

Care for patients with diabetes mellitus in primary care: the role of nurses and their importance in the multidisciplinary team

Atención al paciente con diabetes mellitus en atención primaria: el papel de los enfermeros y su importancia en el equipo multidisciplinario

Assistência ao portador de diabetes mellitus na atenção primária: papel do enfermeiro e importância na equipe multidisciplinar

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Submission: 05-28-2022**Approval:** 08-01-2022**Abstract**

Diabetes Mellitus is a chronic disease that must be tracked and monitored by the entire primary care team, with nurses being a fundamental player in the support of this pathology. The aim was to analyze the role of nurses in assisting DM patients as a family health team. Integrative literature review with descriptive analysis and quantitative approach. The main scientific databases were consulted with keywords such as "diabetes mellitus", "family health" and "primary care", resulting in 16 more recent articles and 9 were selected for data analysis. The nurse is an integral part of a fundamental multidisciplinary team in the adherence and monitoring of the DM patient, with several attributions from their reception in primary care to the continuity at home for life, with the main preventive action of complications, the encouragement of self-care.

Descriptors: Family Health; Diabetes Mellitus; Nursing; Primary Care; Nursing Care.

Resumén

La Diabetes Mellitus es una enfermedad crónica que debe ser seguida y monitoreada por todo el equipo de atención primaria, siendo la enfermería un actor fundamental en el soporte de esta patología. El objetivo fue analizar el papel del enfermero en la asistencia a pacientes con DM como equipo de salud de la familia. Revisión integrativa de la literatura con análisis descriptivo y enfoque cuantitativo. Se consultaron las principales bases de datos científicas con palabras clave como "diabetes mellitus", "salud de la familia" y "atención primaria", resultando 16 artículos más recientes y 9 seleccionados para el análisis de datos. El enfermero es parte integral de un equipo multidisciplinario fundamental en la adhesión y seguimiento del paciente con DM, con diversas atribuciones desde su recepción en atención primaria hasta la continuidad en el domicilio por el resto de su vida, teniendo como principal acción preventiva de las complicaciones, el fomento del autocuidado.

Descriptores: Salud de la Familia; Diabetes Mellitus; Enfermería; Atención Primaria; Cuidado de Enfermería.

Resumo

A Diabetes Mellitus é uma doença crônica que deve ser rastreada e acompanhada por toda equipe na atenção básica, sendo o enfermeiro peça fundamental no amparo desta patologia. Objetivou-se analisar o papel do enfermeiro na assistência ao portador de DM como equipe da saúde da família. Revisão integrativa da literatura com análise descritiva e abordagem quantitativa. Foram consultadas as principais bases de dados científicos com palavras-chave como "diabetes mellitus", "saúde da família" e "atenção básica", resultando em 16 artigos mais recentes e 9 foram selecionados para análise de dados. O enfermeiro é parte integrante de uma equipe multidisciplinar fundamental na adesão e monitoramento do portador da DM, com diversas atribuições desde o seu acolhimento na atenção básica até a continuidade em domicílio por toda vida, tendo como principal ação preventiva das complicações, o incentivo ao autocuidado.

Descritores: Saúde da Família; Diabetes Mellitus; Enfermagem; Atenção Básica; Cuidados de Enfermagem.

Introduction

Diabetes Mellitus (DM) is a chronic disease characterized by a metabolic disorder with persistent hyperglycemia due to a deficit in the ability to secrete insulin, in its action or both mechanisms, with vascular and neuropathic alterations as its main complications¹.

The proportion of mortality rates due to diabetes mellitus is currently considered a pandemic, being one of the most treated chronic pathologies in primary health care².

Over the last few years, there has been a growing number of proposals to reorganize support for DM with the aim of improving the services provided, considering the recommendation that 60% to 80% of cases be treated in primary care, the gateway to the SUS³.

The high rate of morbidity and mortality due to DM complications makes its prevention a priority in public health and its monitoring strategies are constantly updated^{4,5}.

As the aging of the Brazilian population has already shown in recent years and the increase in the number of diabetic cases, it is necessary to improve the proactive involvement of all health professionals involved in primary care in preventive, educational and health promotion measures for individuals carriers of the disease⁴.

The multidisciplinary team of the family health strategy must be involved in assistentialism, with the nurse responsible for the nursing consultation, educational activities, requesting tests relevant to screening and monitoring and renewal of medications that are in the already established municipal protocols⁶.

The chronic profile of the disease brings the need for individual empowerment in order to preserve health and well-being. The nurse must develop educational actions so that the diabetic self-manages, has knowledge about self-care practices, encouraging the improvement in lifestyle to minimize possible complications. It should advise on insulin therapy, hypoglycemic agents, nutritional care and glycemic monitoring².

Type 1 Diabetes brings the need for insulin replacement to baseline levels of the physiological hormone, as well as the importance of more assiduous glycemic checks. Glucose control in type 2 DM can be achieved through healthy eating habits, physical exercise, hypoglycemic agents and the practice of insulin therapy when it is not controlled or there is metabolic decompensation⁷.

The development of self-care through changes in life and eating habits and in-depth knowledge about DM are fundamental roles played by the multidisciplinary primary care team, according to the individual's socioeconomic variables, which have an impact on the understanding of the disease and must be addressed collectively or individually⁸.

With the introduction of the Family Health Strategy (ESF) teams, there was a significant increase in care for people with diabetes, even though it still followed a biomedical model. It is necessary to observe the relationship between the effectiveness of the FHS actions in the care practice capable of controlling the complications of the disease and the actual adherence to treatment⁹.

The assistance provided by nurses in primary care must occur in a comprehensive, individual and continuous manner, considering that basic health units are the gateway for people with diabetes¹⁰.

The nursing consultation is the ideal moment to create a bond with the patient. Through this first contact, the nurse can assess the individual's past history, as well as their socioeconomic condition, which has an impact on self-care and health conditions³.

In view of the relevance of multidisciplinary involvement in primary care, how do nurses act in assisting the family health strategy team with diabetes mellitus patients?

Thus, the nurse's assistance to patients with diabetes mellitus in the family health strategy was established as the object of study.

Considering the guiding question, the aim of this study was to analyze the role of nurses in DM care as a family health team.

As the treatment of diabetes mellitus needs to be continuous, so does the information. Faced with this problem, it is important to understand the responsibility that nurses in primary care and the entire family health team have in accompanying DM patients in the guidelines, monitoring and follow-up in order to minimize possible complications and hospitalizations due to these conditions⁷.

Methodology

The qualitative approach was defined for this study, with the integrative literature review being the method used with descriptive analysis.

The integrative literature review is based on starting with the identification, elaboration of the guiding question, data collection, analysis and synthesis of the results of articles, studies in general on a theme that can improve some aspect of society, resulting in critical thoughts¹¹.

To survey the scientific literature, the Latin American and Caribbean Literature in Health Sciences (LILACS) and the Nursing Database (BDENF) databases were used, indexed as a database by the Virtual Health Library (VHL) website. The keywords used as descriptors in Portuguese were "family health", "primary care", "nursing", "diabetes mellitus", resulting in 16 scientific articles published in the last 05 (five) years. Topics that did not address the role of nurses in primary care and repeated publications were excluded from the study. A simultaneous search for authors was carried out on different computers, in April 2021.

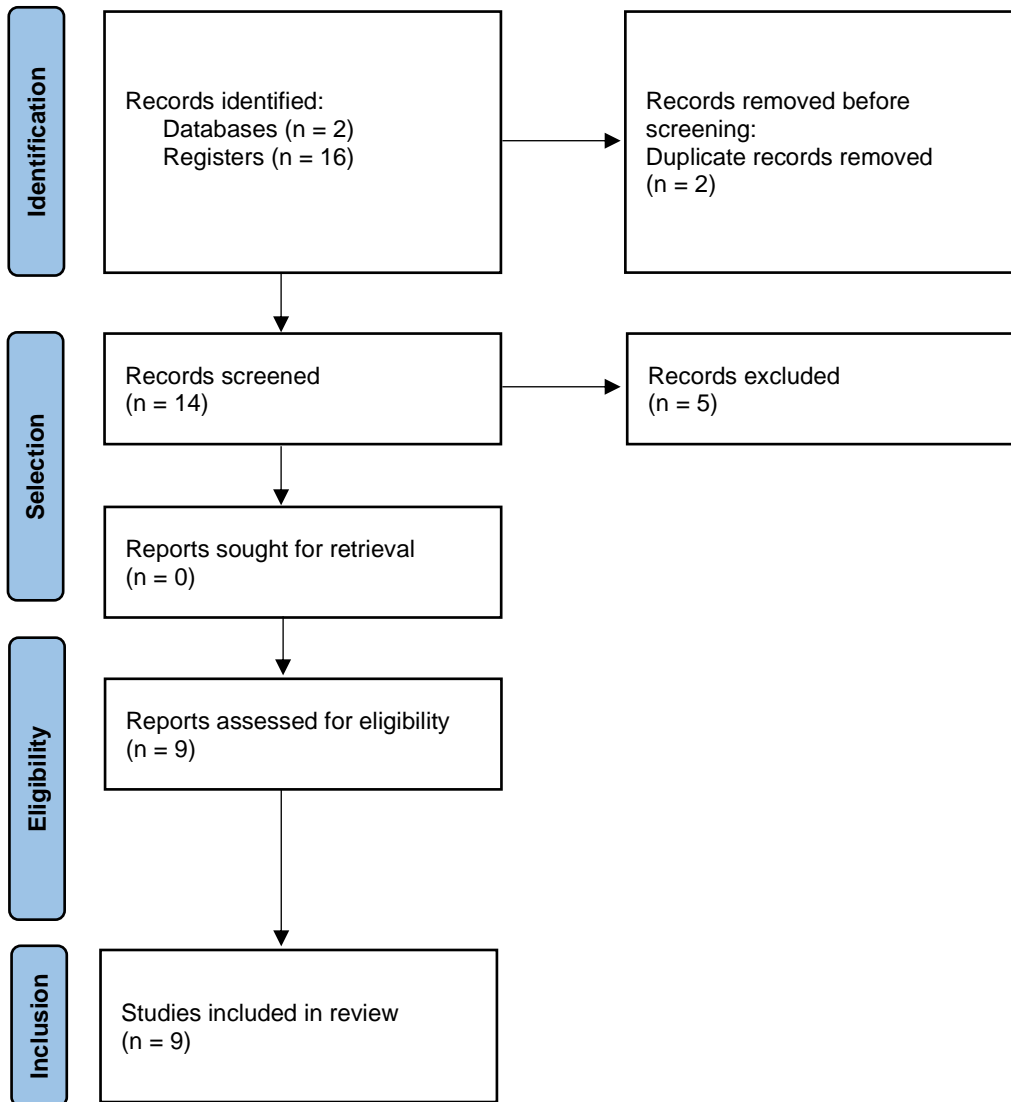
With the definition of the descriptors, we arrived at the following search strategy: +id:("biblio-1051306" OR "biblio-1095353" OR "biblio-1123683" OR "biblio-1128286" OR "biblio-1136631" OR "biblio-1021761" OR "biblio-974798" OR "biblio-1102561" OR "biblio-948397" OR "biblio-911171" OR "biblio-970698" OR "biblio-946743" OR "biblio-889941" OR "biblio-881250" OR "biblio-1031580" OR "sms-11796") AND (year_cluster: [2016 TO 2021]). After inserting the exclusion criteria: full text, last 5 years, texts in Portuguese, qualitative research of the 16 researched



articles, nine were considered relevant for the development of the analysis of this study.

Figure 1 shows the PRISMA diagram for the search and selection of studies.

Figure 1. PRISMA diagram. Rio de Janeiro, RJ, Brazil, 2021



Results

Upon analysis of the methodology used by the authors, there was the following predominance: qualitative approach (5), quantitative approach (2) and quali-

quantitative approach (1). The analyzed scientific articles have all the main authors trained as nurses.

Charts 1 and 2 present the synthesis of scientific articles in this integrative review.

Chart 1. Description of scientific articles in relation to authors, journals and year of publication. Rio de Janeiro, RJ, Brazil, 2021

Code	Authors	Journals	Publication Year	Location
AC01	Camila Maria Silva Paraizo, Jéssica Gabriely Isidoro , Fábio de Souza Terra , Eliza Maria Rezende Dázio , Adriana Olimpia Barbosa Felipe , Silvana Maria Coelho Leite Fava	Rev. Enfermagem UFPE On Line	2018	Recife- PE
AC02	Priscylla Lauterte, Denise Maria Vieira Guerreiro da Silva, Maria Aparecida Salci, Ivonete Teresinha Schuelter Buss Heidemann, Priscila Juceli Romanoski	Rev. de enfermagem UFSM	2020	Santa Maria- RS
AC03	Gilmara Holanda da Cunha, Marina Soares Monteiro Fontenele1, Larissa Rodrigues Siqueira, Maria Amanda Correia Lima,	Rev. da Escola de Enfermagem da USP	2020	São Paulo- SP

	Maria Elisa Curado Gomes, Ane Kelly Lima Ramalho			
AC04	Aliny Lima Santos, Sonia Silva Marcon, Elen Ferraz Teston, Ivi Ribeiro Back, Iven Giovanna Trindade Lino, Vanessa Carla Batista, Laura Misue Matsuda, Maria do Carmo Fernandez Lourenço Haddad	Rev. Mineira de Enfermagem REME	2020	MG
AC05	Pamela dos Reis, Guilherme Oliveira de Arruda, Evelin Matilde Arcain Nass, Erika Santos Ratuchnei, Maria do Carmo Fernandez Lourenço Haddad, Sonia Silva Marcon	Rev. de Enfermagem UFSM	2020	Santa Maria- RS
AC06	Luciane Guedes Sisnando, Natália Daiana Lopes de Sousa, Natália Pinheiro Fabricio, Lídia Samantha Alves de Brito, Vitória de Cássia Félix Rebouças, Ana Maria Parente Garcia Alencar	Rev. Enfermagem UFPE On Line	2016	Recife- PE
AC07	Ana Paula Pereira Ignácio, Daniele Vieira da Silva, Lais Lima Lopez Folla, Valéria Marques Galatti do Prado	XXX Congresso de Secretários Municipais de Saúde do Estado de São Paulo	2016	São Paulo- SP
AC08	Luana de Oliveira Souza, Wagner dos Santos Figueiredo, Maria Lúcia Teixeira Machado	Revista APS	2017	São Carlos- SP
AC09	Anna Karla Oliveira Tito Borba, Monique Cristine da Silva, Scarlet Bianca Santana dos Santos, Mayara Crystina Rodrigues Gomes	Revista APS	2018	Recife- PE

Chart 2. Presentation of the synthesis of scientific articles included in the review. Rio de Janeiro, RJ, Brazil, 2021

Code	Title	Objective
AC01	Conhecimento do enfermeiro da atenção primária de saúde sobre diabetes mellitus.	Investigate the knowledge of nurses in primary health care units about Diabetes Mellitus.
AC02	Protocolo de enfermagem para o cuidado da pessoa com diabetes mellitus na atenção primária.	Evaluate the contribution of the Nursing Protocol to the health care of people with type 2 diabetes mellitus from the perspective of nurses and doctors who work in primary health care.
AC03	Prática insulínica realizada por pessoas com diabetes na atenção primária em saúde.	Analyze insulin therapy practice in patients with diabetes mellitus in primary care.
AC04	Adesão ao tratamento de diabetes mellitus e relação com assistência na atenção primária.	Verify the association between adherence to drug and non-drug treatment and care practices provided to people with type 2 diabetes Mellitus (DM2) by Family Health Strategy (ESF) teams).
AC05	Autocuidado e percepção do tratamento para o diabetes por pessoas em uso de insulina.	Evaluate self-care and perception of diabetes treatment by people using insulin.
AC06	Processo de atendimento dos enfermeiros aos usuários com diabetes na atenção primária.	Evaluate the care process of nurses to users with diabetes in primary health care.
AC07	Título da experiência: Consulta de enfermagem/grupo de monitoramento glicêmico e insulinização.	Provide guidance and follow-up to patients diagnosed with DM.
AC08	As práticas de educação em diabetes vivenciadas no SUS: Uma discussão da literatura com ênfase na atenção primária a saúde.	Present and discuss health education practices aimed at people with diabetes produced in Brazil with an emphasis on primary health care.
AC09	Conhecimento e autocuidado de indivíduos com diabetes na atenção primária à saúde.	Evaluate the degree of knowledge and adherence to self-care activities of individuals with type 2 diabetes mellitus.

Discussion

According to a study¹⁰, the qualification of nurses in the management of diabetes must be emphasized so that better results are achieved in the care process and that the professional must be considered a key element in the direct assistance to users. This survey is due to studies indicating that despite the current multidisciplinary model in primary care, there is still precariousness in the assistance recommended by guidelines and protocols for patients with diabetes mellitus.

In this context, it is necessary that the guidelines given to the users by the nurse are made in a clear way, language that is easy to understand and not, techniques so that the information about the disease is clarified and the self-management is done in the best way, minimizing the illness².

Nurses' care actions in primary care for diabetics should range from registration, follow-up and monitoring, in addition to ensuring the supply of the necessary medications and glycemic control materials⁹.

Activities are considered fundamental to the nursing consultation assistance process; individual and collective health education; guidelines regarding alcohol abuse; smoking cessation and consumption of healthy foods; encourage the practice of physical activity, control the use of medication related to DM, request routine exams and, when necessary, refer other health professionals. These guidelines contribute to make users aware of the risks involved in diabetes complications and improve quality of life¹⁰.

The systematization of assistance is a fundamental instrument for the nursing consultation, an ideal moment to develop guidelines for diabetes complications, such as the Diabetic Foot. With an individual and integrated service, it is possible to encourage self-care; how to inspect the feet, wear comfortable shoes and not walk barefoot, dry well between the toes after bathing, skin hydration, exercises that improve circulation in the lower limbs. Vascular assessment and loss of sensation in the feet should be part of the nurse's care routine, aiming to detect diabetic neuropathy, common in 50% of diabetics over 60 years of age¹⁰.

The practice of self-care aims to maintain one's own health and well-being through self-care, but it can be affected by biological, sociocultural factors, by the health system itself, by other health problems, making it difficult to adhere to treatment and resulting in a deficit in the personal care, with nurses having the role of guiding and encouraging⁸.

Thus, the nurse, being very close to the user and family in primary care, acts as a professional to support the needs and effective education actions for self-care, which are part of the treatment plan, always taking into account their physical limitations, beliefs, intellectual, cultural and financial realities, health history and family support, which are factors that also contribute to self-care. The author also advocates that it is important to know the way in which insulin-dependent users follow this therapy, as it represents a challenge to administer the drug subcutaneously and actions can be implemented for them¹².

The nursing protocols elaborated by the municipal health departments guide and strengthen the assistance of the nurse to the patient with diabetes, such as health education, prevention and systematic evaluation of the diabetic foot and the complications of the pathology, promoting greater autonomy, support and resoluteness to the nurse in primary care. With the use of protocols, the role of the nurse becomes longitudinal, promoting better adherence of the diabetic to the treatment and also makes it possible to reinforce the good training of the nurse in prescribing medications and ordering tests⁶.

Insulin therapy is common in diabetic patients, especially type 1. According to a study carried out in Ceará in 2017, it is the role of nurses in primary health care to guide regarding the correct practice of insulin therapy, including the proper disposal of needles, contaminated materials and sharps so that proper handling at home is a reflection of the individual's empowerment in the health-disease process. Support group strategies are effective in continuing this teaching, contributing to self-care. With regard to handling the syringes, instruct them to aspirate preferably over regular ones in the case of combination with NPH, rotate the application site and warn about possible local allergic reactions and homogenize the insulin vials, as well as their storage methods. The need for constant health education and home visits is evident, as in just one nursing consultation the information may not be assimilated. The multidisciplinary team of the family health strategy should include family members and caregivers as assistants in the management of insulin therapy⁷.

In a previous study, researchers¹³ corroborate research⁷ on nursing consultations by saying that nurses should provide guidance on the relevance of glycemic self-monitoring, especially in insulin-dependent patients, as it aims to adjust therapeutic doses, according to medical prescription, in follow-up consultations, which should also be emphasized and scheduled frequently. Glycemia measurements must be explained and performed according to the nurse's guidance on appropriate times. Upon returning, the patient should have his doubts resolved and the nurse should observe if there is a failure in the technique, if the physical examination shows bruises and at the end of the consultation if there is a need for referral to other professionals in the team. The author's study points out that most users have doubts regarding the use of the glucometer, reuse of material and correct disposal, which can be remedied in nursing consultations and in glycemic self-monitoring groups.

Still on the nursing consultation, the nurse must analyze the individual's socioeconomic status and education level, which may impact their health conditions and self-care ability, as well as stratify the risk of other cardiovascular diseases, such as hypertension, commonly associated with the diabetic patient. Diabetes self-care questionnaires, which include items about diet, physical activity, blood glucose monitoring, foot care, medication use, alcohol consumption and smoking, are important tools used to analyze the individual's routine and knowledge of their



disease, thus facilitating the guidance of specific actions in primary care¹⁴.

Nurses should always encourage self-care, while considering their values and motivations, based on Dorothea Orem's Theory of Self-Care, which focuses on promoting individual autonomy. Health education practices in primary care aimed at people with diabetes result in better adherence to treatment, as the nursing consultation is a privileged place for educational practices³.

Conclusion

Diabetes mellitus is a chronic disease that requires lifelong care and involves the help of several professionals. The difficulty of correctly adhering to the treatment plan becomes a serious public health problem, and it is the responsibility not only of the family health team, but also of family members and caregivers to create a network of support and awareness of care.

In all evaluated literatures, there was a consensus that encouraging self-care reflects better metabolic control and prevents complications of diabetes mellitus. For such a result, it is essential that the nurse, as part of the multidisciplinary team, exercise their guiding role on everything that encompasses the disease, aiming at health education and the empowerment of the individual.

The practice of continuous guidelines carried out by nurses, with an emphasis on self-care, are of low cost to the unified health system and are effective in primary care, minimizing the risks of DM complications. The nursing consultation should be taken advantage of to the fullest as it is the opportune moment to create a bond with the patient, clinical examination, clarification of their doubts and difficulties the nurse is a fundamental part of the proximity to the individual.

The nursing professional must seek updated knowledge about the pathology not only for himself, but for the entire team, since the nurse, despite being a manager in primary care, should not refrain from continuing education in clinical practice, as he is the gateway of the user and responsible for all monitoring of the individual from prevention, promotion and recovery of health.

The results of these studies demonstrated that the nurse's role in the user's adherence to the treatment of diabetes mellitus in primary care is continuous since his arrival; being integrative with the entire primary care team and educating with the user, including family members and caregivers, developing prevention and health promotion actions so that the bond with the individual is established and results in improved quality of life and reduced costs in public health.

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