Chronic pain related to anxiety and depression of patients with diabetes mellitus

Dor crônica relacionada a ansiedade e depressão de pacientes com diabetes mellitus

Dolor crónico relacionado con ansiedad y depresión en pacientes con diabetes mellitus

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REVISA

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ABSTRACT

Objective: To relate chronic pain, depression and anxiety in patients with Diabetes Mellitus. **Method**: Cross-sectional study, sample n=50, evaluated chronic pain by the numerical pain scale, identified the Nursing Diagnosis Chronic Pain of Nanda Taxonomy, Anxiety and Depression was evaluated by the Hospital Anxiety and Depression Scale. **Results:** The prevalence of anxiety was 36.0% and 32.0% of depression, affecting women between 60 and 69 years. The relationship between pain intensity was moderate in both patients who had anxiety or depression. It identified the defining characteristics of the Nursing Diagnoses of Chronic Pain: Change in the ability to continue previous activities, 61.1% had anxiety and 56.3% had depression; Change in sleep pattern, 72.2% with anxiety and 56.3% with depression; Self-report using a standardized pain scale, 98.0% had anxiety and depression, respectively. The Related Factors of Nursing Diagnoses 88.9% with Increased BMI had anxiety and 93.8% with depression; Change in sleep pattern 72.2% with anxiety and 56.3% depression; 92% aged ≥50 years 93.8% with anxiety and 88.9% with depression. **Conclusion:** The women had chronic pain of moderate intensity and it was related to anxiety and depression.

Keywords: Chronic Pain; Nursing diagnoses; Anxiety; Depression; Diabetes Mellitus; Nursing Assessment.

RESUMO

Objetivo: Relacionar a dor crônica, a depressão e ansiedade de pacientes com Diabetes Mellitus. **Método**: Estudo transversal, amostra n=50, avaliou a dor crônica pela escala numérica de dor, identificou o Diagnóstico de Enfermagem Dor Crônica da Taxonomia da NANDA, Ansiedade e Depressão foi avaliada pela Hospital Anxiety and Depression Scale (Escala Hospitalar de Ansiedade e Depressão). **Resultados:** A prevalência de ansiedade foi de 36,0% e 32,0% de depressão, acometeu mulheres entre 60 e 69 anos. A relação entre intensidade da dor foi moderada, em ambos que tinham ansiedade ou depressão. Identificou as características definidoras do Diagnósticos de Enfermagem Dor Crônica: Alteração da capacidade em continuar atividades prévias, 61,1% tinham ansiedade e 56,3% apresentaram depressão; Alteração no padrão de sono, 72,2% com ansiedade e 56,3% com depressão; Autorrelato usando escala padronizada de dor, 98,0% tinham ansiedade e depressão respectivamente. Os Fatores Relacionados do Diagnósticos de Enfermagem 88,9% com Aumento de IMC tinham ansiedade e 93,8% com depressão; Alteração no padrão de sono 72,2% com ansiedade e 56,3% depressão; 92% com Idade ≥50 anos 93,8% com ansiedade e 88,9% com depressão. **Conclusão:** As mulheres tinham dor crônica de intensidade moderada e foi relacionada à ansiedade e a depressão.

Descritores: Dor Crônica; Diagnósticos de enfermagem; Ansiedade; Depressão; Diabetes Mellitus; Avaliação em Enfermagem.

RESUMEN

Objetivo: Relacionar el dolor crónica con la depresión y la ansiedad de pacientes con Diabetes Mellitus. **Método:** Estudio transversal, muestra n=50, se evaluó el dolor crónico mediante la escala numérica de dolor, se identificaron los Diagnósticos de Enfermería El dolor crónico de la Taxonomía NANDA, la Ansiedad y Depresión se evaluó mediante la Escala Hospitalaria de Ansiedad y Depresión. **Resultados:** La prevalencia de ansiedad fue de 36,0% y de depresión de 32,0%, afectando a mujeres entre 60 y 69 años. La relación entre la intensidad del dolor fue moderada, tanto en los que presentaban ansiedad como en los que presentaban depresión. Se identificaron las características definitorias del Diagnóstico de Enfermería del Dolor Crónico: Cambio en la capacidad de continuar actividades anteriores, el 61,1% presentó ansiedad y el 56,3% presentó depresión; Cambio en el patrón de sueño, 72,2% con ansiedad y 56,3% con depresión; Autoinformados mediante una escala de dolor estandarizada, el 98,0% tenía ansiedad y depresión respectivamente. Factores Relacionados con el Diagnóstico de Enfermería el 88,9% con IMC elevado presentó ansiedad y el 93,8% depresión; Cambio en el patrón de sueño 72,2% con ansiedad y 56,3% depresión; 92% con edad ≥50 años, 93,8% con ansiedad y 88,9% con depresión. **Conclusión:** Las mujeres presentaron dolor crónico de intensidad moderada y se relacionó con ansiedad y depresión.

Descriptores: Dolor Crónico; Diagnóstico de Enfermería; Ansiedad; Depresión; Diabetes Mellitus; Evaluación en Enfermería.

Introduction

According to the World Health Organization, about 422 million people worldwide have Diabetes Mellitus (DM) and 1.5 million deaths are attributed to DM per year. In addition, the number of cases has increased in recent decades[1]. Brazil occupies the fifth position with the highest incidence of DM in the world; there are about 16.8 million people with DM between 20 and 79 years old, it is estimated that by 2030 it will reach 21.5 million people with DM[2].

People living with DM may have other chronic non-communicable diseases/associated CNCDs, such as systemic arterial hypertension, respiratory problems, dyslipidemias, obesity, kidney diseases, etc. Other problems associated with CNCDs, more common for example, are DM, obesity and chronic pain. The sum of these diseases can generate psychological and depressive damage, which can contribute to and impair the treatment of DM[3].

A common type of pain in patients with DM is neuropathic pain, which can affect more than 50% of individuals with DM. Studies have shown a negative correlation between quality of life (QoL), pain, anxiety and depression, yet, when it comes to chronic pain, the symptoms are more intense and consequently lead to a considerable worsening in QoL[3-7].

Thus, the theme between DM, pain, depression and anxiety has been investigated in isolation or in association. Research has identified losses caused by the association of CNCDs with DM[3,5-6,8-9]. Lines of studies that investigate Nursing Diagnoses (ND) in people with DM[10-12]. It is important that the health and nursing teams are attentive to recognize these problems and to design intervention strategies to control these changes, with a view to improving the self-care of patients living with DM. However, the comparison of studies associating the hospital anxiety and depression scale with the Chronic Pain ND has not yet been identified. This study aims to relate chronic pain to depression and anxiety in patients with DM.

Method

This is a cross-sectional and quantitative study. The members of this study were cared for in a Basic Health Unit in the Federal District. The selected DM patients were followed up by the medical team and by a specialist nurse in the DM area. The final sample was n=50 participants with type 2 DM. Patients with DM aged 18 years or older, who participated and were registered at the Basic Health Unit, were included. Patients with type 1 DM, endocrine and infectious diseases and neoplasms were excluded.

A nursing undergraduate student was trained to evaluate the participants and use a data collection instrument, after which data collection was started: first the data, clinical and anthropometric measures were evaluated; followed by the characterization of Chronic Pain ND/NDCP according to the Taxonomy of NANDA-International Nursing Diagnoses: Definitions and Classification 2018-2020 (identified the Defining Characteristics-DC and Related Factors-RF). Chronic pain was considered to be those who lived with pain ≥ three months[13]. Another assessment was pain,

which occurred through the characterization of pain intensity, measured by the numeric pain scale (NS) from 0 to 10 points.

Anxiety and depression were evaluated by adopting the Hospital Anxiety and Depression Scale (HADS), which is divided into 14 items, seven for the evaluation of anxiety (HADS-A) and seven for depression (HADS-D). This scale was translated and validated for Brazil. Each of its items can be scored between zero and three, composing a maximum completion of 21 points for each scale. The cutoff point for defining anxiety and depression was ≥9 points[14].

Data analysis was performed by comparing the measures derived from the evaluation of pain, NDCP and the presence of anxiety or depression by HADS-A and HADS-D. After construction of the statistical database *SPSS*® version 20.0 for Windows®. Exploratory data analysis (descriptive) was performed using the sociodemographic questionnaire. Numerical variables were explored by descriptive measures of centrality (mean and median) and dispersion (minimum, maximum and standard deviation/SD).

This study was approved by the Research Ethics Committee of the Fundação de Ensino e Pesquisa em Ciências da Saúde/FEPECS CAEE (32122814.9.0000.5553).

Results

Participants had a mean age of 62±8 years (Min=42 and Max =79 years), mean DM time =10±10 years (Min =1 and Max =10 years).

Anxiety and depression mostly affected obese women, 48.0% were aged between 60 and 69 years and brown, respectively. The prevalence was 36.0% of anxiety and 32.0% of depression in the participants evaluated in this study characterized by HADS. In particular, anxiety affected all women (n=18) and depression affected 12.5% of men and 87.5% of women (Table 1).

Table 1- Sociodemographic aspects of the participants according to the Hospital Anxiety and Depression Scale (n=50), Brasília, 2023.

		Total		**Anxiety**				**Depression**			
				Yes		**No**		**Yes**		**No**	
		n	%	n	%	n	%	n	%	n	%
Gender	Male	9	18.0	0	0.0	9	28.1	2	12.5	7	20.6
	Female	41	82.0	18	100.0	23	71.9	14	87.5	27	79.4
Age (years)	42-49	4	8.0	2	11.1	2	6.3	1	6.3	3	8.8
	50-50	12	24.0	2	11.1	10	31.3	4	25.0	8	23.5
	60-69	24	48.0	10	55.6	14	43.8	6	37.5	18	52.9
	> 70 years	10	20.0	4	22.2	6	18.8	5	31.3	5	14.7
Education											
Illiterate		6	100.0	2	100.0	4	100.0	1	100.0	5	100.0
Elementary School	Complete	6	18.2	1	8.3	5	23.8	1	10.0	5	21.7
	Incomplete	27	81.8	11	91.7	16	76.2	9	90.0	18	78.3
High School	Complete	5	55.6	1	50.0	4	57.1	2	50.0	3	60.0

		Total		Anxiety				Depression			
				Yes		No		Yes		No	
		n	%	n	%	n	%	n	%	n	%
University Education	Incomplete	4	44.4	1	50.0	3	42.9	2	50.0	2	40.0
	Complete	2	100.0	2	100.0	0	0.0	1	100.0	1	100.0
	Incomplete	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Color	White	21	42.0	8	44.4	13	40.6	9	56.3	12	35.3
	Brown	24	48.0	10	55.6	14	43.8	7	43.8	17	50.0
	Black	4	8.0	0	0.0	4	12.5	0	0.0	4	11.8
	Yellow	1	2.0	0	0.0	1	3.1	0	0.0	1	2.9
	Indigenous	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Work as a source of income	Yes	12	24.0	3	16.7	9	28.1	4	25.0	8	23.5
	No	38	76.0	15	83.3	23	71.9	12	75.0	26	76.5
BMI	Eutrophic	9	18.0	2	11.1	7	21.9	1	6.3	8	23.5
	Overweight	15	30.0	7	38.9	8	25.0	7	43.8	8	23.5
	Obesity	26	52.0	9	50.0	17	53.1	8	50.0	18	52.9

Key: Body Mass Index/BMI

In the identification of NDCP, the main DCs identified were ≥98.0% Self-report using a standardized pain scale, Self-report of pain characteristics using a standardized pain instrument, ≥46.0% Fatigue, Change in ability to continue previous activities and Change in sleep pattern. Regarding the comparison in having anxiety and/or depression, these DC had higher values (ranged from 53.6% to 100.0%) by the Hospital Anxiety and Depression Scale (Table 2).

Regarding the analysis of the DCs of Change in ability to continue previous activities, 61.1% presented anxiety and 56.3% with depression. The results for Change in sleep pattern, 72.2% with anxiety and 56.3% for depression. Self-report using standardized pain scale both anxiety and depression had results of 100.0%. These values were the same for the Self-Report DC of pain characterizations using a standardized pain instrument. Among the results for Fatigue, 61.1% had anxiety and 50.0% had depression (Table 2).

Table 2 – Description of the Nursing Diagnosis of Chronic Pain, including defining characteristics and related factors of patients with Diabetes Mellitus (n=50), Brasília, 2023.

	TOTAL		Anxiety				Depression			
			Yes		No		Yes		No	
Defining characteristics	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Self-report using standardized pain scale	49	98.0	18	100.0	31	96.9	16	100.0	33	97.1
Self-report of pain characteristics using standardized pain instrument	49	98.0	18	100.0	31	96.9	16	100.0	33	97.1
Fatigue	24	48.0	11	61.1	13	40.6	8	50.0	16	47.1
Change in ability to continue previous activities	23	46.0	11	61.1	12	37.5	9	56.3	14	41.2
Change in sleep pattern	23	46.0	13	72.2	10	31.3	9	56.3	14	41.2
Facial Expressions	3	6.0	1	5.6	2	6.3	0	0	3	8.8
Related Factors										
Conditions associated with impaired metabolic function	50	100.0	18	100.0	32	100.0	16	100.0	34	100
At-risk population age ≥50 years	46	92.0	16	88.9	30	93.8	15	93.8	31	91.2
Female at-risk population	41	82.0	18	100	23	71.9	14	87.5	27	79.4
Increase in BMI*	41	82.0	16	88.9	25	78.1	15	93.8	26	76.5
Change in sleep pattern	23	46.0	13	72.2	10	31.3	9	56.3	14	41.2
Social isolation	5	10.0	1	5.6	4	12.5	1	6.3	4	11.8

Legend: * Body Mass Index/BMI
Source: Research data.

The NDCP RF were Increased BMI, Change in sleep pattern, Social isolation, At-risk population age >50 years, At-risk population female and Conditions associated with metabolic function. It was identified that 82.0% had an increase in BMI, of these 88.9% had anxiety and 93.8% had depression. The Change in sleep pattern in 46.0% of the sample, 72.2% had anxiety and 56.3% with depression. In 92.0%, they were ≥50 years, 88.9% had anxiety and 93.8% had depression. Another RF in 82.0% was the female sex, of these 100.0% with

anxiety and 87.5% with depression. And finally, the RF Conditions associated with impaired metabolic function, the total (100.0%) all with DM, presented anxiety and depression respectively (Table 2).

Figure 1 shows the comparison between pain intensity and states of anxiety and depression. For all groups, pain was described as moderate NS=5.0±2.0 points (Min.=0.0 and Max.=9.0 points) in both states, with a slightly higher prevalence of anxiety compared to depressives (36.0% and 32.0%) respectively. It was not observed the change in intensity characterization also between anxiety and depression groups (NS=6.2±2.2 points, Min.=1.0 and Max.=9.0; NS=5.8±2.4 points, Min.=2.4 and Max.=9.0 points), both states presented chronic pain of moderate intensity.

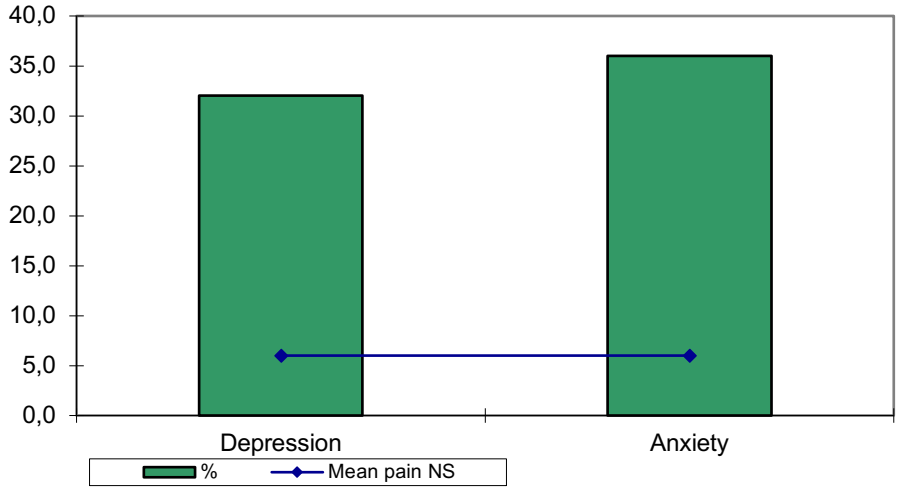

Figure 1 – Comparison of chronic pain intensity, related to cases of anxiety and depression patients with Diabetes Mellitus (n=50), Brasília, 2023.

Discussion

In this study, women with a higher frequency of depression and anxiety, married, of sexagenarian age and with low education prevailed. In a survey conducted in India with 201 participants with DM, 59.0% were women, with a mean age of 61 years and a BMI consistent with overweight[15]. In comparison, in Brazil, we had studies with similar data, which had a sample of 121 patients, 59.0% of whom were women with a mean age of 64 years and were overweight[5]. On the other hand, in another country, a research showed divergence with its results, which was carried out in an outpatient clinic in Japan, with 44 participants, of whom 32 were men and 12 were women, aged ≤ 59 years, but still the overweight data were similar to the previous articles[16].

Some factors can add up and contribute to the development of CNCDs such as DM and the presence of anxiety and depression. Advanced age contributes to the emergence of chronic diseases, due to the metabolic decrease of the body, which, together with depression, can lead to sedentary lifestyle, thus contributing to the emergence of other pathologies[17-18].

The prevalence of female anxiety and depression can be related to several factors, one of which is the probable hormonal change that precedes old

age. Menopause alters several hormonal functions that can lead to depressive and anxious symptoms. The sociodemographic context, on the other hand, should pay attention to social vulnerability, low education, limited access to health, which are factors that can contribute to receiving information for the prevention and control of diseases, among them may be related to anxiety and depression[19].

In this sense, a study carried out in Brazil with data from the National Health Survey observed that old people with illiteracy/low education tend to have a poor perception of health, in addition to the fact that increased education levels act as a protective factor for the health of individuals in the health control process[17].

Anxiety, in this study, affected all women, as well as depression, which also affected women significantly. A study conducted in Africa with readmitted patients who had DM seen at a hospital found that rates of depression, as well as anxiety, were higher in females with about 55.6% for depression and 53.8% for anxiety[20].

The presence of depressive and anxious signs and symptoms in the samples shows a correlation with chronic diseases, in the process of onset or worsening of chronic diseases. Emergence of depressive symptoms can lead to worsening of chronic diseases; people with depression tend to demonstrate harmful behaviors to adherence to disease treatment, for example, maintaining a sedentary lifestyle and low levels of quality of life[5,7,17].

In this research, the main DC of the NDCP were Self-report using standardized pain scale, Self-report of pain characteristics using standardized pain instrument, Change in ability to continue previous activities and Change in sleep pattern and Fatigue.

The use of the standardized pain scale and self-report of pain characteristics are instruments used as pain scales, with values ranging from 0 to 10 points. The results evidenced in the present study identified pain described as moderate in a percentage above ninety of the participants. In the northern region of the country, another survey showed a lower prevalence, of the 129 participants, 35.0% had pain[6]. In another survey carried out in India, of the 201 participants, 87.0% had pain[15].

Chronic pain has been described as a cause of emotional changes such as depression, anxiety, lack of pleasure, impairments in sleep, social life and disability. Another study showed that changes in sleep, depression, anxiety and low QoL are present in patients living with chronic pain, and most of the time 30% to 40% cannot respond to treatment and end up having to live with pain[5,18,21].

Among the RF of this study were the Increase in BMI, Change in sleep pattern, Social isolation, Risk population older age 50 years, risk population female sex and conditions associated with metabolic function. Age a factor found in at-risk population age ≥50 years in other studies[22-23], at-risk population female sex [5-6,24].

Another RF was the Change in sleep pattern that has been identified in other research, observed that the effect of this poor self-care can contribute to frailty and result in hypoglycemic states, trigger daytime sleepiness, etc. On the other hand, not maintaining sleep is a risk factor for increased insulin resistance

and the development of DM[25]. Another problem associated with sleep is the presence of chronic neuropathic pain, which especially affects individuals with DM, whose symptom is waking up at night due to the presence of persistent pain [3,5,7].

Another characteristic of pain in people with DM, with neuropathic pain, is that it may have limitations in which the patients have the possibility of presenting an impaired sleep pattern related to pain, which makes them wake up at night. Changes in sleep pattern were evidenced in another study, which may contribute to anxiety disorders, depression and eating disorders [26]. Altered ND sleep pattern was identified in a sample of 50 participants in another investigation with DM, where 57.2% of participants had altered sleep pattern[27]. Sleep is a basic human need, when impaired it can affect several aspects, being related to higher mortality rates and the prevalence of metabolic syndromes such as DM, coronary heart disease and depression[17-18].

Another study that identified NDs by the International Classification for Nursing Practice (ICNP) found similar data. Among those identified, insomnia and impaired sleep were listed. The need for sleep and rest aspect was presented, demonstrating that there are variables that can influence the quantity and quality of sleep of patients. These include age, psychological influences, lifestyle, environmental conditions, health deviations and clinical interventions. These variables can cause sleep disorders, such as sleep deprivation, insomnia, narcolepsy, parasomnias and sleep apnea. It is noteworthy that these variables are associated with other health problems, such as cardiovascular diseases, DM itself, obesity and depression[23].

Social isolation was a variable identified in a research in Brasilia also, of the 121 participants, evidenced that social isolation is a factor present in patients with depressive and anxious conditions, in addition to being associated in patients with chronic pain[5]. Another study conducted in Londrina, with 191 participants identified impaired the social interaction of patients who had reduced quality of life[24]. A survey of 13 old people with DM from a long-term care institution identified social isolation, insomnia and risk of unstable blood pressure as the main NDs[25].

A survey carried out with Family Health Strategy Nurses analyzed the most frequent prescribed nursing care, identifying the possible NDs for patients with DM and hypertension in the context of Primary Health Care. The main ND were: impaired metabolic function, ineffective peripheral tissue perfusion, obesity and insomnia (51.42%) was also present[26]. Impaired metabolic function was also identified in other studies[12,27].

Still following the reasoning of the changes that DM can exert on the patient's organism, we can mention cognition. A study correlated DM with cognitive deficit and anxiety/depression[8]. Another investigation with old people with chronic pain showed that there was a high risk of greater cognitive deficit in patients who had chronic pain compared to those who did not have chronic pain[28].

In this sense, in the countryside of São Paulo, 104 old people were evaluated regarding their cognitive performance of participants with chronic pain (n=73) and without chronic pain (n=31); women were the largest number in the study sample. Patients with chronic pain presented in the memory

domain a worse deterioration of cognitive performance throughout the study[29]. Pain has several negative impacts on the life of old adults, including biopsychosocial impairments, loss of autonomy and a higher prevalence of depressive and anxiety symptoms in these patients[12,21,30].

Another study evaluated DM patients and their self-care. OREM's theory shows that self-care is the practice of activities that people perform for their own benefit, in order to maintain life, health and well-being. They identified that most patients were under five years of age with DM and fit the picture of poor metabolic control. Some identified NDs were: self-neglect, risk-prone health behavior, ineffective health maintenance and sedentary lifestyle. Often associated with the presence of pain, joint stiffness, lack of family support can contribute to a deficit in DM self-care. The study suggests that many patients with DM are unaware of the disease development process and its consequences[11].

In a research with patients with DM at an advanced stage already with diabetic foot ulcer, some NDs were listed among those related to self-care: positive family support and effective social support. Thus, in the requirements of self-care, emotional issues were identified that relate and accompany the disease, which can compromise glycemic control, since glycemic control can be influenced by psychological issues[31].

According to the Brazilian Diabetes Society, studies have shown that depression and anxiety are related to the decrease in care aimed at treating DM. Sometimes this relationship occurs due to the patient's difficulty in dealing with problems that accompany DM and psychic stress, which can interfere with self-care and the respective behaviors to perform it. Still, depression is considered one of the most frequently found comorbidities in individuals with DM, and can be observed with three times more prevalence in than depressive cases in the general population; however, it is a subjugated association since only one third of cases are adequately diagnosed[3,18].

The diagnosis of this association between DM and Depression becomes difficult and can often go unnoticed related to similar symptoms of both diseases. Examples of similar symptoms are fatigue, weight loss, decreased libido, altered sleep and appetite. These symptoms are responsible for high scores, for example, in the questionnaire (Depressive Cognition Scale-DCS) used to assess depression in clinical practice[3]. It is emphasized that sleep was one of these problems listed in the sample evaluated in this study.

Depressive symptoms such as depressed mood, decreased interest in personal care, loss of energy and difficulty concentrating are common symptoms in DM patients and are associated with impaired self-care, thus increasing the risk of early mortality and complications[7,18,20,38].

There is also evidence that the relationship between DM and depression may increase the risk of chronic complications, since depression has been related to hypoglycemia, higher risks of micro and macro vascular complications and increased functional limitations resulting from DM. The results of this evidence show that the combination of these two conditions causes a greater impact than the sum of their effects[3,7-8].

Thus, the evaluation of depression and anxiety with the HAD scale has been adopted in other realities. A study conducted in Morocco evaluated the prevalence of depression and anxiety in 243 participants with DM with HAD. It showed a predominance of females in the groups with states of anxiety and depression[33]. Another study from Africa analyzed this theme and also identified a prevalence of females, 55.6% with depression and 53.8% with anxiety[20]. Both studies highlight the importance of psychosocial support for individuals with DM and with anxiety or depression, and this support is fundamental for the treatment of DM since these mental illnesses can directly impact the control of DM.

In the control of DM, nursing care involves all the help in self-care in its daily lives. Examples of care include blood glucose monitoring, insulin therapy, health education, nutrition care and provision of health supplies [9,12,34]. Patients must have controlled anxiety and depression to engage and/or enhance self-care in daily life in those living with DM and its challenges and complications.

The Brazilian Diabetes Society emphasizes the importance of nursing consultations for patients with DM in primary care, presents some ND for pain and establishes interventions for pain management in particular. Interventions for these NDs are: to guide the person to identify and reduce the factors that precipitate or increase the experience of pain; to analyze the influences of the person's life context that can influence pain control; to guide and help control environmental factors that can influence the patient's response to discomfort; to encourage the person to monitor his own pain (duration, location, intensity and quality) and the impact on quality of life; to guide on pharmacological and non-pharmacological methods of pain relief; to share and discuss with the support team, when necessary; to favor social family support; to refer for medical evaluation, when necessary; to refer to support groups and/or to complementary integrative health practices (CIHP)[3,18].

Another suggestion from the Brazilian Diabetes Society included in its e-book for nursing consultations with diabetic patients is to adopt the seven AADE7 Self-Care Behaviors® behaviors, including Healthy Coping behavior characterized as a positive attitude of the person towards the DM and self-care with a focus on problem solving to increase confidence and the ability to deal with challenging situations based on a set of strategies to remove barriers to self-care. A healthy diet is crucial for the

stability of DM, characterized by the intake of foods that favor glycemic balance3. Once again, it emphasizes that the state of anxiety and depression must be controlled in patients with DM in order to help with these behaviors.

This study has the limitation of not having the possibility of evaluating glycemia or glycated hemoglobin in the interview period to have a perspective on glycemic control, which can help to report DM control and the sample was for convenience. The adoption of HAD and NDCP to compare the results also stimulates the replication of this study. These limitations should be considered in future investigations with this theme.

Conclusion

This research showed a prevalence of women with DM, old adults, with pain classified as moderate, being more frequent in cases with anxiety followed by depression.

The most common defining characteristics of NDCP were Self-report using standardized pain scale, Use of standardized pain instrument, Change in ability to continue previous activities, Change in sleep pattern and Fatigue. The most common RF were Increased BMI, Change in sleep pattern, Social isolation, Risk population were age ≥50 years, being female and having conditions associated with metabolic function.

These findings are characteristics that should be considered in patients with DM, as information to be listed in health care and especially by the nursing team.

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