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ORIGINAL ARTICLE

KNOWLEDGE OF DIABETICS ABOUT DISEASE AND SELF-CARE CONHECIMENTO DOS DIABÉTICOS FRENTE À DOENÇA E ORIENTAÇÕES NO AUTOCUIDADO CONOCIMIENTO DE LOS DIABÉTICOS FRENTE A LA ENFERMEDAD Y ORIENTACIONES EN EL AUTOCUIDADO

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ABSTRACT

Objective: to analyze the knowledge of diabetic patients against Diabetes Mellitus. **Method:** this is a cross-sectional quantitative study of 74 patients of both sexes and a medical diagnosis of Diabetes Mellitus, in a state public hospital. A structured questionnaire was used. The Spearman test was performed, with significance level of 0.05%. Results were presented and in the form of tables. **Results:** 74 diabetic patients with a mean of more than 10 years of diagnosis and type II diabetes were identified. It was composed mostly by women, with predominance of the disease in the elderly. It was pointed out that most patients were obese, low income and educated, only 6.9% were able to correctly define the concept of Diabetes Mellitus and, of the total, 94.6% knew some strategy for glycemic control, in most cases, only the sugar-free diet was mentioned. A relative knowledge about the complications that Diabetes Mellitus can provoke based on the guidelines of health professionals has been presented. **Conclusion:** it was concluded that diabetic patients had low knowledge about the disease and the various types of strategies for glycemic control. **Descritores:** Knowledge; Attitudes; Practice; Diabetes Mellitus; Self Care; Education; Chronic Disease; Patient Care Team.

RESUMO

Objetivo: analisar o conhecimento dos pacientes diabéticos frente ao Diabetes Mellitus. **Método:** trata-se de um estudo quantitativo, transversal, realizado com 74 pacientes de ambos os sexos e com diagnóstico médico de Diabetes Mellitus, em um hospital público estadual. Utilizou-se um questionário estruturado. Realizou-se o teste de *Spearman*, com nível de significância de 0,05%. Apresentaram-se os resultados e em forma de tabelas. **Resultados:** identificaram-se 74 pacientes diabéticos, com média superior a 10 anos de diagnóstico e prevalência do diabetes tipo II. Compôs-se a maioria por mulheres, com predominância da doença em idosos. Aponta-se que grande parte dos pacientes era obesa, de baixa renda e escolaridade, apenas 6,9% conseguiram definir corretamente o conceito de Diabetes Mellitus e, do total, 94,6% conheciam alguma estratégia para o controle da glicemia, porém, na maioria dos casos, citou-se apenas a dieta sem açúcar. Apresentou-se um relativo conhecimento sobre as complicações que o Diabetes Mellitus pode provocar com base nas orientações dos profissionais da saúde. **Conclusão:** conclui-se que os pacientes diabéticos apresentaram baixo conhecimento sobre a doença e os variados tipos de estratégias existentes para o controle da glicemia. **Descritores:** Conhecimentos; Atitudes e Prática em Saúde; Diabetes Mellitus; Autocuidado; Educação; Doença Crônica; Equipe de Assistência ao Paciente.

RESUMEN

Objetivo: analizar el conocimiento de los pacientes diabéticos frente a la Diabetes Mellitus. **Método:** se trata de un estudio cuantitativo, transversal, realizado con 74 pacientes de ambos sexos y con diagnóstico médico de Diabetes Mellitus, en un hospital público estatal. Se utilizó un cuestionario estructurado. Se realizó la prueba de *Spearman*, con un nivel de significancia del 0,05%. Se presentaron los resultados y en forma de tablas. **Resultados:** se identificaron 74 pacientes diabéticos, con media superior a 10 años de diagnóstico y prevalencia de la diabetes tipo II. Se compuso la mayoría por mujeres, con predominio de la enfermedad en ancianos. Se observa que gran parte de los pacientes era obesa, de baja renta y escolaridad, sólo el 6,9% consiguieron definir correctamente el concepto de Diabetes Mellitus y del total, el 94,6% conocía alguna estrategia para el control de la glucemia, en la mayoría de los casos, se citó sólo la dieta sin azúcar. Se ha presentado un relativo conocimiento sobre las complicaciones que la Diabetes Mellitus puede provocar con base en las orientaciones de los profesionales de la salud. **Conclusión:** se concluye que los pacientes diabéticos presentaron bajo conocimiento sobre la enfermedad y los variados tipos de estrategias existentes para el control de la glucemia. **Descritores:** Conocimiento, Actitudes y Práctica en Salud; Diabetes Mellitus; Autocuidado; Educación; Enfermedad Crónica; Grupo de Atención al Paciente.

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INTRODUCTION

It is understood that Diabetes Mellitus (DM) is a metabolic disorder of heterogeneous etiology, evidenced by hyperglycemia and deficiencies in the metabolism of carbohydrates, proteins and fats, due to dysfunction of the secretion or action of insulin.¹

Recent data indicates that DM is associated with an increase in the incidence of chronic non-communicable diseases, 2 such as cardiovascular and cerebrovascular diseases, as well as renal failure, blindness and lower limb amputations. It is known that DM raises hospitalization rates, demands on medical care and, consequently, overburden health systems.³

The prevalence of DM is estimated to increase significantly from 2.8% in 2000 to 4.4% in 2030. An average of 346 million diabetics is expected by 2030, driven by the increase of the urban population, the aging population, the prevalence of obesity and the sedentary lifestyle.⁴⁻⁵

It is pointed out that the severity of the complications of DM can be delayed or even avoided, which directly impacts the resources available in health care, becoming a serious public health problem.⁶⁻⁸

It is pointed out that the development of self-care contributes to the improvement of the quality of life and the reduction of morbidity and mortality. It is understood that one of the health actions of fundamental importance is the glycemic control, which, in the long term, reduces the complications and mortality inherent to the pathology. It is emphasized that measures such as preventive and educational actions carried out by health professionals help patients to change their behavior in relation to existing health problems.⁹

Health education is emphasized, as a fundamental part of the DM patient's treatment process, which allows the patient is motivated to acquire skills for self-care, directed to a diet plan, best practices physical activity, foot inspection and glycemic control.⁹

It is believed that the work of the multiprofessional team in the management of self-care in Diabetes Mellitus helps the patient achieve autonomy and responsibility with their disease, but these actions must be carried out by professionals and teams qualified in diabetes education. It is argued that the difficulties that health professionals have regarding physiopathology and complementary tests point to a need for

continuous education.¹⁰ It is pointed out that health education workshops with space for debate and knowledge construction are effective in helping to conceptualize the disease, in terms of symptoms, classification, pathophysiology, risk factors and complementary tests.¹¹ It is known that trained professionals have the mastery to guide patients with different characteristics in relation to healthy habits of life and, mainly, to glycemic control.¹²

It is understood that the diabetic patient care by the multiprofessional team is the opportunity to carry out educational measures in order to assist him in situations imposed by the disease.¹³ In this case, diabetes education is considered effective when it results in changes in patients' behavior towards the disease. It is perceived that this process is able to break down barriers between diabetics, family members, communities and health professionals, promoting patient autonomy in relation to habits during treatment.¹⁴

OBJECTIVES

- To analyze the knowledge of diabetic patients against Diabetes Mellitus.
- To identify the guidelines provided by health professionals about comorbidities and the treatment of Diabetes Mellitus.

METHOD

This is a cross-sectional quantitative study of diabetic patients from outpatient clinics, intensive care units and medical, surgical and dialysis clinic wards of a state public hospital in the city of Goiânia, Brazil. A sample of 74 patients of both sexes and a medical diagnosis of DM was obtained.

A questionnaire structured in two parts was used, the first one with socio-demographic data (sex, age, schooling, family income, body mass index - BMI, diagnosis time and type of diabetes). These data were included by the patients or accessed in the medical record when available. In the second part, the patient's knowledge about DM, including the concept, self-care strategies in glycemic control and complications caused by the disease, as well as the guidelines provided by health professionals on comorbidities and treatment were analyzed. It should be noted that the responses of this research were not induced by the interviewer, but answered freely and recorded in the questionnaire.

The complications of diabetes experienced by the patients, the type of treatment used, the practices adopted to improve the quality of life and the family commitment to support

the disease were also studied. The International Physical Activity Questionnaire (IPAQ) was used to evaluate the level of physical activity performed, classifying the subjects as sedentary, moderately active and intensely active.

The questionnaire was applied through the interview conducted by the researchers, in an individualized and private manner, with an average duration of 30 minutes. The objective and purpose, as well as the guarantee of anonymity, confidentiality and access to results, were explained before the instrument was applied. All interviews were conducted after reading and signing the Free and Informed Consent Term (FICT).

Data was analyzed in the statistical program Statistical Package for Social Sciences (SPSS), version 15.0, in which

probabilistic tests of association between dependent and independent variables were processed. The Spearman test, a non-parametric correlation measure, was also used, assuming a level of significance of 0.05%.

Regarding the ethical aspects of the research, the determinations of the National Health Council (Resolution 466/2012) were respected. The study was approved by the Research Ethics Committee (REC) of the hospital under opinion 1,952,771.

RESULTS

The distribution of patients is shown in table 1.

Table 1. Distribution of patients according to sociodemographic and clinical characterization. Goiânia (GO), 2015.

Variable	n	%
Sex		
Female	44	59.5%
Male	30	40.5%
Age		
20 to 29 years	3	4.1%
30 to 39 years	4	5.5%
40 to 49 years	10	13.7%
50 to 59 years	17	23.3%
60 to 69 years	21	28.8%
70 to 80 years	18	24.7%
Education		
Illiterate	11	16.7%
One to four years	14	21.2%
Five to eight years	19	28.8%
From nine to 12 years old	13	19.7%
More than 12 years	9	13.6%
Family income		
From 700 to 1000 reais	40	55.6%
From 1050 to 2000 reais	25	34.7%
From 2050 to 3000 reais	4	5.6%
From 3050 to 4000 reais	3	4.2%
BMI		
Less than 18 kg/m2	3	4.3%
From 18 to 24,9 kg/m2	20	28.6%
From 25 to 29,9 kg/m2	21	30.0%
From 30 to 34,9 kg/m2	11	15.7%
From 35 to 39,9 kg/m2	8	11.4%
40 kg/m2 or more	7	10.0%
Diabetes Diagnostic Time		
Less than ten years	34	48.6%
Ten to 19 years old	22	31.4%
From 20 to 29 years old	9	12.9%
From 30 years to 36 years	5	7.1%
Type of diabetes		
Diabetes type I	6	8.1%
Diabetes type II	61	82.4%
Did not know how to report	7	9.5%

It was verified that, when questioned about the concept of DM, 35.1% of patients reported not knowing what it was and 64.9% said they knew, but only 6.9% were able to define the concept of form satisfactory, while the other 58.1% presented incomplete an concept.

It is shown that 5.4% of the patients reported lack of knowledge and 94.6% knew at least one strategy for glycemic control. The diet without sugar, sweets and pasta (83.8%), taking medication (66.2%), regular and intense practice of physical exercises and sports

(33.8%) were classified as strategies reported. , a diet rich in cereals and whole foods (9.5%), smoking cessation (4.1%), stopping drinking (2.7%), carbohydrate (1.4%) and sleeping eight hours per night (1.4%).

It is pointed out that there was no statistically significant correlation (Rho de Speaman = 0.183 and $p = 0.141$) between the time of schooling and the amount of glucose control strategies cited by the patients.

Respondents were asked about the complications that may be due to diabetes and 17.6% could not name any, but 82.4% knew at least one type of comorbidity.

Complications included ocular diseases (67.6%), foot or leg wounds (52.7%), renal diseases (48.6%), heart diseases (17.6%), nervous diseases (10.8%) and liver diseases (2.7%). The following complications were identified: acute myocardial infarction (9.5%), heart failure (20.3%), stroke (5.4%), diabetic nephropathy (23%), diabetic retinopathy (%) and depression (6.8%).

It is pointed out that there was a direct correlation, statistically significant (Rho de Spearman = 0.281 and $p = 0.022$), between the time of schooling and the amount of comorbidities that DM can cause cited by the patients; therefore, patients with a higher level of education were able to mention DM-related illnesses, indicating that, possibly, the educational level is a factor that facilitates the assimilation of a variety of DM information.

It was observed that the received information on DM, its comorbidities and treatment, in the contact with the multiprofessional team, the information received, according to the reports, were: diet (91.9%); adequate use of medications prescribed by the physician (89.2%); healthy lifestyle practice (83.8%); practice of exercises (81.1%); strategies for glycemic control (78.4%); ocular diseases related to diabetes (85.1%); wounds on the feet or legs related to diabetes (79.7%); kidney diseases related to diabetes (73%); cardiac diseases related to diabetes (48.6%); diabetes-related nerve diseases (41.9%) and diabetes-related liver diseases (28.4%).

It was identified that 1.4% of the patients did not receive any information about DM in contact with the team, 31% received one to seven types of information, 20.3% received eight types of information, 18.9% received nine types, 13.5% received ten types and 14.9% received 11 types of information.

It was reported that 94.5% of the patients received doctor's guidance on DM, treatment and comorbidities; 51.3% received the nurse's

instructions, 52.7%, the nutritionist, 13.5%, the physiotherapist, 13.5%, the psychologist and 8.1%, the audiologist.

It should be emphasized that there was no statistically significant correlation between the number of health professionals who provided information about DM and the number of glucose control strategies cited by the patients (Spearman's Rho = 0.095 and $p = 0.421$) or the number of diseases that DM can cause (Spearman's Rho = 0.202 and $p = 0.085$). The statistically significant correlation between the number of types of information provided by health professionals about DM and the number of glucose control strategies cited by the patients (Spearman's Rho = 0.101 and $p = 0.392$) was denied. On the other hand, there was a direct and significant correlation between the amount of information provided by health professionals about DM and the number of DM-related diseases (Spearman's Rho = 0.372 and $p = 0.001$).

It was verified that, on the lifestyle, 75.7% of the patients follow a diet; According to the classification of the International Physical Activity Questionnaire (IPAQ), 56 patients were sedentary and 18, moderately active. It is pointed out that, among the sedentary ones, 18 affirmed that they practiced physical activities, however, the intensity of the performed activities did not fit like that of a physically active individual in the IPAQ.

It was reported that 28.4% of family members cooperate in DM care, 61.6% received partial support and 9.5% said they did not receive family support in self-care.

DISCUSSION

It was verified that the diabetic population was predominantly female, elderly and diagnosed with type II DM, with a significant increase from the age of 40 years, with more than ten years of the disease, results similar to studies referring to associated factors in diabetics.¹⁵⁻⁶

It is worth noting that the knowledge of the diabetic patient about the disease is still unsatisfactory, therefore, unlike not knowing, individuals with low schooling tend not to value preventive actions, underestimating the severity of the disease and delaying the search for medical care, which hinders adherence to treatment.¹⁷

It is understood that the complications that DM can cause were not mentioned by the patients, but the results were statistically significant in relation to the patients with a higher level of schooling, since they were able to report a greater number of complications than the others, which could be a factor for a

better assimilation of knowledge on the subject. It is suggested that the condition on schooling can reduce the learning opportunity with respect to health care and hinder access to information; simply knowing that DM causes complications and does not understand their concept reduces the chances of adherence to treatment.¹⁸

It is evidenced that the intention of the study was not to measure in depth the knowledge of the diabetic patient, but to know the etiology of the disease itself for self-care.

It is considered that the use of glycemic control strategies, such as carbohydrate measurement, diet rich in cereals and whole foods, physical activity practices and a good night's sleep were little mentioned in this study. It is inferred that such guidelines were not routinely or with greater depth, however, adherence to nutritional treatment in outpatients is fundamental for a better control of the pathology.¹⁹⁻²⁰

It is noted that inadequate control of DM can lead to chronic complications such as micro and macrovascular diseases, resulting in some complications such as nephropathy, retinopathy, diabetic neuropathy, acute myocardial infarction, stroke and peripheral vascular disease.²¹ It was highlighted, in a study in the interior of São Paulo about the knowledge of patients with diabetes in an educational program, that 90% of the participants presented at least one chronic complication related to DM.²²

It was observed that, despite few mentioned complications, diabetic retinopathy was the most mentioned; the involvement of this disease may have raised the knowledge in the subject, since it is expected that, after the disease, the diabetic patients present some complication related to the vision.²³

It was noted that, in relation to the guidelines received from health professionals for treatment strategies, the most mentioned were the diet, adequate use of medications, healthy habits of life and physical activities, but when applied to IPAQ, it was observed that most of the patients were sedentary. It is understood that adherence to the diet plan, physical activities, glucose monitoring and medication for metabolic control are related to the level of knowledge, articulations and strategies used by health professionals in reducing the complications of the disease.¹⁹⁻²⁰

It is recalled that it was not possible to measure the degree of depth with which such guidelines were passed on to these patients by health professionals. It is worth noting that

the lack of knowledge about glycemic control strategies may also be due to superficial orientations.¹¹

It is understood that the empowerment of the patient with diabetes for self-care greatly improves adherence to treatment and, consequently, their clinical status.²⁴

It should be noted that other characteristics of interventions did not influence the results, such as the number of professionals who advised on DM, regarding the number of strategies for glycemic control and the number of complications that diabetes can cause cited by patients. However, continuing education is necessary, with the repetition of information, since the changes of habits do not occur so easily and they vary according to the characteristics of each person.¹¹

It is highlighted the need of family support to the patient with diabetes to join the therapeutic plan.²⁵ It is pointed out that a large part of the population of this study claimed to have this family support. In this way, it should be emphasized that diabetes education should not only involve the patient, but also the family members and / or caregivers, ensuring the involvement of the patient's relationships for the maintenance of new habits and behaviors that were acquired.²⁶

It is essential for the implementation of educational programs that are considered essential factors, such as educational level, age, culture, among others. It is stated that the evaluation of the characteristics of a given population is important in planning and targeting a given group, in order to improve the acquisition of knowledge by the patients.²⁷

CONCLUSION

It was observed that DM patients have low knowledge about their pathology and strategies for glycemic control. It is pointed out that the diagnosis of diabetes in the studied population was superior to ten years and was associated to the low knowledge to perform the self-care, raising the chances of complications of the disease. A significant correlation was found between the number of types of guidelines made by health professionals regarding diabetes complications and the individuals' knowledge about the subject, showing that receiving more information may develop in the patients a varied knowledge on the disease, as well as helping them to create habits and responsibility in the management of DM.

It should be emphasized that the professionals who gave the most guidance on DM, according to the patients' reports, were doctors and nurses, however, it is worth noting that patients are often cared for by these professionals and that care given by other professionals, such as physiotherapists, psychologists, nutritionists and speech pathologists, does not always happen or is performed according to the needs of patients, leading to being less mentioned. It is also important to emphasize the low understanding of the concept and treatment, leading to an urgent need for diabetes education to be carried out by health professionals and educational programs that consider the characteristics of the population to which they are directed. It is suggested that useful strategies for each group should articulate patients and professionals in order to assist in the learning and conduction of DM treatment.

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