McNair Research Journal SJSU

Volume 19 *Spring 2023* Article 4

2023

The Impact of Culture on Health Perceptions and Help-Seeking Behaviors Among Older Latinos with Co-occurring Diabetes and Depression: A Literature Review

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Biography

Alejandra Aguirre received a Bachelor of Arts degree in Social Work from San Jose State University in 2023. Her research focused on the impact of Latino culture on the health perceptions and help-seeking behaviors of older Latinos with co-occurring diabetes and depression. Currently, she is completing her Master of Social Work in the SJSU Advanced Standing Program, where she hopes to earn her Certificate in Gerontology. She looks forward to completing her final year MSW internship at Palo Alto VA Healthcare System, where she will work closely with BIPOC and aging veterans in the Inpatient Medical Unit. Previously, she completed her senior year internship at Kaiser South Bay Hospice and was a 2021-2022 Civic Action Mentor Fellow. She is a current Irma Ferrer Health Justice Fellow (IFHJF) at Latinas Contra Cancer, where she works on various projects to create equitable healthcare access for Latina/o cancer patients. Alejandra's ultimate aim is to help create more pathways to public health equity in BIPOC and aging communities. In the future, she would like to become a Licensed Clinical Social Worker (LCSW) and pursue a Doctor of Public Health (DrPH).

The Impact of Culture on Health Perceptions and Health-Seeking Behaviors Among Older Latinos with Co-occurring Diabetes and Depression: A Literature Review

Abstract

Diabetes is one of the most common health disparities in the United States today and disproportionately affects older Latino populations. Increased recognition of the bidirectional relationship between diabetes and mental health has led to more awareness and treatments for diabetes and depression. Despite high prevalence rates, diabetes and depression are commonly undiagnosed and untreated in older Latinos. Existing literature reports that factors including genetic and behavioral factors, low socioeconomic status (SES), limited healthcare access, and language barriers may prevent this population from seeking professional treatment. Prior research also suggests that culturally based stigma toward these conditions can negatively impact health perceptions and help-seeking behaviors. Culturally tailored education strategies have demonstrated improved health outcomes for older Latinos, and this project presents important implications for social work practice and research working with Latino older adults.

Keywords: Diabetes, depression, culture, older Latinos, Latinos

https://scholarworks.sjsu.edu/mcnair/vol19/iss1/4
DOI: 10.31979/mrj.2023.1904

Introduction

The United States has a large, rapidly increasing aging population, and older Latinos have contributed a great deal to this increase (Garcia et al., 2018; Moreno et al, 2016). Between 1990 to 2019, the percentage of Americans aged 65 and older who identified as Hispanic/Latino nearly tripled from 3.7% to 9% (Administration for Community Living [ACL], 2020). As the second-largest minority population and one of the fastest growing, Latino communities may face unique health challenges associated with aging (Valencia et al., 2014). Older Latinos, notably the foreign-born, have been observed to have longer life expectancies and lower mortality rates compared to non-Latino whites (Garcia et al., 2018). They have also been noted as having lower socioeconomic profiles, which can often lead to limited healthcare access (Washburn et al., 2021). This can create distinct health challenges for older Latinos, especially those already living with complex disease combinations. For instance, decreases in mortality without improvements in morbidity can result in a greater incidence of chronic health and mental health conditions, including diabetes and depression (Garcia et al., 2018; Inoue et al., 2021).

The past two decades have seen great advancements in the prevention, treatment, and management of geriatric diabetes. Increased screenings and diabetes-related technologies have led to greater recognition of type 2 diabetes (T2D) in this aging population (American Diabetes Association [ADA], 2022; Avilés-Santa et al., 2017; Leung et al., 2018). Despite these advances, diabetes continues to be one of the most pertinent health disparities facing older Latino communities (Avilés-Santa et al., 2017). Compared to non-Latino whites, Latinos are twice as likely to be diagnosed with diabetes and experience worse diabetes-related outcomes, such as impaired glucose control, higher prevalence of complications (e.g., kidney failure, cardiovascular disease, and diabetes-related vision loss), poorer self-management (i.e., less adherence to medication and dietary regimes), and increased mortality (Colon et al., 2013; Washburn et al., 2021). Older Latinos are a particularly vulnerable subpopulation due to their age, lower socioeconomic status, and increased risk for diabetes multimorbidity (Valencia et al., 2014).

Depression is one of the most widespread mental health conditions affecting Latino communities and is commonly associated with diabetes multimorbidity (Inoue et al., 2021). Research has consistently found there to be a bidirectional relationship between depression and diabetes, with depression prevalence rates being twice as high among people with diabetes than those without diabetes (Alva, 2020; Washburn et al., 2021). The co-occurrence of diabetes and depression has been reported to be as high as 33% among Latinos in primary care settings, yet there is a limited understanding of how these populations recognize their need for diabetes and depression treatment (Colon et al., 2013; Hansen & Cabassa, 2016). There are even fewer studies on how co-occurring diabetes and depression affects older Latinos (Colon et al, 2013; Park et al., 2015; Valencia et al., 2014). Because sociocultural and economic factors can make working with these medically underserved populations challenging, it is crucial that healthcare providers understand how *and* why these factors can influence help-seeking behaviors. Hence, my research aims to answer the following five questions:

1. What is the prevalence of co-occurring diabetes and depression in older Latinos?
2. What risk factors influence the comorbidity of diabetes and depression in older Latinos?
3. How does culture influence older Latinos' perceptions of diabetes and depression separately and concurrently?
4. How does culture impact help-seeking behaviors in older Latinos with diabetes and depression?
5. What can culturally tailored education strategies be used to improve diabetes and depression self-management in older Latinos?

Latino health literature indicates that culture can negatively affect perceptions towards chronic and mental diseases, such as diabetes and depression (Cherrington et al., 2005; Colon et al., 2013). This can potentially affect help-seeking behaviors among older Latinos living with diabetes multimorbidity. However, there are workable solutions for better-addressing diabetes multimorbidity in these populations; these include culturally tailored education strategies that promote family and community-based approaches to diabetes and depression care (Amirehsani et al., 2019;

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DOI: 10.31979/mrj.2023.1904

Moreira et al., 2018). Such strategies may have important practice and research implications for the social work field and will be further discussed.

Methodology

Inclusion and Exclusion Criteria

This literature review on diabetes and depression included peer-reviewed articles and government data (i.e., U.S. Census Bureau) on diabetes and depression comorbidity among older Latino populations. The inclusion criteria for this review included articles that focused on older Latinos residing in the United States and Latinos with diabetes and depression (both separately and concurrently), and articles published after 1990. Exclusion criteria included dissertations, articles not in English, non-scholarly articles (e.g., magazines and newspapers), and articles not considered applied (e.g., articles focusing on Latinos not residing in the United States, articles not including T2D).

Search Strategy

The literature review was conducted from August 2022 to November 2022. The author searched PubMed, PubMed Central, and PUBLINE using Google Scholar as a search engine. The search terms used included *Hispanics, Latinos, Older Hispanics, Older Latinos, Culture, Diabetes, Type 2 Diabetes, Depression, Diabetes and Depression,* and *Help-Seeking Behaviors*. For the sake of comprehensiveness, the terms "Hispanic" and "Latino" were both used in this search strategy. The U.S. Census Bureau and Office of Management and Budget (OMB) define Hispanic or Latino as being "[any] person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race" (Avilés-Santa et al., 2017). While these classifications are used interchangeably in Latino health literature, they are not the same. For this research and to align with the cited literature, Latinos will be the term used in this paper. Most of my cited studies were done on populations that migrated from Latin America (Mexico, South, and Central America) and the Caribbean.

Findings

Prevalence of Co-occurring Diabetes and Depression in Older Latinos

One of the largest difficulties in assessing health disparities facing Latinos stems from the assumption that this is a homogeneous population (Avilés-Santa et al., 2017). Latinos encompass various heritage groups and factors like nativity and country of origin can contribute to late-life health differences (Avilés-Santa et al., 2017; Garcia et al., 2018). Acknowledging Latino heterogeneity in health is important for assessing different disease risks, especially in the context of diabetes and depression. For example, diabetes prevalence rates have been observed to be higher in Mexican Americans (13.9%) and Puerto Ricans (14.8%) than in Central and South Americans (8.5%) and Cubans (9.3%) in the United States (Valencia et al., 2014). These differences can be accounted for by different sociopolitical factors related to migration, which can lead to some Latinos obtaining better social and economic services that can protect late-life health (Garcia et al., 2018). Similarly, the prevalence of diagnosed depression has been shown to vary across Latino subgroups and age groups (Alva, 2020). Because depression is commonly underdiagnosed in minority populations, the exact number of Latinos suffering from depression is unknown (Alva, 2020). This has led to disagreement in some population-based studies; most of which have been limited by small sample sizes and only focused on specific Latino subgroups. A comprehensive review by Jimenez et al. (2020) on Latino interethnic differences in depression rates highlights these discrepancies. While one study found older Latina/os tend to experience similar rates of depression as their younger counterparts and non-Latino Whites (Jimenez et al., 2020), other studies contradict this by saying older Latinos have higher rates of mental health disparities (Gonzalez et al., 2001; Markides et al., 1996; Woodward at al., 2012). Despite these discrepancies, most studies agree that depression is a prevalent issue facing older Latinos and that the mental illness burden is not equally shared across Latino subgroups. Jimenez et al. (2020) attribute low depression screening rates, lack of disclosure behaviors, and limited healthcare access as potential reasons for these underdiagnoses. Given the high rates of lifelong and geriatric depression among U.S. Latinos, there is a critical need for more depression research on this culturally distinct population (Fuentes & Aranda, 2019).

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DOI: 10.31979/mrj.2023.1904

Studies on co-occurring diabetes and depression have been conducted since the early 1980s. This line of research has routinely used cohort studies and has given greater insight into the intimate relationship between diabetes and emotional health (Cherrington et al., 2005; McCurley et al., 2019). For example, co-occurring diabetes and depression have been found to lead to worse health outcomes and higher healthcare costs, especially among racial/ethnic minorities and older people (Alva, 2020; Leung et al., 2018). While a higher prevalence of comorbid diabetes and depression has been observed among racial/ethnic minorities, few studies have been conducted on U.S. Latinos and even fewer have focused on older U.S. Latinos (Colon et al., 2013; Hansen & Cabassa, 2012). There are several lines of evidence to suggest there is a bidirectional relationship between diabetes and depression, and that older minorities experience the greatest disease burden (Hansen & Cabassa, 2012; Park & Reynolds, 2015). Research also shows that older people with diabetes are at an increased risk for premature death, functional and cognitive disabilities, and mental health issues like depression (ADA, 2022; Leung et al., 2018). For these reasons, older Latinos are an important subpopulation that should be studied in the context of co-occurring diabetes and depression. Understanding the risk factors that contribute to this rampant comorbidity can inform effective health interventions.

Risk Factors for Comorbidity of Diabetes and Depression in Older Latinos

Many studies have argued that minority groups are more likely to experience physical and mental health disparities compared to non-Latino Whites (Alva, 2020; Cherrington et al., 2005; Hansen & Cabassa, 2012). This may be due to the unique stressors many minority groups experience such as discrimination, high poverty rates, limited healthcare access, low acculturation, and recent immigration status (Cherrington et al., 2005; Moreno et al., 2016; Washburn et al., 2021). Research by Hansen and Cabassa (2012) along with other researchers (Caballero, 2005; Kim et al., 2019; Mercader & Flores, 2017; McCurley et al., 2019; Moreno et al., 2016; Moreira et al., 2018; Qi et al., 2017; Valencia et al., 2015; Washburn et al., 2021) have identified three risk factors that may contribute to diabetes and

depression co-morbidity in older Latinos: Genetic and behavioral factors, limited healthcare access, and language barriers.

Genetic and Behavioral Risk Factors

There are two types of risk factors associated with T2D: non-modifiable risk factors and modifiable risk factors (Valencia et al., 2015). Non-modifiable risk factors include characteristics like genetics, age, race, and ethnicity (Mercader & Flores, 2017; Valencia et al., 2014). Modifiable risk factors include behavioral risk factors like obesity, diet, and physical activity (Amirehsani et al., 2018). Older U.S. Latinos have been observed to have higher levels of non-modifiable and modifiable risk factors (Valencia et al., 2014). Understanding these genetic and behavioral risk factors may lead to a better understanding of *why* this population is so affected by diabetes-depression comorbidity.

Prior research on diabetes pathophysiology has revealed there to be over 100 genetic regions associated with modified risk for T2D (Mercader & Flores, 2017). Until recently, genome-wide association studies (GWAS) had mainly focused on European populations and seldom focused on minority and older minority populations (Mercader & Flores, 2017; Qi et al., 2017). The few genetic studies that have solely focused on U.S. Latinos have agreed that this group is more genetically prone to developing T2D, especially with age (Caballero, 2005; Mercader & Flores, 2017; Qi et al., 2017). This is often attributed to a mixture of genetic factors, including ancestry-specific loci, insulin resistance, β-cell dysfunction (Mercader & Flores, 2017; Qi et al., 2017). In their mini-review, Mercader and Flores (2017) summarize the main genetic findings discovered in Hispanic/Latino GWAS studies. Researchers focused on which genetic factors most contribute to T2D in the U.S. Hispanic/Latinos and the potential challenges for studying these populations. The first GWAS for T2D in Latino populations was performed in the Mexican American population of Starr County in 2011. Researchers replicated several loci found in European GWAS, indicating that many common genetic risk factors are transferable to Latino populations (Below et al., 2011, as cited in Mercader and Flores, 2017). This research was expanded on by the Slim Initiative for Genomic Medicine (SIGMA) T2D Consortium, which focused on genome-wide significant associations in a sample of 8,214 Mexican and Mexican

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DOI: 10.31979/mrj.2023.1904

Americans. Researchers found three statistically significant loci that were unique to these populations (i.e., SLC16A11, HNF1 Homeobox a Gene, and Insulin-Like Growth). However, these studies have limitations with generalizability and scope. Their samples only included Mexican populations and there are more heritage groups within the Latino community. Each of these heritage groups has different ancestral and genetic makeups that differentially influence their likelihood of developing T2D (Mercader & Flores, 2017).

Recent GWAS studies have started developing methods for addressing these particularities of Latino populations. The Hispanic Health Study/Study of Latinos (HCHS/SOL) was one of the first comprehensive T2D GWAS focusing on a large, diverse sample of U.S. Latinos (Qi et al., 2017). The study included 2,499 T2D case subjects and 5,247 control subjects from six Latino heritage groups, which provided the opportunity to identify ancestry-specific alleles associated with T2D. Specifically, researchers were able to identify an African ancestry–specific allele at *KCNQ1* across all Latino ethnic groups. These results were later replicated in the Meta-analysis of T2D in African Americans (MEDIA) consortium and added to the existing literature on the biology of T2D. Research has also identified insulin resistance and β-cell dysfunction as genetic factors that may contribute to high diabetes prevalence in Latino populations (Caballero, 2005).

Likewise, behavioral risk factors like poor diet, physical inactivity, and related obesity can worsen disease outcomes for this population (Valencia et al., 2014). Research has commonly identified poor diet and physical activity as risk factors for diabetes onset and complications (ADA, 2022; Valencia et al., 2014). In Latino populations, these risks may be more pronounced due to cultural and social pressures to eat traditional foods high in calories and fat (Valencia et al., 2014; Washburn et. al., 2021). These risk factors may be further affected by levels of acculturation, adaptation, and assimilation to U.S. dietary and exercise habits. Valencia and colleagues (2014) added to prior research on how obesity and weight gain are highly common among immigrant populations, particularly older Latino populations. In their mini-review, researchers found that older Latinos tend to experience a significant shift in macronutrient profiles after migrating

and living longer times in the United States. Specifically, Latino populations were more likely to eat diets high in sugar and starch compared to their non-Latino White counterparts. Because increased carbohydrate consumption is associated with higher BMI, larger waist circumference, and increased diabetes risk; poor diet can be characterized as a behavioral risk factor for T2D (Valencia et al., 2014; Washburn et al., 2021). Physical inactivity is another behavioral risk factor that commonly affects older Latinos. Like dietary consumption, physical inactivity can be confounded by variables like race/ethnicity, socioeconomic status, age, and acculturation. Research has shown that older Latinos are disproportionately sedentary compared to their non-Latino White counterparts, with levels of regular physical activity being as low as 10% (Piedra et al., 2018). Because physical inactivity is a potential precursor to multiple chronic conditions that older Latinos are at elevated risk for (e.g., T2D, cardiovascular disease, and obesity), it can also be classed as a behavioral risk factor. If unaddressed, behavioral risk factors can contribute to increased diabetes multimorbidity for this population.

Limited Healthcare Access

Compared to any other minority group, Latinos are more likely to underutilize primary and mental health services (Moreno et al., 2016; Washburn et al., 2021). One reason for this persistent underutilization of healthcare services is limited healthcare access (Moreira et al., 2018). For many low-income Latinos, limited insurance coverage can make it difficult to access diabetes and depression services. Both diabetes and depression are associated with high medical costs due to the routine screenings, check-ups, and multiple medications required to manage these conditions (Leung et al., 2018; Moreno et al., 2016). Research has indicated low rates of health insurance coverage among disadvantaged populations, particularly older Latinos (Valencia et al., 2014). Because health insurance coverage is a mediator between ethnicity and healthcare access, the lack of coverage for these populations can contribute to this population's high comorbidity (Garcia et al., 2018; Kim et al., 2019).

In a study by Hansen and Cabassa (2012), low-income Latinos reported limited healthcare access as one of the most prevalent help-seeking barriers. Participants commonly expressed their frustration with long

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DOI: 10.31979/mrj.2023.1904

waiting times, inability to obtain appointments, and being unable to afford their medical care (Hansen & Cabassa, 2012). When they were able to obtain appointments, some reported receiving limited education on the available medications and mental health services (Hansen & Cabassa, 2012). While this study was limited by the small sample size of nineteen participants, it offers insight into the influences and barriers throughout the pathway to diabetes and depression care. It also reveals how the healthcare experiences of Latinos may be affected by immigration status. This is because immigration status may affect Latinos' access to health coverage, continuity of care, sufficient social resources, and health literacy (Kim et al., 2019; Moreno et al., 2016).

Language Barriers

Language barriers are another cause of healthcare disparities in older Latinos (Hansen & Cabassa, 2012; Kim et al., 2019). These language difficulties can lead to miscommunication between patients and providers and prevent patients from effectively communicating their diabetes and depression symptoms (Hansen & Cabassa, 2012). Indeed, language barriers have commonly been identified as the most crucial factor influencing communication and rapport between Spanish-speaking patients and their physicians (Kim et al., 2019; Lopez-Quintero et al., 2010). These linguistic disparities can contribute to the challenges that older Latinos have in managing and understanding diseases, like diabetes and depression. It can also lead to them receiving less education on how to prevent, recognize, and treat these conditions (Kim et al., 2019). One study found that Latinos with limited English proficiency (LEP) are less likely to receive information on physical activity and dietary advice than English-proficient Latinos, even after controlling for health insurance coverage and the number of physician visits (Lopez-Quintero et al., 2010). Given the high prevalence of LEP among older Latinos, especially those from immigrant backgrounds, it is important that healthcare systems consider the language needs of these communities (Kim et al., 2019).

Influence of Latino Culture on Diabetes and Depression

Studies on Latino culture and health have shown Latinos to have distinct cultural beliefs about diseases and available treatments

(Cherrington et al., 2005; Colon et al., 2013). These cultural beliefs can influence older Latino's perceptions and knowledge of diabetes and depression and play an integral role in their decision to seek treatment (Cherrington et al., 2005; Moreira et al., 2018). The most common cultural beliefs are *susto* (fright), *coraje* (anger), *fatalismo* (fatalism), and *familismo* (strong family ties). If these beliefs are not well understood by healthcare professionals, this has the potential to interfere with treatment adherence and exacerbate pre-existing risk factors such as language barriers and social pressures to eat traditional foods high in calories and fat (Colon et al., 2013; Moreira et al., 2018; Washburn et al., 2021). Understanding these cultural beliefs can lead to the implementation of more culturally relevant interventions that could better serve these populations' health needs.

Emotional Causation: Susto and Coraje

Many Latinos attribute emotional causation to their diabetes and depression diagnoses. *Susto* (fright) is defined as an intense emotion after a traumatic event, like a car accident or the death of a loved one (Colon et al., 2013; Moreira et al., 2018). This concept is grounded in the culturally bound belief that powerful emotions can affect one's health (Moreira et al., 2018). After experiencing *susto*, it can take days or even years for diabetes and depression symptoms to occur. The treatments for *susto* are diverse and can involve prayer, *curanderos* (traditional healers), herbal medicines, and more clinical treatments, like therapy (Colon et al., 2013). Different Latino heritage groups may have different treatments for *susto*. While some Latinos believe that *susto* can be healed by itself, others believe factors like young age, calm personality, and being overweight can cure symptoms (Moreira et al., 2018).

Coraje (anger) is another Latino cultural belief thought to cause diabetes (Colon et al., 2013). *Coraje* is defined as the emotions associated with social struggles or "moral indignation" (Moreira et al., 2018). There are a number of experiences that can lead to a Latino feeling *coraje*, like being angry or experiencing family violence. In turn, some Latinos may interpret these experiences as contributing to the development of their diabetes and depression. The concept of *coraje* offers insight into how Latino populations associate interpersonal abuse as being a causal factor in disease onset (Moreira et al., 2018).

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DOI: 10.31979/mrj.2023.1904

Cherrington and colleagues (2005) also contribute to studies on the bidirectional relationship between diabetes and depression. In their study of 45 self-identified middle-aged and older Latino adults with diabetes, it was revealed that external factors, like family and societal stressors, can significantly influence the relationship between diabetes and depression. They also found that Latinos were more likely to describe depression using depressive symptoms, like sadness, apathy, and loss of pleasure, and that they were more likely to attribute physical symptoms (e.g., fatigue, low energy, and dizziness) to both conditions (Cherrington et al., 2005). Most participants reported limited discussion with their providers on treatment options and few reported reliance on medication for treating depression symptoms. These findings are consistent with other research surrounding the mental health stigma in Latino communities, which may discourage this population from seeking depression treatment (Fuentes & Aranda, 2019; Washburn et al., 2021).

Fatalismo

Fatalismo (fatalism) has been connected to the origins and outcomes of diabetes and depression (Moreira et al., 2018). Latino health literature has observed *fatalismo* as being related to one's religious beliefs (as a form of punishment for past sins) and real-life circumstances (Moreira et al., 2018). While many Latinos use religion to help them endure their disease, such a coping strategy may be rooted in real-life circumstances. Economic barriers (e.g., lack of health insurance and high treatment costs) may lead to these underserved populations turning to religion for coping. If these populations believe their lives are shaped by fate and there is nothing they can do to improve their health outcomes, this may limit their willingness to seek diabetes and depression help even when treatment is available (Moreira et al., 2018; Washburn et al., 2021).

Familismo

Familismo (strong family ties) is a cultural value that can have a significant impact on diabetes and depression management in Latino populations (Amirehsani et al., 2019). It can include emotional and material support and places heightened importance on the family (Amirehsani et al., 2019; Washburn et al., 2021). Latino health literature has often found this population to turn to their families for medical advice before seeking advice

from medical professionals (Amirehsani et al., 2019; Cherrington et al., 2005). Hence, considering the role of *familismo* in treatment planning and initiation can have significant implications when working with these culturally distinct groups.

Impact of Latino Culture on Help-Seeking Behaviors in Older Latinos with Diabetes and Depression

Latino culture can influence the initiation and continuation of help-seeking for older Latinos with diabetes and depression. Stigma toward diabetes and mental health are the most well-documented barriers to diabetes and depression care in this population and can be conceptualized through cultural explanatory models (Cherrington et al., 2005; Washburn et al., 2021). Cultural explanatory models explain illness causation, symptomatology, and treatment (Fuentes & Aranda, 2019). Through explanatory models, culture directs appropriate responses to illnesses, including disclosure and help-seeking behaviors. While there is limited research on the disclosure and help-seeking experiences among Latinos with diabetes and diabetes-depression comorbidity, cultural values can direct these experiences (Fuentes & Aranda, 2019).

As discussed in prior research (Amirehsani et al., 2019; Cherrington et al., 2005; Colon test al., 2013), culture can influence older Latino's perceptions of diabetes and depression and influence their help-seeking behaviors. These cultural perceptions have been a topic of investigation in recent Latino health literature. For instance, Washburn and colleagues (2021) examined how culture influenced Latinos' stigma-related beliefs concerning diabetes and depression and found that public stigma toward those experiencing depression was moderate, and co-occurring diabetes did not moderate stigma. It was also noted that sociodemographic characteristics (e.g., participants' gender and number of children) were predictive of stigma levels. When comparing community-level stigma, the levels for female subjects were lower than for vignettes featuring males. Similarly, community-level stigma decreased as the participants' number of children increased (Washburn et al., 2021). Overall, this study shows how gender-based expectations related to cultural values can affect Latinos' perceptions of people with diabetes and depression, and depression. When

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DOI: 10.31979/mrj.2023.1904

questioned on their own willingness to seek diabetes and depression treatment, participants noted how gender and family-based cultural values would affect their decision (Washburn et al., 2021). For example, cultural values that place a strong emphasis on family (i.e., *familismo*) may cause older Latinos patients to neglect certain health needs to prioritize others' needs. In terms of gender roles, *familismo* may also affect female and male patients differently. For example, female patients might feel pressured to fulfill their traditional feminine roles (i.e., *marianismo*) and fail to make the time to care for these conditions. Male patients may avoid treatment altogether for fear of losing *machismo*, or strong masculine pride. Such research supports the need for healthcare providers to understand cultural differences when working with Latino patients, especially in the context of diabetes and mental health (Washburn et al., 2021).

Research shows that *familismo* can have both a positive and negative impact on help-seeking and healthcare utilization for older Latinos (Fuentes & Aranada, 2019; Hansen & Cabassa, 2016). For example, family stressors might lead to the underutilization of healthcare services. Such stressors can include spousal problems and concerns about children or other family members (Cherrington et al., 2005). However, the positive aspects of *familismo* can help promote healthy lifestyle behaviors in Latino communities and be used to create culturally relevant diabetes and depression interventions (Amirehsani et al., 2019). The integration of *familismo* in diabetes and depression interventions *may* have a positive effect on the treatment outcomes of older Latinos with diabetes-depression comorbidity (Cherrington et al., 2005; Hansen & Cabassa, 2016). Such interventions warrant further research, especially in the context of working with marginalized populations.

Culturally Tailored Education Strategies for Diabetes and Depression in Older Latinos

There are multiple avenues to improve self-management of diabetes and depression in older Latinos. For example, culturally tailored education strategies can serve as a tool to facilitate help-seeking behaviors. Several systematic reviews have concluded that culturally competent education programs can improve diabetes and depression self-management in

minority populations, including Latinos (Amirehsani et al., 2019; Hansen, 2016; Moreira et al., 2018; Piedra et al., 2018). If healthcare providers are better able to understand Latino cultural beliefs, then treatment recommendations are more likely to be followed.

In their investigation of Latino populations with diabetes, Moreira and colleagues (2018) identified strategies to reduce cultural barriers between patients and healthcare providers. These strategies include but are not limited to developing trust, involving family members or *promotores* (community health workers), and making referrals. Consistent with previous studies (Colon et al., 2013; Gonzalez et al., 2001), the authors cite trust as one of the most important tools for minimizing cultural barriers between patients and healthcare providers. They observed how Latino patients have shown a higher preference for providers who are empathetic and consider their cultural beliefs. Another key finding concerned the role of family members and *promotores* in diabetes care (Moreira et al., 2018). Involving family members in Latino patient care is important, not only due to *familismo*, but because lack of family support has been reported as a barrier to effective diabetes self-management (Moreira et al., 2018). It was also found that these strong family cultural ties can be effective in reducing negative emotions related to diabetes, including depression (Moreira et al., 2018). Ultimately, this study adds to the existing research supporting the important role that *familismo* can have in diabetes and depression education. It also underscores the need for healthcare providers to understand cultural belief structures, as doing so can have positive treatment implications (Moreira et al., 2018). Older Latinos would particularly benefit from these culturally tailored, family-focused interventions due to age and cultural barriers serving as additional barriers to effective self-management.

Amirehsani and colleagues' (2019) research also contributes to studies on how culturally tailored education strategies can improve diabetes treatment in Latino older adults. The purpose of their study was to implement an intervention that centered on the role of *familismo* and examine how it can be used as a tool to improve diabetes self-management. Prominent themes from the focus group with Latino diabetic patients and their families included healthier eating habits, increasing physical activity, taking care of my sugar, coping with emotions, and empowerment and

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DOI: 10.31979/mrj.2023.1904

increased self-efficacy (Amirehsani et al., 2019). Findings support the positive role that *familismo* can have in improving diabetes self-management in older Latino populations. Specifically, participants reported how family motivated them to want to maintain better glycemic control and helped them cope with negative emotions related to diabetes, like depression and anxiety (Amirehsani et al., 2019). Involving family members in healthcare planning and action plans can empower older Latinos to take initiative for their own health. For example, they may feel more motivated to start integrating healthy lifestyle choices, like regular exercise and mindful eating. While more longitudinal research is needed to assess the efficiency and effectiveness of these family-focused action plans; they may have substantial benefits for this group.

Conclusion

The field of diabetes and depression research remains a key area of study, especially among older ethnic minorities. Because older Latinos are at greater risk of concurrently developing diabetes *and* depression, this warrants the need for more studies solely focusing on older Latinos in the United States. As shown in the literature about disease prevalence, diabetes and depression are both serious public health issues facing older Latino populations (Avilés-Santa et al., 2017; Valencia et al., 2014). This is largely due to the intersection of their multiple marginalized identities, including being Latino, socioeconomic status, immigration status, and genetic and behavioral factors that contribute to disease risk. The additional variable of aging may further complicate diabetes and depression self-management in this group.

There are multiple avenues to creating culturally responsive interventions that address diabetes-depression comorbidity in older Latinos. For example, healthcare professionals can learn how to work with the modifiable risk factors (e.g., poor diet and physical inactivity) that affect health behaviors in this population. To accomplish this, providers will need to better understand and assess for Latino cultural values, like *susto*, *coraje*, and *fatalismo*. These values may deter individuals from initiating and/or continuing diabetes and depression treatment (Cherrington et al., 2005; Washburn et al., 2021). Specifically, strong emotions like *susto* and *coraje*

may be associated with disease onset, while *fatalismo* may discourage help-seeking behaviors (Colon et al., 2013; Moreira et al., 2018). By understanding these underlying beliefs, providers can make appropriate treatment recommendations while working on the cultural barriers. It would also allow them to improve patient-provider communication and trust and make appropriate referrals.

Other culturally responsive strategies for addressing diabetes and depression in older Latinos include health education and community outreach. Many older Latinos may not seek treatment or assistance due to cultural differences in health beliefs, lack of education, language barriers, and/or not feeling supported by their family members. Both health education and community outreach could provide workable opportunities to incorporate Latino cultural values, like *familismo* (Valencia et al., 2014). Engaging family members in the treatment process can allow older Latinos to feel more supported in their diabetes and depression management. It can also help prepare Latino families to deal with diabetes and depression if they ever encounter these conditions in their lifetimes. Finally, community outreach can be used to bridge cultural barriers to diabetes and depression treatment. Bicultural and bilingual community health workers can be used to encourage behavior changes through role modeling and provide informational and emotional support for both patients and families (Moreiera et al., 2019). Thus, culturally responsive strategies that incorporate *familismo* can be a viable solution to improving diabetes and depression outcomes for older Latinos.

Overall, findings of this project illustrate the nuanced role that culture can play in influencing the health perceptions and help-seeking behaviors of Latino older adults in the comorbid context of diabetes and depression. Future research in older Latino communities, especially low socioeconomic status, low-resource, and/or immigrant communities, should continue to account for patterns of cultural similarities and differences in the context of community-centered health beliefs. Older Latinos from low socioeconomic and/or immigrant backgrounds may experience greater health disparities due to lower acculturation, limited English proficiency, lack of insurance coverage, low health literacy, and less access to continuity of care (Inoue et al., 2021; Moreno et al., 2016). If these cultural beliefs are

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DOI: 10.31979/mrj.2023.1904

better understood, this has the potential to inform more culturally tailored interventions for addressing diabetes multimorbidity in older Latino populations.

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