Depression, self-esteem, diabetes care and self-care behaviors among middle-aged and older Mexicans[☆]

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ABSTRACT

Aims: Examine the associations of depression and self-esteem on self-care activities and care received among Mexicans with diabetes.
Methods: Using data from the Mexican Nutrition and Health Survey 2012, logistic regression models were fit to test the associations between each self-care activity and diabetes care, and self-esteem and depression.
Results: People with low self-esteem were less likely to follow a diet, but no other associations were found. Contrary to what was expected, there were no relationships between depression and quality of care received or self-care behaviors.
Conclusion: Current findings support the importance of looking at mental health and emotional state among older adults with diabetes. Future studies should explore the relationship between different psychological barriers to proper diabetes management.

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1. Introduction

Diabetes mellitus is a public health concern in Mexico. The direct cost of diabetes for the Mexican Institute of Social Security (IMSS) was estimated to be US $452,064,988 and the average cost per patient was US $3,193 [1]. Diabetes is a major cause of morbidity, mortality and disability in older adults. According to the Mexican Nutrition and Health Survey (ENSANUT), diabetes affected approximately 9.2% of adults aged 20 and older [2]. Diabetes was the second-highest occurring cause of mortality for women and men in Mexico, with 41,926 deaths (or 16.1%) and 38,862 (11.7%) deaths, respectively [3]. This condition may have deleterious effects on emotional well-being, including symptoms of depression and low self-esteem [4]. Along with diabetes, depression is also a major health concern in Mexico. Approximately 9.2% of surveyed individuals had depression over the life course [5]. Depression is associated with disability, other medical comorbidities (including diabetes and cardiovascular diseases), and increases health care costs and utilization [6]. Therefore, the relationship between diabetes and depression deserves careful examination.

The association between diabetes and depression has been found consistently [7]. Although the pathway connecting these conditions is still not fully understood, depression among people with diabetes appears to have a negative effect on health outcomes and self-care behaviors. For example individuals with diabetes and depression displayed poor glycemic control [8] and poor diet, exercise and glucose

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testing patterns [9]. In addition, a few studies have shown that depression has an impact on the quality of care received by individuals with diabetes [10]. Depressed individuals may also show low levels of self-esteem [11], which in turn may also affect diabetes self-care behaviors [12]. However, in Mexico, the literature about the association of depression and self-esteem on diabetes and diabetes management remains scarce. In fact, there are only a few studies that have tried to determine the prevalence of depression among patients with type 2 diabetes [13–15]. To my knowledge, only two studies have looked at the associations between depression symptoms and health outcomes among Mexicans with diabetes [15,16]. Even when other psychological factors have shown to impact diabetes management such as self-esteem [17], there are not many studies that have looked at the association of these factors and depression, diabetes care and self-management among Mexicans.

1.1.   Why self-esteem and diabetes management?

Low levels of self-esteem have been associated with diabetes and diabetes management [18]. Evidence shows that self-esteem can be a key factor influencing health care behaviors [19]. In people with diabetes, studies performed in the US have shown that low self-esteem have negative effects on self-care behaviors in younger and older adults [17,20]. For example, Johnston-Brooks et al. [21] found that self-esteem was related to diet and exercise self-care behaviors among patients with insulin-dependent diabetes. In addition, Kneckt et al. [22] found that high levels of self-esteem were associated with exercise adherence, ability to adjust insulin dosage, and oral hygiene in a sample of people aged 16–72. Some explanations for these associations may be that people with high self-esteem have more ability and/or capacity to deal with the disease and self-management activities. In a qualitative study of Hispanic men with diabetes, Rustveld et al. [23] found that self-esteem was one of the main barriers to self-care management. These men had low self-esteem because they felt that they were treated differently than individuals with no diabetes. Consequently, these feelings seemed to affect the way that these men engage in self-care behaviors, which suggests that self-esteem may be an important factor in influencing or hindering people's self-management activities.

Another explanation about the effects of self-esteem on self-management may be its connection to self-efficacy. While one concept is the personal assessment of one's own self-worth and value, and the other relates to individual's perception of their own ability to perform certain specific tasks of behaviors, both of these constructs may influence individuals' motivations and ability to adjust to new situations [24]. In turn, individuals who have high self-esteem and believe they can achieve a desired outcome may be better motivated to adhere to diabetes self-care behaviors. The combination of self-efficacy and self-esteem may increase the perception of coping [25], which has been found to influence adherence to self-management [26]. In addition, people with high self-esteem may feel empowered to take responsibility in their self-care. Diabetes empowerment has been associated with self-care behaviors including diet and exercise [12]. Based on this, psychosocial factors may also play an important role

in the management of diabetes in Mexico. More research is required to understand different paths among these processes and diabetes self-management in older adults in Mexico.

Therefore, the purpose of this study was to expand the literature in Mexico by examining the associations of depression and self-esteem on self-care activities and care received among Mexicans with diabetes. Based on prior studies done in the US [10,27], it was hypothesized that individuals with symptoms of depression and low self-esteem would be less likely to perform self-care activities and to receive diabetes care than those with low symptoms of depression and higher self-esteem.

2.   Methods

2.1.   Data and sample

Data on depression, self-esteem, self-management and health care among people with diabetes was obtained from the ENSANUT [28]. The ENSANUT is a nationally representative survey with a probabilistic multistage stratified cluster sampling design that in 2012 had a sample of 50,528 households and 46,277 adults aged 20 years and older. Participants were surveyed throughout all Mexico's 32 states. The questionnaires include information about participant's demographic information, health care utilization, health, anthropometry and general household characteristics. More detailed information about the design and data collection methods can be found elsewhere [29]. Of the 46,277 adults who participated in the ENSANUT, 3,251 individuals 50 years and above had been diagnosed with diabetes by a physician. Of those, there were 1274 individual who had complete information regarding depression, self-esteem, and other health and sociodemographic conditions of interest.

Those with complete data were more likely to be older (M/SD 68.7/6.4 vs. 60.6/9.6 years, $p < .001$), to be unemployed or stayed-at-home person (61.0% vs. 54.8% $p < 001$), less likely to be educated (14.8% have education beyond high school compared to 30.4%) and to be married (57.5% vs. 67.5% $p < .001$) than those with missing data. People with missing data had diabetes for longer time (M/SD 133.1/121.2 vs. 119.7/130.0 months $p < 001$), more likely to have hypertension (53.8% vs. 49.7% $p = .02$), and to take oral agents (81.9% vs. 76.2% $p < .01$) than those without complete data.

2.2.   Study measures

2.2.1.   Outcome variables
According to the guidelines of the American Diabetes Association [30], patients with diabetes should visit their physician at least 4 times per year. Doctors should determine if blood sugar is under control, preferably through glycosylated hemoglobin (HbA1c) tests. Other blood or urine glucose tests provide useful information for diabetes self-management, but contrary to the HbA1c, these exams cannot provide a quantitative measure of blood sugars over an extended period of time. At least once a year, people with diabetes should have comprehensive foot and eye examinations, and should have a microalbumin test to check levels of blood protein in their