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Research Article

Diabetes and Depression in the Community, Honduras, 2018

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Abstract

Introduction: According to estimates, 422 million adults worldwide had diabetes in 2014.

Objective: To identify the degree of relationship between Diabetes Mellitus and depression in people in the community.

Results: The age of greatest frequency is between the ranks of 31 - 40 years old with 40.2% (35), being women 70.1% (61), the secondary school obtains the highest percentage in levels of schooling with 49.4% (43), adding that the Free Union is positioned in the table with 49.4 (43) and most people participating in the study are rural with 64.3% (56). It is found that the binomial Hypertension and Diabetes lead statistics, HTA with 56.3% (49) and the DM with 70.1% (61), this at the family history level, On the other hand, in the family history, 100% (87) have DM and 56.3% (49) HTA. 43%) of the people surveyed already report having a moderate degree of depression, 27% (24) already have severe depression and the remaining 24% (21) report a mild depression. Something important to mention is the fact that the first The cause of depression is the prohibition of foods that they must abstain from consuming, between 30 - 50 years, most complications occur. depressive at the reference level, with more than 50% (44).

Conclusion: Depression affects holistically diabetic patients, the situation of agglomeration of patients in the country and waiting for appointments in hospitals makes patients do not decide to go to the hospital, so this worsens the situation of detriment general of the disease.

Keywords: *Diabetes; Depression; Honduras; Epidemiology*

Introduction

According to the WHO, diabetes is a serious chronic disease that is triggered when the pancreas does not produce enough insulin (a hormone that regulates the level of sugar, or glucose, in the blood), or when the body cannot use insulin effectively what it produces According to estimates, 422 million adults worldwide had diabetes in 2014, compared to 108 million in 1980. The worldwide (normalized by age) prevalence of diabetes has almost doubled since that year, having exceeded 4.7% to 8.5% in the adult population [1].

On the other hand, the WHO itself, points out that depression is a frequent mental disorder. It is estimated that it affects more than 300 million people in the world. Depression is the leading global cause of disability and contributes very significantly to the global burden of disease, affecting women more than men. In the worst case, depression can lead to suicide [2].

According to the data collected in a report carried out by the WHO called "Country Profiles Noncommunicable Diseases, WHO, Washington DC, 2012", they concluded that diseases do not Communicable, WHO, Washington DC, 2012, concluded that non-communicable diseases (NCDs) in Honduras are responsible for 69% of all deaths in the country. In addition, they estimated a prevalence of 6.9% of DM2 in Honduras [2]. In 2010, there were 55.4 million people with diabetes living in the Americas, of which 18 million are in Central and South America [3].

There are two main types of DM: Type 1 (DM1) and Type 2 (DM2), both of which are characterized by an inability of insulin to adequately exert its metabolic effects. DM1 is an autoimmune disease in which cells that secrete insulin are destroyed. The DM2, on the other hand, supposes an alteration in the action of the insulin and sometimes in the secretion of the same, directly related to the lifestyle of the person, with an unhealthy diet and scarce physical activity [1,3].

Methodology

With a Descriptive, Transversal Study Type, with a universe of 112 hospitalized patients/month. These will make up the total number of people residing in the Mirador de Oriente neighborhood. Taking as sample 87 patients calculated with 95% reliability index with the OpenEpi program.

With a simple random Probabilistic Sampling, being the Data Collection Technique by means of the application of informed consent to the study participants. The voluntary participation in the study was explained and the procedure that would be carried out during the study was detailed. Capturing patients from the community of Mirador de Oriente.

The Hamilton Depression Rating Scale (HAM-D) scale was applied to detect the prevalence of depressive symptoms in the population. To the patients detected with severe depressive symptoms, that is, a score greater than or equal to 19 in the HAM-D.

Patients diagnosed with Diabetes Mellitus, older than 18 years of age, who agreed to participate in the study were included. Excluding patients with suicidal behavior, who were with psychiatric pharmacological and/or psychotherapeutic treatment, with the presence of manic or psychotic symptoms, with alterations in cognitive function, not suitable for acute glycemic control and patient who does not have a file.

The data were collected by means of a home visit, taking all those with any diagnosis of diabetes mellitus, regardless of the type. The sociodemographic variables were analyzed, such as sex, age, educational level, comorbidities, duration of the illness and history of psychiatric illnesses.

The reason for the study was explained to each patient and he was asked after he read the informed consent for the application of the Hamilton Depression Scale. The cases were classified on the basis of score without depression, mild, moderate, severe, and very severe.

The information collected was attached to a database of the Epi Info v. Statistical-epidemiological program. 7, once the quality control of the database and final cleaning was performed, the Analysis module was made, part of the same software to generate a statistical report composed of frequency tables and crossover of variables, as well as to generate descriptive statistics (mean, median, fashion, variance, standard deviation) with 95% confidence (NC95%).

Univariate analyzes were performed, qualitative variables were presented in frequencies and percentages, such as age, time to have diabetes, mid-range and standard deviation, for the associated factors, cross-matching of variables will be done using the proportion ratio of patients with diabetes who have depression and according to the associated factors such as age, BMI, sex, income and others.

All the patients were consulted about the voluntariness to enter the study and they were explained and in case of signing signed informed consent. All information collected during the study was confidential. The course of Good Clinical Practices of CITI Program, Miami has been previously taken.

Results

Regarding the sociodemographic data of this area, it is found that the most frequent age is between the ages of 31 - 40 years with 40.2% (35), with female or predominantly women indicating 70.1% (61), secondary school obtains the highest percentage in levels of schooling with 49.4% (43), adding that the Free Union is positioned in the table with 49.4 (43) and the majority of people participating in the study are rural with 64.3% (56) (Table 1).

Sociodemographic variables	F	%
Years		
31 to 40 years	35	40.2%
41 to 50 years	12	13.7%
51 to 60 years	18	20.6%
61 to 70 years	13	14.9%
71 to 80 years	9	10.3%
Sex		
Men	26	29.8%
Women	61	70.1%
Scholarship		
None	12	13.7%
Primary	19	21.8%
High school	43	49.4%
University	13	14.9%
Civil status		
Married	21	24.1%
Free Union	43	49.4%
Single	23	26.4%
Area		
Rural	56	64.3%
Urban	31	35.3%

Table 1: *Distribution of Sociodemographic variables of the population under study (n = 87).*

Referring to the family and personal pathological background, it is found that the binomial Hypertension and Diabetes lead statistics, HBP with 56.3% (49) and DM with 70.1% (61), this at the level of family history. On the other hand, in the family history, 100% (87) have DM and 56.3% (49) HTA (Table 2).

Family background	F	%
Arterial hypertension	49	56.3%
Mellitus diabetes	61	70.1%
Obesity	31	35.6%
Hyperthyroidism	9	10.3%
Asthma	14	16.09%
Personal history		
Mellitus diabetes	87	100.0%
Arterial hypertension	49	56.3%
Hypothyroidism	14	16.09%
Obesity	21	24.1%

Table 2: *Distribution of family and personal pathological background of the population under study (n = 87).*

49% (43) of the people surveyed already report having a moderate degree of depression, 27% (24) already present severe depression and the remaining 24% (21) report a mild depression. Something important to mention is the fact that the first cause of depression is the prohibition of foods that they must abstain from consuming (Figure 1).

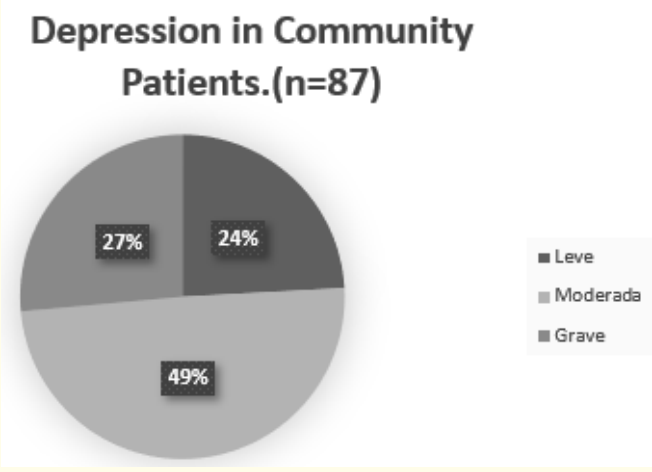

Figure 1: *Distribution of the percentages of depression determined by means of the HAM-D scale (n = 87).*

Between 30 - 50 years, the majority of depressive complications occur at the reference level, with more than 50% (44) in the respective crossing of variables, the decrease in productivity in monetary production and the generation of expenses for medicines and diets more can generate a hypothesis for risk factors (Figure 2).

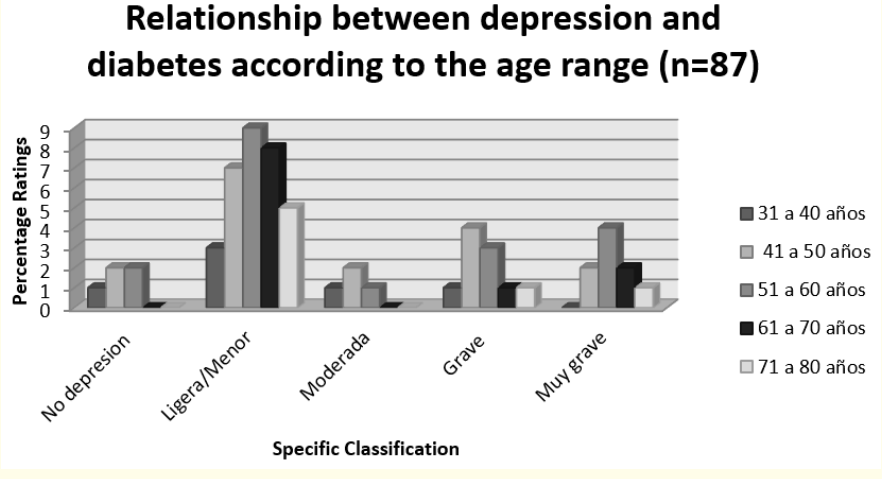

Figure 2: *Relationship between depression and diabetes mellitus according to the age range (n = 87).*

Discussion

Approximately 340 million people worldwide will suffer depression at some point in their lives. It is a disease that generates significant health costs due to its high impact on the functionality and quality of life of people who suffer from it. On the other hand, people with chronic diseases, such as diabetes mellitus type 2, have a higher risk of suffering depression compared to healthy individuals [5].

Comparing with the literature, in one study they indicate that the highest frequency of depression (59.76%) was evident in the female sex; However, no statistically significant association was found between sex and depression, which is similar to that found in the study by Anderson RJ., *et al.* [6], where the frequency of depression was similar in both females (28%) and the masculine one (18%), and differs from the one found in the study carried out by Peyrot Marck and Rubbin RR [7] where of the 239 diabetic patients who presented depression, 92% (n = 219) belonged to the female sex; also the study carried out by Téllez-Zenteno [8] that found a statistically significant association (p = 0.006).

In relation to sociodemographic variables, ages between 31 to 40 years were the majority, with 25.0% (15), women have 65.0% (39) in the participation of therapy, the predominant level of education was the secondary in 41.7% (25), the majority are in pairs 31.7% (19) and come mostly from the rural area 60.0% (36). Between female sex and depression, and the study carried out by Khuwaja, of the 889 diabetic patients studied, 57.5% corresponded to the female sex [9].

With regard to the age group, the highest frequency of depression was observed in the groups between 51 to 60 years, this could be related to the age of diagnosis of disease, than in the population studied. It was presented in these age groups, which is similar to that found in the studies of Katon W., *et al.* [8], Khuwuja AK., *et al.* Who determined a greater frequency of depression in adult diabetic patients, and related it to other factors such as obesity, smoking, sex, marital status and associated comorbidities [9].

In relation to schooling, research showed the highest frequency of depression in diabetic patients with secondary education (41.7%), which is similar to the Peyrot Marck studies [11] where they found an association between schooling level of less than five years and depression and Khuwaja AK, they also found an association between levels of schooling over five years); in both investigations it was taken as a level of primary and secondary education, without having a higher education level [9].

The comorbidity between Diabetes Mellitus and Depression can generate greater difficulties in the management of both pathologies. Individuals with type 2 diabetes mellitus have twice the risk of developing depression compared to the general population [9]. Roy in 2012 points out that the physiopathology is not clear, people with diabetes are at higher risk of developing depression and people with depression have increased risk of developing diabetes [10].

There are several hypotheses that unite the two diseases; the psychological burden of a chronic disease, the hormonal changes related to stress and the effects of inflammation, among others [11]. Depression generates some alterations at the level of cortisol that may be related to hyperglycemic effects evidenced in diabetes [13].

Specifically in the case of diabetes, depression can be a negative predictor in terms of the personal history of the disease [13]. Approximately one fifth of patients with type 2 diabetes mellitus have depression [9]. In these people, depression is associated with depression. poor glycemic controls and increased risk of macrovascular and microvascular complications. In addition, depression negatively impacts people's quality of life and self-care, such as diet, exercise, and adherence to pharmacological management [13].

Conclusion

Depression affects holistically diabetic patients, the situation of agglomeration of patients in the country and waiting for appointments in hospitals makes patients do not decide to go to the hospital, so this worsens the situation of agglomeration of patients in the country and waiting for appointments in hospitals makes patients do not decide to go to the hospital, so this worsens the situation of the general detriment of the disease.

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