology and take better care of themselves and their families, as well as enhance their interactions with health care providers during office visits or hospitalization. Other services include teaching students to become certified nurse assistants; an after-school tutoring program for students at risk for school dropout; and a volunteer-run soup kitchen.

Organizations such as TIPHER can help address the wide range of needs that physicians identify when delivering care to their patients. Physicians can serve as advocates for their patients, working with others to overcome barriers that affect access to adequate health care among populations who can benefit from a more comprehensive approach.

Increasing Health Literacy

Health literacy, as mentioned earlier, is defined as the reading and numerical skills needed to function in the health care environment. In a study that evaluated the health literacy of 114 patients with DM, 94% of patients with adequate functional health literacy knew the symptoms of hypoglycemia compared with 50% of those patients with inadequate literacy ($P < 0.001$).²⁹ Compared with persons with DM who have adequate health literacy, low health literacy has been associated with poor glycemic control ($P = 0.02$) and increased prevalence of DM complications, including retinopathy ($P = 0.01$).³⁰

Improvements in health literacy can be made by enhancing communication between providers and patients with low health literacy, as well as providing culture-specific educational materials to patients. Patients with limited literacy skills tend to interpret a word literally (eg, a patient may think that hyperglycemia means “being hyper”). To com-

ound the problem, patients with low literacy have a tendency not to acknowledge a concept that they do not understand.³¹ For example, the patient may not understand that an oral antidiabetic medication must be taken every day as directed, even though the patient may feel fine.

Methods to improve health literacy include simplifying or clarifying patient educational materials by using videotapes or pictographs. Studies have found that visual aids can improve comprehension, information retention, and patient compliance.³² Several Web sites—such as www.ethnomed.org (supported by the University of Washington, Seattle, Washington) and www.ndep.nih.gov (supported by the National Diabetes Education Program, a part of the National Institutes of Health, Bethesda, Maryland)—can provide DM-oriented patient handouts in a variety of languages. Topics include basic information about DM, meal-planning strategies, dealing with “sick days,” exercise plans, medication options, and DM management tools, such as glucose meters. The materials are translated into a number of languages and are available as easy-to-print portable document formats. Accompanying the patient education handouts are audio narrations.

Any efforts to increase health literacy among Hispanic/Latino patients also should engage family members of the patient whenever appropriate. Family involvement is often an integral part of facilitating effective medical treatment for this population. Above all, patients with DM and their families need to understand that DM is a self-managed disease. Working closely with a DM care team, individuals with DM must take responsibility for their day-to-day care.

CONCLUSIONS

Understanding and reducing disparities in health care can help improve health outcomes for patients who belong to minority groups. Effective communication by DM care providers and efforts to improve health literacy among patients can often lead to improvements in DM management, with an emphasis on achieving glycemic control and reducing the risk for DM-related complications. Cultural competency among clinicians is critical. A better understanding of cultural differences and their effect on health care can have an impact on the services clinicians provide to their patients with DM who belong to minority groups, leading to outcomes that help narrow the cultural divide in DM care.

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