Cultural Differences and Considerations When Initiating Insulin

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Diabetes remains the seventh leading cause of death in the United States and is associated with many complications, including both microvascular and macrovascular comorbidities (1). In 2013, average medical expenditures among people diagnosed with diabetes were 2.3 times higher than among those without diabetes. According to the 2014 National Diabetes Statistics Report, 1.4 million Americans are diagnosed with diabetes annually (1). Although diabetes affects people from different races and ethnic backgrounds, the rates of diagnosed diabetes continue to be higher in ethnic minority groups such as non-Hispanic blacks, Hispanics, and Asian Americans, among others (1,2).

The U.K. Prospective Diabetes Study demonstrated that maintaining diabetes control with an A1C of ~7% during the first 10 years after diagnosis decreases the risk of microvascular complications for people with type 2 diabetes (3). Among the treatment options available for diabetes, insulin is the mainstay of therapy for type 1 diabetes and is also recommended in newly diagnosed type 2 diabetes (4,5).

Despite its effectiveness and guideline recommendations for its use, insulin remains underutilized among adults with diagnosed diabetes in the United States (3,6,7). Between 1997 and 2011, the percentage of adults who reported taking only insulin to treat their diabetes decreased from 26 to 17.8% (1). In contrast, the percentage of people taking only oral medications for diabetes increased from 42.1 to 50.3%. Even with the addition of new insulin analogs for the treatment of diabetes, the usage rate of oral diabetes medications among adults with type 2 diabetes has remained almost three times higher than that of insulin (50.3 vs. 17.8%) (1). The usage rates of any diabetes medications by Hispanics, non-Hispanic blacks, and whites are similar; however, the usage rate of insulin among ethnic minority populations continues to be lower than that of whites (1,7).

Most people with diabetes will need more than one medication to achieve glycemic control (5,6,8). However, insulin is not always included as part of the treatment regimen (6). Among various cultures, there are several reasons why insulin is not a drug of choice. Patients' perceptions regarding insulin safety, cultural beliefs and values, social factors, religion, health literacy, and language barriers are among the factors that may limit the use of insulin in certain racial/ethnic minority groups (Table 1) (9–15). Although other factors such as health insurance, medication costs, and physician-related attitudes also play an important role when designing a diabetes treatment plan, this article focuses on some of the common patient-related cultural barriers that health care providers (HCPs) may face when initiating insulin therapy in members of Hispanic, non-Hispanic black,

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TABLE 1. Commonly Reported Cultural Barriers to Insulin Use Among Hispanics/Latinos, African Americans, and Asians

Racial/Ethnic Group	Perceptions of Insulin	Family	Social Factors	Religion
Hispanics/Latinos	• Insulin may be believed to cause more complications or harm • Insulin use may be believed to imply failure • Fear of insulin injections	• Lack of family support may delay insulin initiation • Family members may influence patients not to use insulin • Fatalistic views are common	• Insulin use may be viewed as a burden on the family • Insulin use may be seen as interfering with daily life	• Patients may use prayer as an intervention to manage diabetes and improve health • Diabetes may be viewed as a punishment
African Americans	• Insulin may be believed to lead to organ damage • Insulin may be believed to cause negative emotions • Insulin use demands a new mindset • Fear of insulin injections	• Patients often value family support • Patients often value family input • Fatalistic views are common	• Insulin use may be seen as interfering with schedule • Injections may be viewed as inconvenient • Insulin use may cause feelings of embarrassment	• Patients may use prayer to cope with diabetes management • Patients may use prayer to help change unhealthy behaviors
Asians	• Insulin use may imply failure • Insulin may be believed to lead to more complications • Insulin may be believed to cause harm • Fear of insulin injections	• Family support for insulin use may be unattainable	• Insulin may be viewed as a form of handicap • Insulin use may be considered indicative of severe illness • Insulin use may be seen as interfering with personal and social life • Insulin use may cause feelings of embarrassment	• Insulin use may interfere with religious obligations • Muslims may be concerned about insulin origins • Insulin may be seen as making life less flexible

and certain Asian populations and includes suggestions for overcoming these barriers.

Barriers to the Use of Insulin

Perceptions of Insulin

Negative perceptions regarding insulin or the diabetes disease state may affect patients' final decisions regarding pharmacological therapies. Hence, perceptions should be addressed before developing a medication treatment plan (16).

HCPs who manage diabetes in the Hispanic population likely have heard negative perceptions about the implications of using insulin. Patients tend to draw conclusions based on personal experiences or inaccurate information from family and friends (17–19). One common perception among Hispanics is that using insulin implies a failure of the individual to control his or her diabetes (16,18–21). The belief that insulin causes macrovascular and microvascular complications such as blindness, damage to the kidneys or pancreas, or even death is also common among Hispanics and other ethnic/minority groups (9,14,17–19). However, these complications are commonly seen in people with uncontrolled diabetes, for whom HCPs are likely to initiate insulin therapy. A lack of knowledge about diabetes and the role of insulin therapy leads to these negative perceptions and contributes to underutilization of insulin therapy to control diabetes. People from Asian cultures also may see the initiation of insulin as indicative of a failure of the patient to care for him- or herself rather than as a result of the natural progression of diabetes. Members of these populations also may believe insulin causes more complications in the long term (12,14,15,22). Similarly, the underutilization of insulin in African Americans is linked to a perception that insulin causes organ damage (9,23). In some cases, this population identifies insulin as an instigator of negative emotions and

demands great effort to acquire a new mindset (24).

Another important perception commonly shared in these populations is that all types of insulin cause severe hypoglycemia, which could lead to significant harm. Although hypoglycemia is a concerning adverse event with insulin use, it is not a reason to avoid the use of insulin to achieve glycemic control. In fact, although hypoglycemia also may result from the use of certain oral antidiabetic agents such as sulfonylureas, many patients likely would prefer using this oral agent over a long-acting insulin that has less potential for hypoglycemia (3,25,26). The fear of hypoglycemia and its potential detrimental effects is not only a concern of patients; it also can cause HCPs to delay insulin initiation in their patients (3,25–27).

Potential long-term effects such as weight gain, cardiovascular disease, and cognitive dysfunction also may lead to negative perceptions about the impact of insulin use on patients' quality of life, which can also be a barrier (28–30). Fear of insulin injections is another commonly reported barrier among Asians, Hispanics, and African Americans that could lead to medication nonadherence and poor diabetes outcomes (11,14,23,31). Although such negative perceptions make it difficult to discuss insulin therapy with patients, it is important for HCPs to understand their patients' culture and the basis for their negative perceptions.

Cultural Beliefs and Values

Culture, which includes the integrated patterns of human behavior such as language, communication, customs, beliefs, and values, is important in health (32). Cultural, social, and family influences play an important role in shaping people's attitudes and beliefs (33). In addition, patients' culture may determine how they define health, recognize illness, and seek treatment (34). Therefore, establishing a good patient-provider relationship is key early on in the progression of diabetes to uncover any cultural beliefs or values that may prevent or influence the use of insulin therapy (2,35,36). Although cultural components vary among different populations, the values may be similar among different ethnic minority populations.

Family

The role of the family is important among Hispanics; providers should recognize and address this early in the course of diabetes. Patients who feel a lack of family support and who lack knowledge about the progression of diabetes often are less inclined to discuss initiating insulin (35). Family members may influence people with diabetes not to use insulin when the family does not understand the role of insulin therapy in diabetes management (17,35). Consulting family members before and after HCP visits regarding health-related decisions is a common behavior in the Hispanic population (35). This concept is known as *familismo*, a cultural value that refers to a loyalty to the extended family or group that supersedes the needs of the individual (35). *Fatalismo*, which is characterized by perceptions of despair, hopelessness, and powerlessness, is another common belief among Hispanics and African Americans and is associated with poor medication adherence and poor glycemic control (23,35). Failure to recognize these cultural values may delay insulin therapy and lead to patient dissatisfaction, medication nonadherence, lack of follow-up, and negative outcomes (2).

In African Americans, the psychological functioning of adults with type 2 diabetes and the adults supporting them is associated with the provision of diabetes self-management care (37). In turn, support for self-management is indirectly linked to glycemic control through its promotion of glucose monitoring. The importance of family support for diabetes self-management in African-American patients is as important as family input because patients' experiences and underlying social factors also can affect their views on insulin (37).

Social Factors

Social factors such as experiences and lifestyle are important components of culture and health care. For example, certain Asian cultures view insulin as a form of handicap that may indicate severe illness and feel it may prevent a person with diabetes from finding a marriage partner (22). Some Asians also are more likely to be influenced by other people's views about taking injections; this can prompt requests to their HCP to change their therapy even if the change is not as effective at controlling glucose (12).

Other social factors such as having a less flexible schedule, giving up social activities, feeling embarrassed by using syringes in public places, and feeling social rejection need to be addressed because they can lead to inappropriate diabetes management (10,14,16,20,23,31,38). Latino women find it challenging to change their lifestyle or behavior while continuing to keep their husbands and children happy (39). Often, the use of insulin is considered to be a burden on the family, which can be difficult for Latino women given that they tend to assume the caregiver role for the entire family, and not vice versa. Among African Americans, social support is also valuable and associated with better clinical outcomes (40). Members of this group often report that insulin injections are inconvenient and interfere with their activities of daily living. Some report feeling shame from insulin use and feeling the need to hide their insulin use from coworkers, social contacts, and family members (24,40).

Religion

Religious beliefs and values are important among different cultures and also should be addressed by HCPs before patients start any diabetes medication. Although countless religions

are practiced around the world, it is important to become familiar with the religious practices among the populations one serves. For example, Hispanics use praying as a spiritual intervention for their diabetes and overall health (41). Some people believe that diabetes is a punishment and that they cannot do much to alter their fate. This can lead to a delay or complete avoidance of appropriate treatment for diabetes (35). It has also been reported that African-American patients use religion and spirituality as a coping strategy for diabetes management and to change unhealthy behaviors (42). Among Muslims, fasting is part of their religious beliefs, and this sometimes affects their decisions about insulin therapy because of potential interference with their religious obligations (22). Muslim patients are also concerned about the origin of insulin and often believe it is a porcine derivative (22,43). Guidelines have been created in an effort to address such concerns when treating Muslim patients during Ramadan (44). However, addressing religion, social factors, and family issues may not be sufficient; other barriers such as health literacy and language play an important role in the treatment of diabetes.

Health Literacy

Health literacy is defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (33). According to the National Assessment of Adult Literacy, about nine in 10 adults may lack the skills needed to manage their health and prevent disease (45). To achieve the best outcomes, patients must have a good understanding of diabetes and possess the ability to perform self-care behaviors to manage this condition.

Adopting a self-care approach to the management of diabetes is complex and multifaceted. Performing self-monitoring of blood glucose, understanding normal glucose levels, adhering to medications, understanding appropriate medication administration techniques and timing, and adopting new lifestyle behaviors, including diet and physical activity, are all components of diabetes self-management. However, many of these behaviors require patients to interpret written health educational materials that may be difficult for them to understand. The use of complex oral and written health information by HCPs makes communication challenging for the average patient (33). Research has shown that individuals with low levels of health literacy are more likely to be hospitalized and to have worse disease outcomes (33). Therefore, poor communication, whether resulting from faulty assumptions, inappropriate language, incomplete disclosures, or hidden confusion, does a disservice to patients as well as to HCPs and could lead to poor outcomes (33).

Language

In non–English-speaking minorities, language barriers contribute to a lack of information, misunderstanding of instructions, and miscommunication between patients and HCPs and can influence decision-making about insulin therapy (39). Limited English proficiency has been associated with poor glycemic outcomes, nonadherence to medications, and more visits to the emergency room (35). Often, non-English-speaking patients struggle to understand written or verbal educational material provided by HCPs, and when interpreters are used, details often are lost in translation (33). Even when educational materials are translated and interpreters are available for oral communication, cultural differences in the style of communication, the meanings of words, body language, gestures, and patient perceptions can affect the quality of care. Language barriers are a major factor among racial and ethnic minorities and can lead to delays in or denial of service, unnecessary tests, costly or invasive treatments, mistakes in prescribing and using medication, and deterrence of patients' compliance with treatment (33).

Based on the aforementioned information, acknowledging all of the barriers that may delay optimization of a treatment plan, including the use of insulin, may not be sufficient. Applying this knowledge to change misconceptions and influence patients in a positive, cooperative manner is central to successfully managing diabetes. Making the decision to initiate insulin therapy should be a shared process among patients, their support people, and their HCP. Sharing such an important decision allows patients and providers to work together, acknowledging their different perspectives; providers are experts on evidence-based medicine and guidelines, and patients are experts on their own preferences, values, and personal contexts (46). Learning what is important to patients and empowering them to take control of their diabetes is crucial to achieving better outcomes and should occur at every visit.

Conquering Barriers to the Use of Insulin

Education

Once patients' personal goals and barriers have been identified, it is essential to educate them about their disease state and treatment options to prevent misconceptions and delays in the use of insulin. Having discussions with patients about the role of insulin early in the course of diabetes and providing education about the natural progression of the disease should be included in the conversation at each visit to help prevent encountering these barriers in the future, when insulin may be needed (22).

Education should also be disseminated to patients' support people to avoid any misconceptions that may arise from family or friends, especially in Hispanic populations. Allowing family members to ask questions and have a role in the decision-making

process about starting insulin may prevent nonadherence to insulin therapy (2). One approach is to encourage patients to invite their family members to their medical visits and to involve them early in the treatment process. Although some patients may not feel comfortable using a syringe, adjusting insulin doses, or using an insulin pen, having the support of a family member may allow them to overcome these fears and improve their adherence to treatment. The involvement of the family may improve patient satisfaction, strengthen the patient-provider relationship, and even convince patients to start insulin (2).

Acknowledging religious beliefs before considering insulin as part of a treatment plan is also important and may allow providers to bridge the gap between patients' religion and HCPs' medical knowledge (22,41).

Educating patients is essential, but making sure the information provided is tailored to their level of understanding is also imperative. When discussing health information, it is important to consider the type of language and terminology used, as well as to be compassionate and respectful when delivering information at a level that is understandable and acceptable to patients (12,33).

Cultural Competence

Patients' negative views of insulin usually stem from their underlying cultural beliefs or values, and understanding these values is essential, but it is not sufficient. Cultural competence on the part of HCPs is necessary to overcome these barriers and provide a culturally appropriate plan of care. Cultural competence has been recognized as an important factor that can influence the quality of health care and outcomes (32). It has been defined as a set of congruent behaviors, attitudes, and policies that come together in a system or agency or among professionals and enables that system or agency or those professionals to work effectively in cross-cultural situations (32). Becoming culturally competent is a developmental process involving various steps. Valuing diversity, performing a cultural self-assessment, and acknowledging and adapting to cultural knowledge at all levels are components of that developmental process (32). For HCPs working in settings where cultural diversity is prevalent, being culturally competent is an important value and skill. HCPs have a responsibility to be sensitive to, recognize, and address any cultural barriers or beliefs that may exist to dispel treatment misconceptions.

Conclusion

Providing optimal diabetes care to achieve the desired outcomes may be difficult. Understanding patients' perspectives, values, culture, social factors, and language limitations may facilitate the provision of optimal care and allow both patients and providers to achieve their common goal of overall better health for patients. With this in mind, the role of insulin therapy in diabetes management should be a continuous conversation that is initiated during the first encounter and continued until patients understand the role and significance of insulin in diabetes management. When properly informed, patients likely will be ready to initiate insulin therapy when appropriate, even if that is soon after their diagnosis of diabetes.

Duality of Interest

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

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