

BEDSIDE NURSING CONSULTATION AND NURSING DIAGNOSES IN PEOPLE WITH DIABETES MELLITUS

Consulta a beira do leito e os diagnósticos de enfermagem em pessoas com diabetes mellitus

Consulta de enfermería a la beira del lecho y los diagnósticos de enfermería en la en personas con diabetes mellitus

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How to cite this article:

Rosa LM, Irmão BA, Brehmer LCF, Andrade AE, Locks MOH, Schneider DG. Bedside nursing consultation and nursing diagnoses in people with diabetes mellitus. 2021 jan/dez; 13:1436-1441. DOI: <http://dx.doi.org/10.9789/2175-5361.rpcfo.v13.9882>.

ABSTRACT

Objective: To identify the sociodemographic, clinical profile and nursing diagnoses established through bedside nursing consultation in people with diabetes mellitus. **Method:** Descriptive observational study, conducted in 2017 with 37 participants (non-probabilistic sample), in a medical or surgical clinic unit of a school hospital in southern Brazil. Study variables: sociodemographic, clinical and nursing diagnoses according to the North American Nursing Diagnosis Association, submitted to simple descriptive statistics. **Results:** 89.21% type 2 diabetic; mean time of diagnosis of 9.6 years; 70.2% hypertensive; 56.7% smokers; 16.2% insulin-dependent; 32.4% used refined sugar; 59.45% associated two or more carbohydrates in the same meal. The most frequent diagnoses: Risk for unstable blood glucose level (97.37%), Risk for infection (97.37%), Deficient knowledge (81.58%), Sedentary lifestyle (60.53%), Ineffective health management (60.53%). **Conclusion:** The identification of profile and nursing diagnoses enables better nursing planning.

DESCRIPTORS: Diabetes mellitus; Nursing; Nursing diagnosis; Office nursing; Health Profile.

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RESUMO

Objetivo: Identificar o perfil sociodemográfico, clínico e os diagnósticos de enfermagem pessoas com diabetes mellitus estabelecidos em consultas de enfermagem à beira do leito. **Método:** Estudo observacional descritivo, realizado em 2017 com 37 participantes, amostra não probabilística, em unidade de clínica médica ou cirúrgica de um hospital escola do sul do Brasil. Variáveis do estudo: dados sociodemográficos, clínicos e diagnósticos de enfermagem da North American Nursing Diagnosis Association, submetidos à estatística descritiva simples. **Resultados:** 89,21% dos participantes diabéticos tipo 2; tempo médio de diagnóstico de 9,6 anos; 70,2% hipertensos; 56,7% tabagistas; 16,2% insulino dependentes; 32,4% faziam uso de açúcar refinado; 59,45% associavam dois ou mais carboidratos na mesma refeição. Os diagnósticos mais frequentes: Risco de glicemia instável (97,37%), Risco de infecção (97,37%), Conhecimento deficiente (81,58%), Estilo de vida sedentário (60,53%), Controle ineficaz da saúde (60,53%). **Conclusão:** A identificação do perfil e dos diagnósticos de enfermagem possibilita melhor planejamento de enfermagem. **DESCRIPTORIOS:** Diabetes mellitus; Enfermagem; Diagnóstico de enfermagem; Enfermagem no consultório; Perfil de saúde.

RESUMEN

Objetivo: Identificar el perfil sociodemográfico, clínico y diagnósticos de enfermería establecidos en la consulta de enfermería a la beira del lecho en personas con diabetes mellitus. **Método:** Estudio observacional descriptivo, realizado en 2017 con 37 participantes (muestra no probabilística), en unidad de clínica médica o quirúrgica de un hospital escuela del sur de Brasil. Variables del estudio: datos sociodemográficos, clínicos y diagnósticos de enfermería según la North American Nursing Diagnosis Association, sometidas a la estadística descriptiva simple. **Resultados:** 89,21% diabéticos tipo 2; tiempo promedio de diagnóstico de 9,6 años; 70,2% hipertensos; 56,7% fumadores; 16,2% insulino dependentes; 32,4% hacía uso de azúcar refinado; 59,45% asociaba dos o más carbohidratos en la misma comida. Diagnósticos más frecuentes: Riesgo de glucemia inestable (97,37%), Riesgo de infección (97,37%), Conocimiento deficiente (81,58%), Estilo de vida sedentario (60,53%), Control ineficaz de la salud (60,53%). **Conclusión:** La identificación del perfil y de los diagnósticos de enfermería posibilita mejor planificación de enfermería. **DESCRIPTORIOS:** Diabetes mellitus; Enfermería; Diagnóstico de enfermeira; Enfermería de consulta; Perfil de salud.

INTRODUCTION

The Nursing Process is a methodological instrument developed in five interrelated steps (history, diagnosis, planning, implementation and nursing evaluation) that guides professional nursing care. Its development must be supported by a theoretical framework that guides professional practice and its registration. When carried out in institutions providing outpatient health services, homes, schools, community associations, among others, the Nursing Process corresponds to the Nursing Consultation, precisely because the nurse develops in a single moment all the interrelated stages.¹

Diabetes mellitus (DM) is a chronic disease very common nowadays, being an important and growing public health problem. In Brazil, it is estimated that there are approximately 9 million people with diabetes, about 3.5 million of them aged 65 or older.²

Early diagnosis and adherence to treatment allow control of the DM and its complications and the nursing consultation is one of the strategies that should be used for follow-up and health education in order to control the disease.

In this context, the nurse has the challenge of providing direct and indirect care to individuals, family and community. It is up to him to develop this care, too, by raising awareness of the need for necessary lifestyle changes in the treatment regimen.³

Nursing consultation, an immaterial technology, among other aspects, favors self-care, allowing the development of skills of the person/family to perform self-care in the face of health-disease processes.⁴ In this study, bedside nursing consultation was performed and the North American Nursing Diagnosis Association (NANDA) - 2015-2017 taxonomy was used for making nursing diagnoses.

Nursing diagnoses have the purpose of helping the nurse to standardize the language among the various professionals for better nursing planning, consequently, favors the definition of nursing interventions that should be implemented in care.⁵

The development of this study took place during the activities of a university extension project, which aimed at health education of people with DM, through bedside nursing consultation and post hospital discharge nursing teleconsultation.

Therefore, the objective of this study is: to identify the sociodemographic and clinical profile and the nursing diagnoses established in bedside nursing consultations in people with diabetes mellitus.

METHODOLOGY

This is a descriptive observational study, with a quantitative approach, conducted in a school hospital in southern Brazil. The study population consists of people with DM, treated in the surgical and medical clinic units of the study scenario, between August and December 2017. The study sample was non-probabilistic. The study included 37 people diagnosed with type 1 or 2 DM on the second day of hospitalization, or more; people with fixed or mobile personal contact after hospital discharge. For selection, for convenience, priority was given to diabetic people with diabetic foot, according to records in the patient's chart. People with type 1 or type 2 DM, unable to answer the questionnaire due to altered health status or cognitive condition and under 18 years of age were excluded.

Data collection was performed through sociodemographic and clinical data collection in the patient's chart, followed by nursing evaluation. From the data collection the nursing diagnoses related to the needs of the study participant were defined. All data were recorded in a specific instrument and then typed in an online spreadsheet of Google Forms[®].

For this study the following variables will be presented: collection unit; DM diagnosis and diagnosis time; associated comorbidities; use of insulin therapy and oral antidiabetic; age; gender; schooling; marital status; origin; profession; eating habit at home/feeding; physical activity performed at home;

tobacco consumption and the nursing diagnoses established during the bedside nursing consultation.

The data collected were submitted to simple descriptive statistics and were presented in descriptive form and in tables. The data were discussed based on updated scientific publications on the subject of the study.

This study was submitted to ethical review, and its approval is registered under CAAE 69305317.0.0000.0121.

RESULTS

Profile of people with diabetes Mellitus

A total of 37 (100%) people with DM were included in the study; 26 (71%) of these resulted from nursing consultations in a surgical clinic and 11 (29%) in a medical clinic; 20 (54%) were male and 17 (46%) female.

As for schooling, four (10.8%) participants had no education, 16 (43.24%) had incomplete elementary education, four (10.8%) had complete elementary education, three (8.1%) had incomplete high school, nine (24%) had complete high school and one (2.7%) had complete higher education.

Of the professions/occupations the highest percentage was related to retirees (11 participants, 29.7%) and the home (five participants, 13.5%).

Regarding the marital status, four participants (10.8%) were single, 21 (56.7%) married, four (10.8%) in a stable union, four (10.8%) widowed and four (10.8%) separated.

As to where they came from, the participants came from 17 municipalities in the State of Santa Catarina. The cities of Florianópolis with 11 participants (29.7%), Palhoça with four participants (10.8%) and São José with four participants (10.8%) in the totality of the findings were outstanding. In the distribution by mesoregions of the State of Santa Catarina, there were 30 participants (81%) from the Greater Florianópolis, three (8.1%) from the Far West macro-region, two (5.4%) from the South macro-region, one (2.7%) from the Itajaí Valley macro-region and one (2.7%) from the Serrano Plateau.

Regarding medical diagnoses, four (10.8%) participants had type 1 DM, with diagnosis time ranging from 1 to 49 years, minimum age of 49 and maximum age of 68 years, the average being 54 years. Patients with type 2 DM had 33 (89.2%) with a diagnosis time ranging from 1 to 44 years, mean 9.6 years of diagnosis, median 8 years, minimum age 28 years and maximum of 74 years, mean 60.21 years, median 63 years.

As for drug treatment, six (16.2%) participants were insulin-dependent, 19 (51.3%) used oral antidiabetics, and nine (24.3%) used both oral antidiabetics and insulin.

Regarding comorbidities, systemic arterial hypertension (SAH) was the most prevalent among the cases (26 participants, 70.2%), followed by dyslipidemia (nine participants, 24.3%), obesity (eight participants, 21.6%), stroke (three participants, 8.1%) and chronic renal failure (two participants, 5.4%).

Regarding food, 10 (27%) participants reported that they had up to three meals a day, 18 (48.6%) four to five meals a day and nine (24.3%) more than six meals. Regarding the types

of food, 12 (32.4%) participants used refined sugar and 25 (67.5%) denied the use of sugar, 17 (45.9%) used sweeteners, 22 (59.45%) associated two or more carbohydrates in the same meal, six (16.2%) consumed whole foods, six (16.2%) reported that they always consume sugary or industrialized beverages, and four (10.8%) stated that they always consume fried foods.

Regarding physical activities performed at home, 19 (51.3%) practiced some physical activity and 18 (48.6%) denied some exercise. Tobacco consumption was revealed by five participants (13.5%), 11 (29.7%) were former smokers and 21 (56.7%) never smoked.

Nursing diagnoses related to people with diabetes mellitus

The most frequent nursing diagnoses were: Risk of infection (37-100%), Risk of Unstable Blood Glucose (36 - 97.2%), Sedentary Lifestyle (18 - 48.6%), Disposition for Improved Knowledge (16 - 43.2%), Disposition for Improved Health Control (14 - 37.8%) and Disabled Knowledge (14 - 37.8%). All findings are presented in Table 1.

Table 1 - Frequency of nursing diagnoses, according to the domains of Taxonomy II of Nanda International (2015-2017), identified in people with diabetes admitted to surgical and medical units. Florianópolis, SC, Brazil, 2018

Domain	Title of the diagnosis	N%
Activity/ Resumption	Impaired walking	11 (28,95%)
	Intolerance to activity	4 (10,53%)
	Risk of ineffective peripheral tissue perfusion	18 (47,37%)
	Decreased cardiac output	4 (10,53%)
	Ineffective breathing pattern	1 (2,63%)
Comfort	Acute pain	4 (10,53%)
Disposal and exchange	Dysfunctional gastrointestinal motility	3 (7,89%)
Stress	Anxiety	9 (23,68%)
Tolerance/ Facing	Fear	2 (5,26%)
Balance/ Energy	Risk of ineffective renal perfusion	2 (5,26%)
Functional	Ineffective health control	23 (60,53%)
	Risk of Unstable Blood Glucose	37 (97,37)
	Disposition for improved nutrition	7 (18,42%)
	Unbalanced nutrition: more than body needs	19 (2,63%)
	Overweight cliffs	8 (21,05%)
	Overweight	8 (21,05%)
	Obesity	11 (28,95%)
Perception/ Cognition	Risk of electrolytic imbalance	3 (7,89%)
	Willingness to improve knowledge	10 (26,32%)
	Disabled Knowledge	31 (81,58%)
Health promotion	Sedentary lifestyle	23 (60,53%)
	Improved health control willingness	13 (34,21%)
	Risk prone health behavior	12 (31,58%)

Domain	Title of the diagnosis	N%
Security/ Protection	Risk of infection	37 (97,37%)
	Integrity of damaged skin	7 (18,42%)
	Risk of damaged skin integrity	16 (42,11%)
	Curfew	11 (28,95%)

DISCUSSION

The mean age of the participants in this study and the frequency related to sex coincide with that found in a study conducted in northeastern Brazil, with a sample composed of 154 patients, where most of the participants were female (71.1%) and had a mean age of 62.7 years (± 14.9). This finding is associated with a higher prevalence of the disease in the higher age groups (60 years or more), due to the aging process, accumulation of bad habits of life and risk factors for illness.

From the age of 60, the mortality rate for diabetes, equivalent to 223.8 per 100 thousand inhabitants, also rises in 2011 in Brazil.⁶

As for profession and marital status, there was a predominance of retired and married people. These results are directly linked to the age group of prevalence of the disease, already commented previously, being the expected retirement with the advancement of age, more frequent in this study, this fact is replicated for marital status.

The greater origin linked to the municipalities of Florianópolis, São José, Palhoça and Biguaçu is justified by the location of the scenario where the participants in this study were captured.

The predominance of participants in the diagnosis of DM 2 was another expected finding, as it confirms the scientific evidence. About 5 to 10% of DM cases are type 1 and 90 to 95% of type 2.⁶

In relation to schooling, the predominance of incomplete secondary education was identified. A national survey showed that people with low schooling are more likely to develop MD 2.⁷ This may be justified by lack of information, access to services, inadequate food, physical activities among others.⁸⁻¹⁰

The schooling found in this study is related to nursing diagnoses: "Disabled Knowledge", "Health Behavior Prone to Risk" and "Ineffective Health Control", as these are related to the patient's understanding of his/her current health status and adherence to treatment and self-care. The lack of information and understanding becomes an aggravating factor for the effectiveness of treatment, since low schooling makes it difficult to interpret the reality of access to health services and the search for the best health.

The results also revealed that SAH was the most cited comorbidity by the participants, which also confirms what science has been showing through the development of research. SAH is 2.4 times more frequent in people with DM 2, pointing out the consequence of the pathophysiology of the disease associated with bad habits of life.⁶ Thus, the need for health education for the adoption of good habits of life is stated, which includes a balanced diet, with care in the choice of food and its processing, in addition to the

inclusion of daily physical activity. This finding contributed to the diagnosis Risk of ineffective peripheral tissue perfusion.

The number of meals reported is close to the nutritionally recommended, however, the consumption of sugars, sugary beverages and the association of two carbohydrates in the same meal portray the contribution to the non-control of glycemic, consequently of diabetes, raising the rate for the diagnosis of nursing "risk of unstable glycemia" and showing unbalanced nutrition, also contributing to the association with the diagnosis of "Risk of overweight", "Overweight" and "Obesity."¹¹

Inadequate diet (about 30% of participants) and physical inactivity (about 60% of participants) found in the lifestyle of participants showed the imbalance between ingestion and energy expenditure, increasing the "risk of unstable blood glucose", which configures the variation of glucose in the blood that can cause several secondary problems in the short or long term depending on the time and intensity of this uncontrol.¹²

Research has shown that balanced dietary intake with reduced carbohydrates and fats is an extremely important factor for people with DM, so important that only by changing dietary habits can DM2 be avoided or delayed. Studies say that depending on the amount of carbohydrates in the blood there is an improvement in sensitivity to the action of insulin.^{6,13}

Glucose is the source of energy for the human body, and in order for the body to remain balanced, it needs to use this energy for physiological body functioning. However, food intake is also a source of pleasure and is part of many family and social rituals, which contributes to consumption beyond the body's needs. In this context, the person with DM needs to learn to ingest adequate amounts of food for the body's energy expenditure and to include daily physical exercises to aid energy consumption, reducing the damage of high food consumption.

In this study it was observed that almost half of the participants (48.6%) do not perform physical activity. The sedentary lifestyle in diabetics is an important risk factor for the development of other comorbidities that impair the health picture and modify the quality of life, such as obesity, SAH and cardiovascular diseases.¹³ It is inferred, however, that physical exercises performed by people with DM and using drug treatment to control the disease should be performed with caution and/or with professional supervision/orientation for the risk of having episodes of hypoglycemia.⁶

The World Health Organization (WHO) advises adults to practice at least 150 minutes per week of moderate physical activity or 75 minutes per week of vigorous physical activity in sessions of at least 10 minutes duration, without determining weekly frequency.¹⁴

Regarding smoking, almost half of the participants (43.3%) were smokers and ex-smokers, and this fact is one of the risk factors for the emergence of diabetes and the vascular complications resulting from the disease. The justification is that there are nicotinic receptors at the pancreatic level that can reduce the release of insulin, which is why smoking is currently used as a risk factor for the development of DM.⁶

Maintaining tobacco consumption, even after a diagnosis of diabetes, is related to the diagnosis of “risk prone health behavior” and “ineffective health control”. These are diagnoses that portray the importance of a person’s attitudes in their daily life that influence their treatment. For a person with diabetes, changing their habits is paramount to a healthier life and disease control. These habits include not only a change in diet or exercise but also the importance of quitting smoking, which depending on how long you have been smoking and how many cigarettes you smoke each day, becomes a challenge to stop this behavior even if it is for your own benefit. In addition, tobacco consumption contributes to complications of hypertension and the “risk of ineffective peripheral tissue perfusion”.

There is a strong relationship between pathophysiological factors resulting from DM and comorbidities, such as SAH, and behavioral issues, inadequate diet, sedentary lifestyle and smoking, which contribute negatively to cardiovascular diseases, especially aggravating complications such as acute myocardial infarction and stroke.¹⁵

Thus, it becomes extremely important that the multiprofessional health team, still aware of the Brazilian difficulties related to schooling, work on health promotion, so that people with diabetes understand the importance of understanding the pathophysiology of the disease and its progression, as well as the benefits of drug treatment or not in controlling the progression of the disease. In such cases, multiprofessional monitoring becomes necessary on a regular basis and an excellent strategy for health education.⁶

It is noteworthy that the diagnosis “Risk of infection” which has by definition vulnerability to invasion and multiplication of pathogenic organisms, which can compromise health, due to invasive procedures such as probes, use of catheters and others, was one of the most found diagnoses, having been identified in the absolute majority of cases in this study.¹⁶

Adding this diagnosis to the diagnoses of “Integrity of damaged skin” and “Risk of integrity of damaged skin”, the risks to which the participants of this study are exposed are evident, since these diagnoses, among other aspects, include illness and the need for hospitalization, the aging process and body changes associated with foot lesions, which configure pathogen entry doors, reducing patient safety and increasing life risks.

Hyperglycemia in hospital admissions is associated with increased complications during hospitalization, contributes to prolonging the stay in the hospital environment and increases the risk of mortality. Thus, the attention of the entire health care team is also focused on the control of blood glucose to adequate levels.¹⁷

The DM, with the need for insulin therapy and vascular problems, makes it difficult to heal the tissue in people affected. The presence of invasive resources or other entrance doors in a hospital environment may contribute to the morbidity and mortality factor, being directly related to the increase of complications, infectious diseases, impairment of the healing process and thrombotic phenomena.⁶

Comparing the results of this study with others conducted with similar objectives, it can be observed that the diagnosis of “Risk of infection”, “Willingness to improve knowledge”, “Poor knowledge”, “Willingness to improve health control” are common findings, on the other hand, “Unstable blood glucose risk” and “Sedentary lifestyle” considered an expected diagnosis in the results of this study and which were confirmed with the results of the investigation were not indicated as the most frequent diagnoses in these studies.¹⁸⁻¹⁹ These same studies, in turn, pointed to chronic pain and altered sleep pattern as the most frequent diagnosis, a fact not found in the findings discussed here, as well as the risk of peripheral neurovascular dysfunction. In this case, it is justified that the change in the titles of the diagnoses may have contributed to this difference, considering that the aforementioned studies used a previous NANDA classification. Acute pain was found in this study, but only in 10% of the participants.¹⁸⁻²⁰

The preparation of nursing diagnoses contributes to the continuity of care. When identified, nursing diagnoses become easier to plan. It is through this planning that it becomes possible to improve the efficacy of the treatment in order to avoid complications arising from the DM.

The importance of the use of nursing diagnoses in clinical practice is perceived, since they help in the planning and development of care, in this context it is strongly linked to health education for health promotion and effective control of DM.

It is evident from the analysis of the results that people with diabetes included in this study need periodic health follow-up. Through this follow-up, health education promotes self-care in order to control the progression of the disease and the appearance of its complications..

Thus, the importance of the role of the nurse and nursing consultations, including the use of nursing diagnoses for treatment and recovery of health, geared to the real needs of each person, as well as for health promotion, is highlighted.

The limit of this study is the number of participants and the selection in a single research scenario.

CONCLUSÃO

Knowledge of the socio-demographic profile and identification of nursing diagnoses of people hospitalized with diabetes mellitus allow better care planning and contribute to better interventions, adherence to treatment and control of the disease and better quality of life, reducing the risks of complications of DM.

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Received in: 03/04/2020

Required revisions: Não houve

Approved in: 07/07/2020

Published in: 00/00/2021

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Disclosure: The authors claim to have no conflict of interest.