RESEARCH ARTICLE   **OPEN ACCESS**

RISK OF UNSTABLE BLOOD GLUCOSE IN PATIENTS WITH DIABETES MELLITUS

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ARTICLE INFO

ABSTRACT

Objective: to analyze the prevalence of the nursing diagnosis Risk of unstable blood glucose in people with diabetes mellitus. Cross-sectional study with 82 patients in the health units of Redenção-CE Brazil. For data collection, a specific form used with sociodemographic and clinical data and the risk factors of the diagnosis under study. The inference of the diagnosis was performed by peers of specialist nurses after the data collection completed. As for sociodemographic and clinical data, 70.73% were female, had a mean age of 61.2 years and a schooling of 4.4 years. All patients had diabetes mellitus type 2, with a mean diagnosis time of 8.1 years. The most present risk factors according to the NANDA-I taxonomy were: insufficient diabetes control (100%); insufficient food intake (98.78%); inadequate blood glucose monitoring (87.80%); and the average daily physical activity lower than recommended for age and gender (71.95%). The specialist nurses inferred that the diagnosis was present in all participants. *Conclusion:* based on the findings, the presence of the nurse in the preparation of the care plan is fundamental in order to prevent future complications and promote a better quality of life.

INTRODUCTION

Diabetes Mellitus (DM), especially type II, due to its large number in Brazil, accounting for 90 to 95% of cases, as well as many associated diseases, is classified as a serious public health problem (Carvalho *et al.,* 2015). It is known that it has a complex and multifactorial etiology and involves genetic and environmental components. Regarding type I DM, although the prevalence is constantly increasing, it corresponds to only 5 to 10% of all cases of DM (Brazilian Society of Diabetes, 2017). Risk factors related to this serious health problem, particularly type II DM in adults, include poor eating habits, usually carbohydrate-rich foods - pasta, sweets, sodas; sedentary lifestyle; emotional or physical stress; smoking; obesity; and alcoholism (Dias, *et al.,* 2018). Thus, adopting healthy habits, such as balanced diet and exercise, are essential

for the treatment and prevention of this disease, such measures should be employed in the individual plan of each patient and thus improve adherence to treatment and prevention (Dias *et al.,* 2018). For health professionals in the care of individuals with DM, the most challenging issue is glycemic control (Gonçalves *et al.,* 2017). The nursing diagnosis Risk of unstable blood glucose was defined in the NANDA-International taxonomy (Herdman and Kamitsuru, 2020) as susceptibility to variation in serum glucose levels in relation to the normal range that may compromise health. Risk factors include: insufficient knowledge of disease control, insufficient knowledge of modifiable factors, ineffective medication control, insufficient diabetes control, excessive stress, lack of adherence to diabetes control plan, excessive weight gain; insufficient food intake; average daily physical activity lower than recommended for age and gender, inadequate blood glucose monitoring, does not accept the diagnosis and

excessive weight loss. It is noteworthy that the nursing diagnosis Risk of unstable blood glucose presents a prevalence of 60% in individuals with hypertension and diabetes mellitus (Moura *et al.,* 2014). The literature demonstrates that variation in glycemic levels may increase the complication and mortality rates of hospitalized acute coronary syndrome patients, compromise renal structure and function and lead to endothelial dysfunction. These consequences can negatively impact productivity, quality of life and survival, and involve high treatment costs. Thus, the recognition risk factors of unstable blood glucose and the implementation of preventive measures can contribute to positive outcomes for which nurses have responsibility (Teixeira *et al.,* 2017). The recognition of the risk factors of this nursing diagnosis can occur due to the knowledge accumulated by the nurse himself, his previous experiences, by consulting the literature, among others (Teixeira *et al.,* 2017). Therefore, given the current scenario of this metabolic disease and its complications, studies in this area are of great relevance in order to better understand the mechanisms and factors related to DM. Thus, all studies focused on this disorder and which are developed are presented as fundamental about coping strategies (Carvalho *et al.,* 2015). The aim of this study was to analyze the prevalence of the nursing diagnosis Risk of unstable blood glucose in people with diabetes mellitus.

METHODS

This is an observational cross-sectional study. The research developed in the health units in Redenção – CE Brazil, and the period of data collection comprised from May to November 2018. The population of this study consisted of adults with the medical diagnosis of diabetes mellitus. The following inclusion criteria defined: people aged 18 years or older; who had the medical diagnosis of diabetes mellitus; and were followed in the health units of the city of Redenção – CE Brazil and as exclusion criteria: having more than one chronic disease, in addition to DM and hypertension; have some cognitive impairment that would prevent them from understanding the questions and answering them. For data collection, a two-part instrument constructed. The first addressed sociodemographic data and clinical variables and the second covered operational definitions of risk factors for nursing diagnosis Risk for Unstable blood glucose. Data collection was by primary source. Patients invited to participate in the research voluntarily, then to explain the objectives and methodology of the study. After positive expression in the interest to participate, it was requested to read and sign the consent form of the Informed Consent (IC). Soon after, the data collected in a reserved place, in order to provide privacy and confidentiality, as well as reduce possible embarrassment and interference from third parties. The patients taken after medical or nursing consultations so as not to interfere with the activities proposed by the Primary Health Care Unit and then evaluated through the structured interview technique, totaling the evaluation of 82 patients. The data obtained from the instrument received descriptive and inferential treatment. These tabulated, interpreted, processed and analyzed with the aid of the Microsoft Excel 2010 program and the SPSS software version 19.0 for Windows. A statistical significance level of 5% adopted for statistical analysis. For the numerical variables measures of central tendency and dispersion presented. To verify the normality / symmetry of numerical data, the Kolmogorov-Smirnov test used. In the association analysis of the nominal data, statistical

tests such as Pearson's chi-square used, in the occurrence of expected frequencies higher than five in tables 2x2 and the Fischer Exact Test, when the expected frequencies were lower than five. Considering the recommendations of Lopes *et al.* (2012) and Lopes *et al.* (2013), the diagnostic inference developed by two pairs of specialist and experienced nurses, after the collection completed. The nurses selected through the Lattes Platform and evaluated according to the criteria of Fehring (1994). They invited by means of an invitation letter containing the purpose and method of the study. Upon acceptance, the specialists signed the Informed Consent Form. Each pair received 41 cases formatted in Excel spreadsheet containing basic patient information (sociodemographic and clinical variables) and which risk factors of the nursing diagnosis Risk of unstable blood glucose present in each case. From then on, the pair of specialist nurses had the responsibility (separately) to infer the nursing diagnosis in question. In the existence of divergence among specialist nurses about the presence or absence of the nursing diagnosis Risk of unstable blood glucose, the case was reanalyzed for consensus. This study developed in accordance with the current standards expressed in Resolution 466/12 of the National Health Council (Brazil, 2013). This submitted to the Research Ethics Committee of the University of International Integration of Afro-Brazilian Lusophony, through the Brazil Platform and approved with opinion number: 2.522.734.

RESULTS AND DISCUSSION

Table 1 corresponding to the sociodemographic data of the people evaluated.

Table 1. Distribution of people assessed according to age, gender, marital status, income and education. Redenção CE Brazil, 2018

	n	%
Average age (61,2± 10,93)		
61,2 anos		
Gender		
Female	58	70,73
Male	24	29,27
Marital Status		
With mate	50	60,98
Without companheiro	32	39,02
Average household income (1,2532±0,6547)		
1,2532 SM		
Average years of schooling (4,4 ± 4,18)		
4,4 anos		

The average age of 61.2 years observed among the participants. This data corroborates the study conducted in Ceará Brazil, which identified the highest prevalence of participants in this age group and this is justified by the presence of diabetes mellitus type 2 at an older age (Frota *et al.,* 2015). There was also a predominance of diabetes mellitus among women (70.73%). This data confirms the study conducted by the Ministry of Health in Brazil, which showed an increase of 84% of diabetes in the female population in the last 11 years. In 2017, 8.1% of the female population reported having a medical diagnosis of diabetes in Fortaleza-CE (BRASIL, 2018). Petermann *et al.* (2015) and Frota *et al.* (2015), point out that some studies already analyzed indicate that the higher prevalence of diabetes melltius in women occurs, possibly because it is a public that actually cares more about health, and thus seek more care and experience greater self-care in women in comparison to men. Other important data observed in Table 1 are the family´s income, which

corresponds to the average of 1.2532 reais minimum wage and the average of the years of education which comprises 4.4 years. As for family income, the complexity of maintaining the treatment of the disease is inferred, as it is costly. It is noteworthy that other studies highlight that this factor is essential to carry out the care of the disease, given that it is through income that the person with diabetes purchases food, medicines as prescribed in the therapeutic plan (Zanetti *et al.,* 2015). Even Braga and Brustollin (2015) and Winkelmann and Fontela (2014) emphasize that diabetes mellitus, being a chronic disease with serious complications and requiring several actions to control it, becomes costly for the individual, family and the health system, with high economic and social costs in treatment. Despite the low level of education found in the study ratifies the research conducted in the health units in Ceará, it emphasizes the possibility that this data affect people's health conditions, which can make it difficult to understand information and consequently adherence to treatment and exposure to risk factors be increased. (Fleet *et al.,* 2015). Some studies indicate that low education is also linked to a higher prevalence of diabetes melltus, including this characteristic implies different risks in getting sick and dying, as it is associated with access and consumption of health services, as well as influences family decisions about nutrition, body care and disease prevention (Flor e Campos, 2017). Only the presence of diabetes mellitus type 2 was found among the study people (100%). This result confirms the high incidence of diabetes mellitus type 2, which corresponds to 90% to 95% of all diabetes mellitus cases. It mainly affects individuals in their fourth decade of life and their risk factors are family history of the disease, advancing age, obesity, physical inactivity, previous diagnosis of pre-diabetes or gestational diabetes mellitus and components of the metabolic syndrome (Brazilian Society of Diabetes 2017).

In addition, the prevalence of diagnosis time of up to 10 years in the evaluated people is notorious. The average time of the patients in this study was 8.1 years. This data may be associated with the increased incidence of the disease in recent years, because according to Brazil (2018), there was an increase of 61.8% in the last 10 years, and further corroborates the study conducted in the health unit in Ceará, Brazil which found that 70% of patients had a diagnosis of up to 10 years (Frota *et al.,* 2015). A higher prevalence of the following risk factors for the this nursing diagnosis were observed according to the NANDA-I taxonomy: insufficient diabetes control (100%); insufficient food intake (98.78%); average daily physical activity lower than recommended for age and gender (71.95%) and inadequate blood glucose monitoring (87.80%). Based on this, the presence of the risk factor insufficient diabetes control is associated with lifestyle, blood glucose monitoring, drug treatment and healthy eating. It is even possible to associate with insufficient food intake, which is another risk factor. Thus, it is possible to infer that the people evaluated cannot maintain control of the disease, because it is essential to associate the practice of physical exercise with healthy and sufficient food intake in line with the therapeutic plan. Studies show that modifiable factors such as physical inactivity and obesity are strong allies to develop insulin resistance, which indicates that even by having effective drug control and not adopting healthy practices, the individual can develop complications (Miranda *et al.,* 2015). It is noteworthy that in diabetes mellitus, the onset of complications is aggravated in people who do not perform self-care activities related to the correct diet, physical activity and the appropriate

use of medications when necessary (Oliveira *et al.,* 2018). Regarding the average daily physical activity lower than recommended for age and sex, it is important to note in this case, given the prevalence of diabetes mellitus type 2, that the benefits and effects of physical activity for the person with diabetes mellitus are noticeable early in the practice. As a result, it is possible to increase muscle utilization of glucose about 20-fold, thereby increasing insulin sensitivity and assisting in lowering blood glucose levels to the normal rate. Referring to the recommendation of physical activity as recommended by the World Health Organization (WHO) of 150 minutes of weekly activities for adults (Kolchraiber *et al.,* 2018). Moreover, according to Flor and Campos (2017), regular exercise can prevent and control the disease as it acts to decrease or maintain body weight, decrease insulin resistance and contribute to improved glycemic control, which, in turn, reduces the risk of complications associated with this condition. Table 2 corresponds to the correlation between sociodemographic and clinical variables with risk factors for unstable blood glucose.

Finally, it is important to highlight the presence of another risk factor: inadequate blood glucose monitoring. In this regard, it is noteworthy that according to the recommendations of the Brazilian Society of Diabetes, there is a frequency of capillary blood glucose tests, varying according to the clinical condition. For diabetes mellitus type 1, 3 tests or more per day at different times always, whereas in diabetes mellitus type 2 under insulin use 3 tests per day at different times is recommended, depending on the degree of glycemic stabilization. For diabetes mellitus type 2 with oral antidiabetic drugs, at least 2 to 4 tests per week are recommended at different times, depending on the degree of glycemic stabilization (Netto, 2015). It is of great value to note that non-monitoring or inadequate monitoring is observed in some studies developed as a result of lack of time or appropriate conditions, sometimes due to insufficient inputs (reagent strips and lancet) and lack of family and child support. discomfort during puncture (Oliveira *et al.,* 2018). Regarding the correlation between the sociodemographic and clinical variables and the risk factors of the nursing diagnosis Risk of Unstable Blood Glucose (NANDA-I), a statistically significant association was detected between the following variables and risk factors: gender and the risk factor insufficient knowledge about the disease control ($p = 0.000$); marital status and mean physical activity lower than recommended for age and gender ($p = 0.012$); physical activity and insufficient diabetes control ($p = 0.012$) physical activity and mean physical activity lower than recommended for age and gender ($p = 0.000$); physical activity and inadequate blood glucose monitoring ($p = 0.016$); stress and ineffective medication control ($p = 0.004$); stress and excessive stress ($p = 0.000$); stress and lack of adherence to the diabetes control plan ($p = 0.004$). By observing the significant statistical relationship between sex and the risk factor insufficient knowledge about disease control, it can be understood that besides this variable, the age and low education level found in this study are determining factors for the aggregation of knowledge about the disease. disease control, which somehow influences self-care. Even this correlation can be due to the fact that women seek health services more often. Such context is discussed by Teston *et al.* (2017), when they state that the association between poor knowledge of the disease and female gender may have been influenced by the predominance of women in the sample studied.

Table 2. Correlation of sociodemographic and clinical variables with risk factors for unstable blood glucose.
Redenção Ceará Brazil, 2018

Sociodemographic and clinical variables	Risk factors (valor p)											
	CIC[1]	CIF[2]	CIM[3]	CID[4]	EE[5]	FAP[6]	GPE[7]	IAI[8]	MAI[9]	MIG[10]	NAD[11]	PPE[12]
Gender	*,000*	,148	,278	,563	,498	,278	,951	,121	,356	,957	-	,673
Marital Status	,927	,203	,398	,982	,089	,398	,385	,213	*,012*	,947	-	,274
Physical activity	,309	,273	,842	,012	,976	,842	,489	,536	*,000*	,016	-	,997
Stress	,886	,480	,004	,812	*,000*	,004	,336	,297	,976	,064	-	,817

[1]CIC Insufficient knowledge about disease control -. [2]CIF – Insufficient knowledge about modifiable factors. [3]CIM – Ineffective drug control. [4]CID – Insufficient Diabetes Control. [5]EE- Excessive stress. [6]FAP – Non-adherence to diabetes control plan. [7]GPE –. Excessive gain weight. [8]IAI –. Insufficient Food Intake. [9]MAI – Average daily physical activity lower than recommended for age and gender.[10]MIG – Inadequate blood glucose monitoring. [11]NAD – Does not accept the diagnosis. [12]PPE – Excessive weight loss.

Tabela 3. Correlação dos fatores de risco para glicemia instável. Redenção (CE), 2018

Sociodemographic and clinical variables	Risk Factors (valor p)											
	CIC[1]	CIF[2]	CIM[3]	CID[4]	EE[5]	FAP[6]	GPE[7]	IAI[8]	MAI[9]	MIG[10]	NAD[11]	PPE[12]
CIC[1]	-	,000	,129	,000	,886	,129	,536	,002	,309	,273	-	,829
CIF[2]	,000	-	,462	,000	,480	,462	,862	,667	,273	,594	-	,916
CIM[3]	,129	,462	-	,002	,004	,000	,536	,745	,842	,273	-	,503
CID[4]	,000	,000	,002	-	,812	,002	,571	,811	,912	,005	-	,315
EE[5]	,886	,480	,004	,812	-	,004	,336	,297	,976	,064	-	,817
FAP[6]	,129	,462	,000	,002	,004	-	,536	,745	,842	,273	-	,503
GPE[7]	,536	,862	,536	,571	,336	,536	-	,027	,489	,532	-	,029
IAI[8]	,002	,667	,745	,811	,297	,745	,027	-	,536	,712	-	,599
MAI[9]	,309	,273	,842	,912	,976	,842	,489	,536	-	,016	-	,977
MIG[10]	,273	,594	,273	,005	,064	,273	,532	,712	,016	-	-	,518
NAD[11]	-	-	-	-	-	-	-	-	-	-	-	-
PPE[12]	,829	,916	,503	,315	,817	,503	,029	,599	,977	,518	-	-

1CIC Insufficient knowledge about disease control -. 2CIF – Insufficient knowledge about modifiable factors. 3CIM – Ineffective drug control. 4CID – Insufficient Diabetes Control. 5EE- Excessive stress. 6FAP – Non-adherence to diabetes control plan. 7GPE –. Excessive gain weight. 8IAI –. Insufficient Food Intake. 9MAI – Average daily physical activity lower than recommended for age and gender.10MIG – Inadequate blood glucose monitoring. 11NAD – Does not accept the diagnosis. 12PPE – Excessive weight loss.

However, it is important to note that men, as a rule, seek less services from Primary Health Care (PHC); They also point to work responsibilities as barriers to the proper management of their chronic condition. Considering this, the authors highlight the possibility of prioritizing actions, especially preventive actions, at different times and even environments, such as work, for example, in order to stimulate and facilitate human access to relevant information on disease and health behaviors (Teston *et al.,* 2017). Based on this, Asunción *et al.* (2017), emphasize that to assume the responsibility of the therapeutic role, the patient with diabetes mellitus needs to acquire knowledge and develop skills that enable them to self-care. Health education is one of the important strategies that can contribute to this self-care training and provide normal or near normal glycemic control, in addition to reducing the high prevalence of complications resulting from uncontrolled disease. Even this insufficient knowledge about the control of the disease may be linked to the lack of information or guidance by the team responsible, as portrayed by Salles and Mansur (2017) in their work, when highlighting some studies conducted, which point out that the most individuals had never received any information or talk about diabetes from any healthcare professional. Regarding marital status and average physical activity lower than recommended for age and sex, it can be emphasized that Peixoto *et al.* (2019) highlight in their study, in which it was observed that married individuals or in a stable union were more likely to reach the recommended levels of physical activity, which highlights the possible role of social support for this practice, especially among older adults. Thus, it is clear that support is of utmost relevance to the performance of physical activity. By associating the physical activity variable and the average physical activity lower than recommended for age and gender, Miranda *et al.* (2015),

observed in their work that low adherence to regular physical activity practice is one of the biggest problems faced by health professionals. Although it is already agreed that exercise should be part of the treatment of diabetes mellitus, as well as diet and drug treatment, such practice is unfortunately not yet part of the daily lives of these individuals. By relating physical activity and inadequate blood glucose monitoring, it is well known that monitoring is essential to prevent hypoglycemia, for example. Given this, the Brazilian Society of Diabetes (2015) points out that the greatest risk in the practice of exercise in people with diabetes is hypoglycemia, which can occur during, shortly after or hours after the end of the activity. Also in this perspective, it can be emphasized the following position that the Brazilian Society of Diabetes (2015) brings, which points out that glycemic monitoring is the basis for the adaptation of treatment to exercise and should be conducted before, during (when the duration > 45 minutes) and after exercise, especially in individuals taking insulin. In addition, this glycemic control should be performed during the exercise adaptation phase, when there is an increase in intensity, duration or frequency, or when there is a change in the therapeutic and / or dietary scheme (Sociedade Brasileira de Diabetes, 2015). When addressing the stress variable, it is necessary to emphasize that living with diabetes requires adaptations and restructurings of the ways of living, therefore, can cause stress throughout life. It is worth considering that each individual adopts a different behavior and intensity when facing this situation (Ferreira *et al.,* 2015). When combining stress and ineffective drug control, it is helpful to mention the study by Boarolli *et al.* (2015), which discusses that other studies reveal that patients with chronic diseases, such as diabetes, are more likely to develop pathological forms of stress, anxiety and depression, and may also present

difficulties in managing the disease, compromising treatment adherence and treatment. consequently their quality of life. That said, it is clear how much stress can affect compliance with the treatment plan. In this perspective, it is known that stress is considered a set of reactions and stimuli that cause disturbances in the body's balance, releasing hormones that increase glucose, and thus, the patient with diabetes melltus may be vulnerable to stress due to control (Garcia *et al.,* 2018). Therefore, it is understood that excessive stress is a worrying factor and needs control in order to improve glycemic levels and prevent future complications (Ferreira *et al.,* 2015). Regarding stress and lack of adherence to the diabetes control plan, we can highlight what Mesquita *et al.* (2014) emphasize in their study: "stress disrupts behavioral routines and prevents disease management, impairs eating, reduces the amount of exercise or prevents the subject from taking medication". That is, stress affects adherence and even continuity of the therapeutic plan, given the chronicity of the disease, adaptations to healthy lifestyle and other measures necessary to control the disease. Thus, in relation to people living with diabetes and its coping and adherence to the control plan, according to Ramos *et al.* (2014) in their research, some studies show that changes in emotional indicators are frequently observed in this population and that such indicators are variable, which influence patients' glycemic control. Thus, it is justified the investigation of emotional aspects as possible influential to the difficulties of patient compliance.

Table 3 highlights the association between both risk factors for unstable blood glucose.

Regarding the association between both risk factors of the Diagnosis nursing diagnosis Risk of Unstable Blood Glucose (NANDA-I), it can be analyzed in Table 4, which detected a statistically significant relationship between the following risk factors: insufficient knowledge about disease control and insufficient knowledge about modifiable factors ($p = 0.000$); insufficient knowledge about disease control and insufficient diabetes control ($p = 0.000$); insufficient knowledge about disease control and insufficient food intake ($p = 0.002$); insufficient knowledge about modifiable factors and insufficient diabetes control ($p = 0.000$); ineffective medication control and insufficient diabetes control ($p = 0.002$); ineffective medication control and excessive stress ($p = 0.004$); ineffective drug control and lack of adherence to the diabetes control plan ($p = 0.000$); insufficient diabetes control and lack of adherence to the diabetes control plan ($p = 0.002$); insufficient diabetes control and inadequate blood glucose monitoring ($p = 0.005$); excessive stress and lack of adherence to the diabetes control plan ($p = 0.004$); mean daily physical activity lower than recommended for age and gender and inadequate blood glucose monitoring ($p = 0.016$). When reporting the correlation between risk factors insufficient knowledge about disease control and insufficient knowledge about modifiable factors, the study by Pereira *et al.* (2012) shows that some authors point out the association between increased knowledge and predisposition to assume self-care. In the particular case of diabetes control, this predisposition provides greater receptivity to treatment, confidence in the multidisciplinary team, improved self-esteem, positive perception of the disease and social acceptance. And still in this perspective, Pereira *et al.* (2012) analyzed in their work that studies affirm the association of increased knowledge in diabetes mellitus with higher level of education; higher socioeconomic status, presence of family members with

diabetes and intermediate age. In addition, personal factors (social, psychological and disease perception), socioeconomic status and access to health services contribute to the learning process. From this perspective, people with diabetes have difficulty understanding the consequences and complications of non-adherence to treatment. This demonstrates that individuals have barriers and limitations such as low level of education and cognition, as well as inefficient guidance by health professionals (Pereira *et al.,* 2012). In this context, by appropriating the risk factor insufficient knowledge about the modifiable factors, a research developed in Belém - PA showed that most participants believe that the diet of an individual does not interfere with the development of diabetes as few believe that smoking and alcoholism increase the chances of acquiring it.

However, in the same paper the author highlights some studies that show the relationship of modifiable risk factors such as smoking, alcoholism, obesity and diet with the possibility of developing diabetes (Dias *et al.,* 2018). In other words, in view of this insufficient knowledge, the performance of multiprofessional teams through health education actions is essential to monitor the implementation of effective measures established for self-care. Based on this, it can be seen how insufficient knowledge of control, as well as modifiable factors interfere with treatment adherence and responsibility for self-care, and that even significantly influence the control of pathology. Moreover, in view of the above, it is important to develop strategies that enable people with diabetes, knowledge and appropriation of it to adopt positive behaviors regarding the clinical condition. By reporting insufficient knowledge about disease control and insufficient food intake, it is known that food intake is an essential factor for glycemic control in people with diabetes and can prevent complications arising from the disease (Vignoli and Mezzomo, 2015). By relating these two risk factors, it is known that to have a good control of the disease it is necessary to understand that nutrition is one of the main components in the treatment of diabetes so that you can have a good metabolic control to prevent complications (Fonseca, 2015).

Regarding ineffective medication control and stress, it is of great value to add that the patient's difficulty in using the prescribed medication, following the dietary plan or changing the lifestyle, according to the multidisciplinary team's guidelines, is always a problem. present in clinical practice (Rossi *et al.,* 2015). Based on this, Rossi *et al.* (2015) brings in their study that the fact that DM 2 is usually asymptomatic makes it difficult to follow the established treatment, since often the absence of symptoms is associated with health and, therefore, many patients do not follow treatment because they feel healthy. And relating to stress, it can be inferred that it influences the effective control of medications in a way, since according to Pereira (2017), this emotional aspect is about negative psychological reactions related to emotional burdens and specific concerns of the individual. having to deal with a serious, complicated and demanding chronic disease such as diabetes. Finally, studies have recently pointed to factors that lead to stress, including fear of complications, limitations in working life, stigmatization and discrimination due to illness, need for lifestyle modifications, lack of knowledge of dietary planning and treatment plan. and feeling frustrated at the lack of glycemic control and disease progression, despite adherence to treatment (Pereira, 2017). Still from the perspective of ineffective drug control, it is understood that the risk factor,

lack of adherence to the diabetes control plan, has an association, since the control plan involves drug and non-drug treatment. Therefore, the individual who does not keep control of the medicines will have the diabetes control plan impaired. Given this, the study by Miranda *et al.* (2015), corroborate this finding and finding in this paper, emphasizing that specific therapy for control involves pharmacological and non-pharmacological approaches, aiming to maintain adequate glycemic control, whether with low-calorie diet, increased physical exercise or use of drugs. medications. It is notorious that many variables can influence adherence to drug treatment and that, according to Baldoni *et al.* (2016), non-adherence to pharmacological treatment compromises the expected physiological benefits, glycemic control and may deteriorate the user / health professional relationship. By stressing the influence of excessive stress on the treatment of the disease, given the measures and attitudes that must be taken, can interfere and lead the person with diabetes not to adhere to the treatment plan. Thus, it is considered that psychological stress, besides being difficult to endure, can prevent the person from assuming self-care behavior, compromising glycemic control (Pereira, 2017). Nevertheless, Bertolin *et al.* (2015) point out that people with DM 2 must adapt to the demands imposed by the disease and treatment, which can be considered sources of stress in their daily life in order to obtain glycemic control. Therefore, it is clear that the constant behavioral demands (medication administration, frequency and dose, blood glucose monitoring, meal fractionation, eating habits and physical activity) of DM self-care and the potential for disease progression are directly associated with reports of diabetes-related emotional stress (Pereira, 2017).

Regarding the average daily physical activity lower than recommended for age and sex and inadequate blood glucose monitoring, it is essential to understand that for people with DM, physical activity can play a key role in treatment, along with medication use and diet. to feed. Regular exercise helps to decrease and / or maintain body weight, reduce the need for oral antidiabetics, decrease insulin resistance, and contribute to improved glycemic control, which in turn reduces the risk of complications, mainly the cardiovascular ones (Miranda *et al.,* 2015). The practice of physical activity and monitoring of blood glucose, it recommended to be concerned with adjusting the exercise and peak hour of insulin action to avoid hypoglycemia, therefore glycemic control should be done throughout therapy by self-monitoring and therapeutic adjustments are critical to the beneficial effects of exercise (Barrile *et al.,* 2015).

Therefore, observed how fundamental it is to maintain daily physical activity according to the specific and individual prescription for each one's physical exercise, so, in order to ensure glycemic control and the prevention of changes in blood glucose, the ideal is to verify it so that there are no complications. Regarding the diagnostic inference made by the pairs of specialists, it observed that the ED Unstable blood glucose risk was present in 100% of the sample and there was no discrepancy regarding the decision of the peers regarding the existence or not of the aforementioned diagnosis. Based on this, it is worth mentioning Teixeira *et al.* (2017), which highlighted a study that investigated 30 people during home nursing consultations, and it was found that 60% had a risk of unstable blood glucose. In another study with diabetes patients in outpatient care, it was observed that 28.6% of participants had referred ND.

Conclusion

Therefore, based on the findings, it is concluded that the nursing diagnosis Risk of unstable blood glucose was present in all study subjects, thus inferring the importance of developing strategies and actions in order to prevent future complications and to some extent not interfere with quality of life, adherence and continuity to the therapeutic plan. In addition, further studies based on risk factors are suggested to ensure this public better control of diabetes and thus be able to live with the chronicity of the disease and obtain better responses to treatment. Given the prevalence of this nursing diagnosis, it is clear the relevance of new studies that enable health professionals themselves to update the knowledge needed to choose appropriate clinical management and preventive measures. In addition, it is notorious how important is the presence of nurses in this care process, which in view of the prevailing risk factors together with the patient and the multidisciplinary team can elaborate the care plan.

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