

**EPIDEMIOLOGICAL PROFILE OF PEOPLE WITH DIABETES MELLITUS
TREATED IN FAMILY HEALTH STRATEGIES****PERFIL EPIDEMIOLÓGICO DE PESSOAS COM DIABETES MELLITUS
ATENDIDAS NAS ESTRATÉGIAS SAÚDE DA FAMÍLIA****PERFIL EPIDEMIOLÓGICO DE PERSONAS CON DIABETES MELLITUS
ATENDIDAS EN LAS ESTRATEGIAS SALUD DE LA FAMILIA**

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ABSTRACT

Objective: to identify the epidemiological profile of people with diabetes treated in the Family Health Strategies of a city of Rio Grande do Sul. **Methods:** a quantitative, cross-sectional study. Data were collected through questionnaires applied with 222 people with diabetes mellitus, from September to October 2018, followed by descriptive statistical analysis. **Results:** predominantly female (72.0%), mean age 65 years, incomplete elementary school (72.5%), white race (90.1%), married (57.2%), retired / pensioners (66.7%), monthly family income of up to one salary. The mean duration of the disease was 10.1 years. The majority of them are hypertensive (79.7%), do not participate in diabetes education groups (87.4%) and carry out treatment with diet and oral antidiabetic agents (73.9%). **Conclusion:** it is important to promote preventive actions and continuous follow-up to avoid diseases from diabetes in order to improve the quality of life of this population.

Descriptors: Diabetes Mellitus; Epidemiological profile; Family Health Strategy.

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RESUMO

Objetivo: identificar o perfil epidemiológico das pessoas com diabetes atendidas nas Estratégias Saúde da Família de um município do Rio Grande do Sul. **Métodos:** estudo quantitativo, transversal. Dados coletados por meio questionários aplicados com 222 pessoas com diabetes mellitus, no período de setembro a outubro de 2018, seguido de análise estatística descritiva. **Resultados:** perfil predominante do sexo feminino (72,0%), idade média de 65 anos, ensino fundamental incompleto (72,5%), raça branca (90,1%), casados (57,2%), aposentados/pensionistas (66,7%), renda mensal familiar de até um salário. A média de tempo da doença é de 10,1 anos. A maioria é hipertenso (79,7%), não participa de grupos de educação em diabetes (87,4%) e realiza o tratamento com dieta e antidiabéticos orais (73,9%). **Conclusão:** constata-se a importância de promover ações preventivas e de acompanhamento contínuo para evitar agravos provenientes do diabetes com vistas à melhorar a qualidade de vida desta população.

Descritores: Diabetes Mellitus; Perfil epidemiológico; Estratégia Saúde da Família.

RESUMEN

Objetivo: identificar el perfil epidemiológico de las personas con diabetes atendidas en las Estrategias Salud de la Familia de un municipio de Rio Grande do Sul. **Métodos:** estudio cuantitativo, transversal. Datos recogidos por medio de cuestionarios aplicados con 222 personas con diabetes mellitus, en el período de septiembre a octubre de 2018, seguido de análisis estadístico descriptivo. **Resultados:** perfil predominante del sexo femenino (72,0%), edad media de 65 años, enseñanza básica incompleta (72,5%), raza blanca (90,1%), casados (57,2%), jubilados / pensionistas (66,7%), renta mensual familiar de hasta un salario. El promedio de tiempo de la enfermedad fue de 10,1 años. La mayoría es hipertenso (79,7%), no participa de grupos de educación en diabetes (87,4%) y realiza el tratamiento con dieta y antidiabéticos orales (73,9%). **Conclusión:** se constata la importancia de promover acciones preventivas y de seguimiento continuo para evitar agravios provenientes de la diabetes con miras a mejorar la calidad de vida de esta población.

Descriptor: Diabetes Mellitus; Perfil epidemiológico; Estrategia Salud de la Familia.

INTRODUCTION

Diabetes Mellitus (DM) is a disease that increases the incidence according to advancing age, the prevalence with high morbidity and mortality. This disease can present several complications, among them, renal failure, lower limb amputations, blindness and cardiovascular disease. Diabetes mellitus is a metabolic disorder characterized by heterogeneous etiologies,

showing change in blood glucose levels, resulting from defective secretion and or action of insulin.¹

In 2015, the International Diabetes Federation estimated that 8.8% of the population aged 20 to 79 years (415 million people) lived with diabetes. Given this trend, it is projected that in 2040, the number of people with diabetes is over 642 million. The increasing prevalence of diabetes is associated with several factors,

among them, epidemiological transition, nutritional transition, rapid urbanization, increased frequency of sedentary lifestyle, higher frequency of overweight, increasing aging population and also the largest survival of people with diabetes.² As it is a chronic disease with no known cure yet, health professionals should help people in preventing the disease and also the practice of selfcare.³

For being closest to the community, the nurse has a role as an educator and researcher, making possible the development of activities that can answer questions and assess the family's limitations and work with harm prevention.^{4,5}

It is noteworthy that the nurse has an important role to provide humane care for people with diabetes. This professional can help in the location of the main difficulties related to treatment adherence, as well as guide on the development of self-care practices inherent in the treatment of diabetes.

The Family Health Strategy (FHS) has a valuable role in improving the quality of life of users with DM, as by promoting its actions it establishes good practice to be followed and monitored separately in accordance with the needs of each individual. Among the activities carried out by the FHS, there are medical and nursing consultations to integrate with the

community through education groups and activities that promote well-being.⁶

In this context, it is important that the healthcare team know the epidemiological profile of users under their responsibility to plan and perform actions of management, educational and welfare nature that effectively meet the biopsychosocial needs of the enrolled population. Therefore, this study is justified as it proposed the epidemiological profile of people affected by DM in a municipality that joined the major government initiatives to qualify the health care as the Planning of Primary Attention (PAB) and The National Program for Access and Quality Improvement in Primary Care (PMAQ). To achieve the goals of such initiatives, the first condition is to know the socio-cultural reality and health of the population and, in the municipality in question, there is a lack of such information. Based on these, it is questioned: what is the epidemiological profile of people with diabetes seen at family Health Strategies of an interior of Rio Grande do Sul/RS? This study aimed to identify the epidemiological profile of people with diabetes seen at Family Health Strategies of a city in Rio Grande do Sul/RS.

METHOD

This is descriptive study, with a quantitative approach, developed in all FHS of a city in the interior of Rio Grande do Sul state, called São Francisco de Assis. It has four FHS serving the local population.

A sample of 222 people with diabetes participated in the present study, registered in the coverage area of the FHS. This sample has 95% confidence level and 5% error. Inclusion criteria were DM patients aged 18 years or over and residents in the area covered by the FHS. People excluded not found at home after three attempts visits were excluded.

Data collection was carried out in the second half of 2018, from September to October, through a questionnaire covering the sociodemographic and clinical evaluation, with the following variables: age, sex/ gender, color, occupational status/work, education level, marital status, monthly family income, number of family members who self-reported having diabetes, duration of illness, comorbidities, risk factors, concomitant diseases, complications due to diabetes (acute and chronic), type of treatment, drugs, group participation in diabetes education, consultation in the FHS due to diabetes.

The questionnaire was administered in the home environment, taking around 30 minutes for each interview. Initially, before

the application of the questionnaire, the researcher conducted an approach to the primary care of the municipality presenting the research project and gathered important information for the development of the research, such as the names and addresses of the people with diabetes registered in the FHS.

Data were organized into an Excel spreadsheet and after that, descriptive and inferential statistical analysis was performed. Quantitative variables were described using mean and standard deviation and the qualitative variables using absolute and relative frequency. The results are presented in tables.

For the development of the research, the ethical aspects were observed, provided for in Resolution No. 510 of 2016 that brings terms and conditions to be followed and deals with research and testing in humans. The guidelines and regulatory standards set out in the resolution must be fulfilled in research projects involving human subjects, and shall meet the ethical and scientific foundations, in order to protect the participants of the research.⁷ For its implementation, the research was authorized by the Municipal Health Secretariat (SMS) of the municipality. It also received authorization from the Research Ethics Committee (COEP) under number: 2844362, and CAAE: 94226818.7.0000.5353.

RESULTS

By analyzing the demographic variables, it was found that most people with diabetes are women (72.0%), the most prevalent age group is from 60 to 69 years (35.6%) with a mean age of 65 (SD=12.05), married (57.2%), with incomplete primary education (72.5%), retirees or pensioners

(66.7%), white (90.1%) and family monthly income to a minimum wage (68.0%) (Table 1).

As for occupation, the majority (66.7%) are retired or pensioners. The white color among people with DM prevailed in 90.1%. As for the monthly family income, the majority (68%) receives up to a salary (TABLE 1).

Table 1: Socio-demographic variables of people with DM treated in th FHS of São Francisco de Assis, RS, 2018.

Variables	Categories	n	%
Gender	Male	63	28.0
	Feminine	159	72.0
Age	0-39	6	2.7
	40 to 49	13	5.8
	50 to 59	50	22.5
	60 to 69	79	35.6
	70 to 79	45	20.3
	80 to 89	25	11.3
	90 or over	4	1.8
Marital status	Not married	33	14.9
	Married	127	57.2
	Widower	48	21.6
	Divorced	14	6.3
Education	Cannot read or write	17	7.7
	Incomplete primary education	161	72.5
	Complete primary education	13	5.9
	Incomplete high school	7	3.2
	Complete high school	17	7.7
	Incomplete higher education	3	1.3
	Complete higher education	3	1.3
Postgraduate studies	1	0.4	
Occupation	Retiree or pensioner	148	66.7
	Home	37	16.7
	Farmer	6	2.7
	Others	31	13.9
Color	White	200	90.1
	Black	5	2.3
	Brown	17	7.6

Variables	Categories	n	%
Family income	Up to 1 wage	151	68.0
	Between 1-2 wages	59	26.6
	2 to 4 wages	9	4.1
	4 to 10 minimum wages	3	1.3

Source: Survey data (2018)

In the study of the clinical evaluation variables of the participants, in relation to the number of family members who have DM, those who have no family with DM were 49.1%, 30.6% have a person in the family, 9% two people and 11.3% three or more people. The average time that the participants have the illness was 10.1 years (SD = 9.16), with the majority (60%) having DM for more than five years. Regarding comorbidities, it was found that 79.7% of people with diabetes also have hypertension, 39.6% had cardiovascular family history, 15.3% are smokers, 28.8% considered themselves sedentary and 23.9% are obese or overweight. (TABLE 2).

Regarding the complications of DM, 61.3% said they did not have and 39.7% mentioned they already have. Among the acute complications, hyperglycemia showed the highest percentage with 25.2% of the population. Retinopathy was the

chronic complication with greater prevalence 33.3%, followed by heart disease with 15.3%. Regarding the type of treatment, it was found that the majority (73.9%) carries with diet and oral antidiabetic agents, 8.1% use diet and insulin, and 16.2%, diet, oral antidiabetic agents and insulin, oral antidiabetic agents. The most widely drug used in the treatment was metformin with 83.8%, followed by insulin with 23% and glibenclamide with 20.7%. The majority (87.4%) have never participated in diabetes educational groups, 36.9% did not seek care for the diabetes in the last twelve months. Among those who sought care, the majority (32, 4%) sought only consultation with the doctor, 25.7% medical and nursing consultation and only 4.1% sought only nursing consultation. (TABLE 2).

Table 2: Variables of clinical evaluation of people of people with DM treated in the FHS of São Francisco de Assis, RS, 2018.

Variables	Categories	n	%
Family members with DM	None	109	49.1
	1	68	30.6
	2	20	9.0
	3 or more	25	11.3

Variables	Categories	n	%
Time of disease	0-5	89	40.1
	6-10	59	26.6
	11-15	36	16.2
	16 years>	38	17.1
	Total		
Risk factors and concomitant diseases	Cardiovascular family history	88	39.6
	smoking	34	15.3
	Sedentary lifestyle	64	28.8
	Overweight/obesity	53	23.9
	Arterial hypertension	177	79.7
Complications	Yes	86	38.7
	No	136	61.3
Acute complications	Hypoglycemia	27	12.2
	Hyperosmolar coma	3	1.4
	Ketoacidosis	0	0
	Hyperglycemia	56	25.2
chronic complications	Retinopathy	74	33.3
	Neuropathy	5	2.3
	Diabetic foot	18	8.1
	Nephropathy	20	9.0
	Heart disease	34	15.3
Type of treatment	Diet	4	1.8
	Diet and oral antidiabetic agents	164	73.9
	Diet and insulin	18	8.1
	Diet, oral antidiabetic agents and insulin	36	16.2
Medicines	Metformin	186	83.8
	Glibenclamide	46	20.7
	Insulin	51	23.0
	Glimepiride	9	4.1
Participation in educational groups for diabetes	Yes	28	12.6
	No	194	87.4
DM follow-up visit in the last 12 months	No consultation	82	36.9
	1 time	39	17.6
	2 times	51	23.0
	3 or more times	50	22.5
Professionals who have made monitoring	Nurse	9	4.1
	Doctor	72	32.4
	Doctor and nurse	57	25.7

Source: Survey data (2018)

DISCUSSION

This study allowed stating that, among people with DM, there is a female predominance. Studies in other regions of the country showed similar results and was also observed the prevalence of women. A cross-sectional study, developed in the state of Piauí with DM patients enrolled in Primary Health Units also found prevalence of women (72.6%).⁸ A study conducted in two private pharmacies in the city of Itabaiana/Sergipe, with DM patients seeking private drug stores for obtaining medicines and monitoring of injury also showed a predominance of females (66.6%).⁹ This finding was also found in a research that analyzed the epidemiological profile of people with diabetes seen at the FHS of a state of Rio Grande do Sul, which confirmed that this population is mostly of women (68.0%).¹⁰ These data reinforce the trend of the world population being mostly females.¹¹ One reflects that the fact that more women seek health services can contribute to the female predominance of people with diabetes, according to the findings.

The mean age of the study population was 65 years and the prevalence is greatest between the ages from 50 to 69 years. The average is consistent with data from other studies showing the prevalence of the disease in people over 55 years. The

prevalence in this age group can be explained by the fact that DM is a chronic disease that has a higher prevalence in older adults.⁹ In assessing the prevalence and profile of people with DM, self-reported in the Primary Health Care Information System (SIAB), in the city of Lajeado/RS, in the period from 2011 to 2013, it was found that the majority of this population was over 60 years (60% in 2011, 58% in 2012 and 60% in 2013).¹⁰

Regarding the marital status, it was realized that most are married, meeting the data observed in other studies that confirm that most people who have DM is married.^{8,11,12} Marital status may influence adherence to self-care, since in family interactions people find support for coping with their condition.

This study found that the predominant education level is complete high school. This was also seen in other studies which show low education in the population with diabetes.^{8-10,12} Low education tends to interfere with the adherence to treatment, which increases the FHS liability regarding the disease control.¹¹

Regarding the occupation, 66.75% declared themselves retirees/pensioners, according to other research that indicates a majority of retired people among the ones with diabetes.⁹ In a survey in Piauí it was

found a total of 44.5% of retired, being this the main income source of the respondents.⁸

Regarding the interaction time with the disease, most have more than five years, a result that resembles a study with older adults in Pernambuco that also found a majority of people with this range of time.¹³ It was divergent from a study in Minas Gerais, where it was observed that 35.2% had DM for 5-10 years.¹² In view of these findings, it is believed that if people are living longer with the DM it is because they are taking care of themselves and managing to live with the limitations and necessary care inherent to DM. This situation can occur due to the effectiveness of an effective primary care work.

Regarding smoking, it was possible to verify a low rate of smokers (15.3%), which is in agreement with a study of diabetes type I and II in northeastern Brazil, which showed 17.2% and 17.7%, respectively, in both groups.¹⁴ It is noteworthy mentioning that this study did not examine separate groups.

The percentage of 28.8% found in the survey, concerning sedentary lifestyle, when compared to other studies similarity in one and divergence in another one. In a survey with diabetic, hypertensive patients it was found 27.8% of sedentary people.¹¹ In another study conducted in northeastern Brazil, where there was distinction between diabetes groups type I and II, it was

obtained 30.8% in the group of type I diabetes and 42.9% in the group of people with diabetes type II.¹⁴ It is inferred that a sedentary lifestyle is detrimental to glycemic control, however, it points out that the FHS health team can promote care actions aimed at adherence to habits and lifestyles that can reduce the percentage of sedentary people and, consequently, reduce the glycemic rates and improve the quality of life of the population with DM.

As to the treatment followed, there was an increased use of oral antidiabetic agents, followed by insulin. A survey conducted in the country's northeast region had similar results, identifying that 86.0% of the population makes use of oral antidiabetic agents and 15.9% use insulin.¹²

According to the Ministry of Health, there was the adoption of a standard in the treatment of diabetes using medicines recommended by the World Health Organization. Hypoglycemic drugs glibenclamide and metformin, together with NPH insulin 100 IU were made available in the public health services.¹⁵ Oral antidiabetic agents are used to be the first choice in the treatment of DM, which have good adaptation in its use and the possibility of use in combination with other medicines in the aid of glycemia decay.¹

When there is need to use oral medications for DM treatment, the

treatment preferred is the use of metformin. The action of this drug increases glucose uptake in the musculoskeletal system, decreases insulin resistance and reduces the production of glucose by the liver. When the use of metformin alone is not being effective, an association with other drugs is used, that normally are the sulfonylureas, which act on the beta cells in insulin secretion and reduction of plasma glucose levels.¹

There was a poor adherence of diabetics users in education groups, with 87.4% affirming that they have never participated in these groups. In a study conducted in Pernambuco, it was observed low adherence of group participation, indicating that 79.3% did not participate.¹⁶ The education groups show up as influencing strategies to improve the quality of life. Through knowledge exchange there is the possibility of reflection on relevant issues, empowerment and encouragement in the participants' autonomy.¹⁷

Regarding the low adherence to diabetes education groups, it becomes possible to reflect that although the participants have access to the groups, it was observed that they did not attend. This little adherence to groups may occur due to the that they do not feel motivated to participate. Faced with this, it is understood that FHS health professionals need to rethink on the methodologies of educational

activities offered in groups, so that the patients feel encouraged to participate in groups and join self-care practices in diabetes aiming at the effectiveness of the treatment, prevention of complications resulting from diabetes and improved quality of life. It is believed that the education groups show up as influential strategy to improve the quality of life of people with DM. These moments represent spaces for knowledge exchange and a possibility of reflection on the issues regarding DM treatment and prevention, as well as the empowerment and incentive to autonomy of the individuals.

The data related to the DM follow-up visit in the last 12 months indicates that of the people registered, 36.9% did not had any. Referring to Planning of Primary Care and PMAQ, it indicates the need of health teams to organize health care for people with chronic conditions through proactive, continuous, scheduled and whole actions. This organization still pervades the need to stratify the risk to which the person is exposed, which means to consider not only the biological aspects but also the social determinants of health.¹⁸

It is also worth noting that the data of this study revealed the incipient work of nurses in the monitoring of people with DM. However, it is believed in nursing consultation potential as a resource to produce positive effects on the control of

DM and to improve the users' quality of life. Nurses should awaken the autonomy of the person with diabetes, through health education and shared care, such as technologies to promote the care and damage prevention, with a view to the role of the person living with the chronic condition.¹⁹

CONCLUSION

By analyzing the sociodemographic variables and persons with DM treated at the FHSs in a city in Rio Grande do Sul, it was found that the majority of this population is female, older adults, married, white, aged 59-69 years, with no complete high school, retired or pensioners.

In relation to clinical variables, it was observed that most have another family with the same disease (51.9%). Most live with the DM for more than six years. The risk factors and concomitant diseases with higher evidence were hypertension and cardiovascular family history, respectively. Chronic complications most cited were hyperglycemia and hypoglycemia. The predominant acute complications are retinopathy and cardiopathy, respectively. The predominant type of treatment was diet and use of oral antidiabetic agents. The drugs most frequently cited were metformina, insulin and glibenclamide, respectively. Most of them did not

participate in diabetes education groups. Among those who sought treatment, most consulted with the doctor, followed by the nurse.

From the results found in this study it was possible to observe the importance of preventive actions and the continuous monitoring of disease progression, to avoid MD harm and seek a better quality of life. It must take into account the means in which the individual is inserted, so that these changes can be effective and in accordance with their reality. It is considered as a study limitation the fact that this has been developed in just one municipality in the state of Rio Grande do Sul. Therefore, it is suggested that multicenter studies covering a population with greater coverage are carried out.

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