ORIGINAL ARTICLE

NURSES’ CARE PROCESS TO USERS WITH DIABETES IN PRIMARY HEALTH CARE

RESUMO
Objetivo: avaliar o processo de atendimento dos enfermeiros aos usuários com diabetes na Atenção Primária à Saúde. Método: estudo transversal, com abordagem quantitativa, realizado com 34 enfermeiros. Os dados foram coletados por meio de um formulário estruturado e analisados mediante estatística descritiva. Resultados: identificaram-se 94,1% dos enfermeiros do sexo feminino com média de 10 anos de atuação profissional. Com relação ao processo de atendimento, 61,7% mediam circunferência abdominal, 79,4% calculavam índice de massa corporal, 91,1% realizavam exames de pés, 85,2% encaminhavam os usuários para o nutricionista, 41,1% referiram-se ao oftalmologista, 100% ao médico e 88,2% dos enfermeiros relataram realizar educação em saúde de forma individual. Conclusão: identificaram-se esforços empreendidos pelos enfermeiros em busca de assistência de enfermagem baseada em diretrizes propostas para o cuidado às pessoas com diabetes, porém algumas práticas precisam ser otimizadas e qualificadas. Descriptores: Diabetes Mellitus; Avaliação em Saúde; Atenção Primária; Enfermagem.

Conclusion: efforts of nurses seeking a nursing care based on proposed guidelines for the care of people with diabetes were identified but some practices need to be optimized and qualified. Descriptors: Diabetes Mellitus; Health Evaluation; Process of Healthcare; Nursing.

RESULTADOS
Identificaron-se 94,1% de los enfermeros del sexo femenino con media de 10 años de experiencia profesional. Con relación al proceso de atendimiento, 61,7% midieron circunferencia abdominal, 79,4% calcularon índice de masa corporal, 91,1% realizaban exámenes de los pies, 85,2% remitían a los usuarios para el nutricionista, 41,1% los referían al oftalmólogo, 100% al médico y 88,2% de los enfermeros reportaron realizar educación en salud de forma individual. Conclusión: se identificaron esfuerzos emprendidos por los enfermeros en busca de asistencia de enfermagem basada en directrices propuestas para el cuidado a las personas con diabetes, pero algunas prácticas requieren ser optimizadas y cualificadas. Descriptores: Diabetes Mellitus; Evaluación en Salud; Evaluación de Procesos; Enfermería.
INTRODUCTION

Diabetes mellitus is a chronic, serious and significant public health problem due to high and increasing prevalence and incidence among populations.1 The vulnerability of people with diabetes to develop complications reinforces the need to understand the care process undertaken by the multidisciplinary health team, which has the role of providing comprehensive and problem-solving assistance, considering the fundamental importance for the reorganization of Attention to Health in the National health System.2

Noteworthy is the role of the nurse, whose responsibility is to monitor directly the users of Primary Health Care, converging with a care model to develop actions of promotion and health protection, systematically and continuously figuring as a key element in the care process of diabetes mellitus.3 Studies show that, despite the consolidation of the multidisciplinary care model for people with diabetes in primary health care, yet it appears that the assistance provided to these people falls short of what is recommended by guidelines and protocols, indicating poor monitoring at this level of assistance.4 9 Thus, the need to qualify the adherence of health professionals to diabetes management recommendations is fundamental, as competent professionals qualify the care process and promote desired results.10

Taking into account the importance of a high quality service process provided by health professionals, specifically nurses, toward diabetic users, there is a need for studies focusing on the evaluation of services and/or actions with the objective of identify the care process provided by of these professionals to diabetic users in primary care. Thus, evaluation is defined as a management and planning tool, important in the decision-making process, which consists essentially in making a judgment of value on an intervention, assistance or care, employing a device to provide scientifically valid and socially legitimate information.11

It is understood by the nurses’ care process the set of activities performed by these professionals, that is, what they offer to users and how they carry out their activities. The focus of this component is the analysis of professional competence in handling the health-disease process, directly corresponding to care.12

This study is relevant by the importance of evaluation as a tool to identify gaps and successes of the actions developed by nurses in primary health care and thus awaken them to the importance of high quality of care, based on protocols and guidelines. This would provide support to consolidate the process of reorganization of attention to the user, with consequent understanding of the problems related to the care process, which can compromise the attention to diabetes.

For these reasons, this study aimed to:

- To evaluate the care process provided by nurses to users with diabetes in Primary Health Care.

METHOD

Cross-sectional study with quantitative approach developed in the municipality of Crato-CR, with a network of Primary Health Care of family health units, 18 in urban areas and 15 in rural areas. The study was conducted in units of urban and rural areas which consist of all nurses in exercise in health facilities, with no exception, resulting in 34 participants. There is more than one professional assigned for each unit.

Data were collected from June 2014 to October 2015 using a questionnaire containing sociodemographic variables (sex, age and marital status) and variables related to professional training (professional practice time, postgraduate and/or updating courses on diabetes). Moreover, this instrument included variables related to the component process, that is, the set of activities performed by professional nurses, what the nurse offers to users and how the nurse carries out activities,12 namely: nursing consultation to users with diabetes, especially the examination of the feet, guidance as to changes in lifestyle related to nutrition, physical activity, smoking cessation and use of medicines for the treatment of diabetes and associated comorbidities, group health education and making referrals to other health professionals according to needs identified during nursing visits. The process component on the nurse's care was built based on the activities of this professional in Primary Health Care, listed in clinical protocol.3

For organization of data, a glossary was initially developed containing the codification of variables, which were grouped into two phases: (1) sociodemographic data and professional training and (2) data on the variables that make up the process. After this stage, data were entered in Microsoft Excel 2013 sheet and analyzed using descriptive statistics. Comparisons between findings of the study and activities described by the Health Ministry regarding the nursing
consultation on diabetes conducted in Primary Health Care were carried out for analysis of data.¹

The study followed the ethical and legal aspects issued by Resolution 466/2012 and was approved by the Research Ethics Committee, with the CAAE n° 30832214.8.0000.5055 under Opinion number 821.149.

RESULTS

Data from 34 nurses that provide care to users of primary health care were collected. Among these, 32 (94.1%) were female, 15 (44.1%) were married, 16 (47.1%) were single and three (8.8%) were divorced. Study participants had an average age of 33 years, ranging between 25 and 56 years with 10 years in average of professional experience, ranging between two and 27 years; 11 (32.3%) had received training and/or updates in diabetes.

The majority of investigated nurses, 29 (85.2%), reported to perform physical examination, 21 (61.7%) measure waist circumference, 27 (79.4%) calculate body mass index and 31 (91.1%) do the test of feet of users with diabetes. As for nursing consultation based on the nursing process, 22 (64.7%) nurses reported accomplishing it.

Table 1 shows the results regarding the care process of nurses directed to the examination of the feet with a focus on research sensitive and motor and peripheral sympathetic neuropathy, and peripheral vascular disease.

Table 1. Numerical and percentage distribution of the care process of nurses directed to the examination of the feet with a focus on research sensitive and motor and peripheral sympathetic neuropathy, and peripheral vascular disease. Crato (CE), 2015.

<table>
<thead>
<tr>
<th>Variables on the care provided by nurses</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performs inspection of any deformities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>31</td>
<td>91.2</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>8.8</td>
</tr>
<tr>
<td>Performs palpation of the dorsalis pedis and posterior tibial pulses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>35.3</td>
</tr>
<tr>
<td>No</td>
<td>22</td>
<td>64.7</td>
</tr>
<tr>
<td>Checks the temperature and color of the skin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>47.1</td>
</tr>
<tr>
<td>No</td>
<td>18</td>
<td>52.9</td>
</tr>
<tr>
<td>Performs neurological examination (10g + 1 monofilament)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>8.8</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>91.2</td>
</tr>
<tr>
<td>Tuning fork of 128Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>34</td>
<td>100</td>
</tr>
<tr>
<td>Sting perception</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>17</td>
<td>50.0</td>
</tr>
<tr>
<td>No</td>
<td>17</td>
<td>50.0</td>
</tr>
<tr>
<td>Ankle jerk reflex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6</td>
<td>17.6</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
<td>82.4</td>
</tr>
</tbody>
</table>

About giving guidelines to users with diabetes, 30 (88.2%) nurses guided on the proper cutting of nails and 34 (100%) on the use of appropriate footwear and included also the importance of changes in life style, related to nutrition, physical activity and the use of oral medications.

Among respondents, 13 (38.2%) nurses requested routine laboratory tests. Regarding multi-professional referrals, 29 (85.2%) referred users to the nutritionist, 14 (41.1%) referred to the ophthalmologist and 34 (100%) to the doctor.

With respect to the practice of health education, 30 (88.2%) nurses reported performing individual activities and four (11.8%), group educational activities.

DISCUSSION

Regarding socio-demographic data, there was prevalence of single marital state and the majority were female, a fact that, according to literature, finds justification in the social advancement that women have achieved due to insertion in the labor market, allowing them to conquer spaces and recognition in public and private sectors.¹³

Regarding health services, primary health care is configured as a gateway to care for people with chronic diseases and the care provided by health professionals, especially nurses, should occur continuously and comprehensively directed to each user's needs.³
Through this context, it is noteworthy that a qualified assistance requires continuous improvement of health professionals by promoting improvements in the work process and practices carried out. However, few nurses with training or expertise on diabetes were found in this study. This is in line with a research carried out in the State of São Paulo that found a shortage of qualified human resources among professionals working in basic health units, pointing also this factor as a major complicating factor of the management of the disease.4

Therefore, training represents a tool to optimize the qualification of professionals, to standardize and systematize the service provided to users with diabetes in terms of comprehensiveness, health education and development of self-management.14

Also in this sense, customer service is also favored by clinical experience of these professionals, who have ten or more years of exercise and are certainly prepared to provide holistic, comprehensive, qualitative and effective health assistance. We can infer, though, that these workers may be discouraged to this practice, as some stages of nursing care process fall short from what is recommended. This context allows us to infer that despite the long time experience, the organization of labor and environmental conditions significantly interfere in nursing care and consequently affect its operations in a qualified way.15

The assistance process of the nurse is accomplished through individual and holistic planning, anchored in scientific knowledge. For directing its actions, a detailed investigation is necessary. This consists of implementing the first stage of Systematization of Nursing Care. Among stages, physical examination stands out. This enables the investigation of abnormalities or physical changes that may suggest problems process of health and disease.16

On physical examination, the concern of the studied nurses in performing it shows a professional routine supported by the Ministry of Health, which stands as an essential component in the nursing consultation in primary health care.3

From this perspective, it is noteworthy that the study participants performed the measurement of waist circumference, calculation of body mass index and the examination of the feet of people with diabetes. Such measurements are relevant to guide the actions of the multidisciplinary team and must be inserted in the user service consultation. These parameters, when altered, are considered risk factors for metabolic syndrome, cardiovascular diseases and associated comorbidities.1

Regarding the examination of the feet of users with diabetes and inherent to the evaluation with a view to preventing diabetic neuropathy and diabetic foot, we found that inspection of signs of deformities and verification of the perception of the sting are usually performed. However, inchoate actions were observed with respect to palpation of the posterior tibial and dorsalis pedis pulses, temperature and color aspect of the skin and ankle jerk reflex checkup, use of the monofilament of 10g associated to a 128Hz tuning fork test for neurological examination, and vibratory tactile sensitivity test.

These findings show a modest adherence to the guidelines of the Ministry of Health, which emphasize that nurses should examine the feet of people with diabetes focusing on the detection of feet at risk of ulceration and amputation in order to establish actions of promotion, prevention and treatment according to the examination performed. The careful examination is an essential part of the risk assessment process. This is also a low-cost method, which has good cost-benefit ratio and contributes significantly to reducing the prevalence of morbidities of the lower extremities.3,17

Considering these aspects, it is important to note that diabetic neuropathy is the most common complication of diabetes mellitus, affecting 50% of people over 60 years and may be present before the detection of the loss of protective sensation, resulting in increased vulnerability to trauma and increased risk of developing ulcers. Therefore, assistance to these users should include a systematic routine evaluation of sole protective sensation loss with the aid of 10g monofilament associated with one out of four tests (tuning fork of 128Hz or neuro esthesiometer to test the vibration sensitivity, pin to pain sensitivity and the hammer to the ankle jerk reflex). Still, the vascular assessment by palpation of distal pulses and or calculation of ankle-brachial index is a key component of this exam. It is emphasized so that only one of the evaluations alone will not result in identifying or preventing diabetic foot.1,3

A similar study that investigated the approach taken during the nursing consultations of users with diabetes with the aim to prevent diabetic foot corroborates the present results, showing a partial assistance from nurses who fail to fulfill important steps during physical examination to prevent diabetic foot or the associated complications.
In this direction, authors point out that nurses trained to perform the clinical evaluation of the feet contribute to the quality of care.6

Thus, the nursing consultation is the opportune time for the development of actions to prevent the diabetic foot and its complications, as it allows an individual and comprehensive assessment of the user, with the use of interventions and encouraging self-care. However, such assistance should take place in a systematic way, based on scientific knowledge, which constitutes an important tool for nursing work.9

With respect to the instructions given to users with diabetes, a similar research identified that all nurses would give guidance on the use of appropriate footwear and cutting the nails, essential actions to prevent injuries, infections and deformities that predispose to the development of diabetic foot.3

Daily inspection, walking always with shoes, hydration of the lower limbs, washing with warm water, drying after bath to prevent moisture and proliferation of mycosis and practicing exercises for the improvement of circulation, are all part of the nurse's guidelines with a view to foot care.1

The guidelines given by nurses regarding lifestyle change are important to raise awareness of users with diabetes about the risks they face. In addition to improve the quality of life, such recommendations have low cost and minimal risk, help control blood glucose levels and other risk factors, contribute to metabolic control, increase the effectiveness of drug treatment and decrease the magnitude many other complications of diabetes.1

As for requesting routine tests during nursing visits, data from this study do not meet what is recommended by the Ministry of Health. Such tests are considered indispensable, according to protocols or municipal technical norms.3

The request for additional laboratory tests aims to trace the customer's state of health. Their frequency depends on individual monitoring, considering the cardiovascular risk, metabolic control, care goals and existing complications. Among the tests, fasting blood glucose, glycated hemoglobin, total cholesterol, High Density Lipoproteins (HDL) and Low Density Lipoproteins (LDL), triglycerides, serum creatinine, urine type 1 test and, if necessary, microalbuminuria or albumin/creatinine ratio and fundoscopy stand out.3 4 5

In relation to the actions performed by nurses during the service, it was found that all referred the user to the physician, most for the nutritionist and the minority to the ophthalmologist. In this perspective, a study conducted in São Paulo also showed few referrals to the ophthalmologists to perform the fundoscopy, as well as to other health professionals. This shows a deficiency in referrals, representing a failure of the care management process. The importance of referring patients to various health care levels is noteworthy, with nurses participating in the operation and development of the system of reference and counterreference aiming at continued, individual, integral and effective assistance.4

It is also important that nurses maintain good communication with all staff during the assistance given to people with DM. In addition, the scope of diagnosis and planning of actions undertaken beyond the nursing staff should be broaden, involving the physician, community health agents and, when available, the Support Center for Family Health (SCFH) in order that all professionals may feel responsible for the care, optimizing the interdisciplinarity.3

Because retinopathy is one of the most frequent complications of diabetes, one of the evaluation indicators of quality of care to the health care of people with diabetes mellitus is the realization of retinography through referral to an ophthalmologist. Cases with sudden vision loss, bleeding or retinal detachment need to be evaluated immediately because retinopathy, macular edema, cataract and open-angle glaucoma, which are found more often in diabetes, must be considered.1

Depending on health education practices, most of the nurses reported to perform individual educational activities and a minority, also in groups. Education on diabetes is effective provided that this is interactive and designed in partnership with patients and tailored to their needs. Notwithstanding, group activities allow remodeling professional environments, and facilitate social interaction between users, professionals and community, supporting the practice of health promotion and the encouragement of self-care.18

Yet in this perspective, interdisciplinary and inter-sectorial approach in educational strategies, which are important to change the care model of primary health care of people with diabetes in the Unified Health System (SUS), become necessary.19

In face of the addressed situation, it was found that the nursing consultation enables the implementation of systematization of
nursing care, whose practice is guided by scientific knowledge. The application of standardized and documented language in nursing care plans improve the quality of patient evaluation, enabling the identification of common diagnoses in similar contexts and coherence between nursing diagnoses, interventions and outcomes, being interpreted as an organizational intervention to qualify the patient care process or the results.20

It is also important to highlight that diabetes care should encompass the human being holistically, and that nurses must be aware of the physical, psychological, emotional and social needs, and furthermore, promote actions that encourage self-care.21

CONCLUSION

This study identified efforts of nurses in search for a nursing care based on proposed guidelines for the care of people with diabetes, with fulfillment of important steps, such as a service based on the systematization of nursing care with emphasis on physical examination. However, the results obtained regarding the care process directed to the examination of the feet were not up to what is recommended. The completion of this thorough examination, according to the steps established by consensus and guidelines, is essential for the prevention of diabetic foot, which sets as a major public health problem that accounts for high morbidity and mortality.

It was also noted a need for qualification of these activities, as well as greater attention to users with diabetes mellitus type 2, since the actions in an integrated way help to prevent complications and improve the quality of life of these people. Thus, the training of health professionals involved in the care process to the user with diabetes is imperative, with an emphasis on skills and incentives that incentive nurses more committed to conduct a competent assistance.

The study serves as guide for other researches, stimulating the pursuit of other evaluative studies with larger groups and different locations for a possible confirmation of these preliminary data. These findings can be used by nurses to support the planning of their actions in order to promote the health of people with diabetes. Furthermore, it emphasizes the relevance of the extension of the evaluative focus beyond the actions developed by nurses, with emphasis on activities carried out by other members of the multidisciplinary team.

ACKNOWLEDGMENTS

To the Pro-Dean of Graduate Studies and Research of the Regional University of Cariri PRPGP/URCA, Ceará Foundation for Support of Scientific and Technological Development - FUNCAP and the Research Group of Nursing, Health and Society - GRUPESS.

REFERENCES


Nurses’ care process to users with diabetes...

Sisnando LG, Sousa NDL de, Fabricio NP et al.

http://ojr.c3sl.ufpr.br/ojr/index.php/cogitar/e/article/viewFile/24218/16228


Sisnando LG, Sousa NDL de, Fabricio HP et al.

Nurses' care process to users with diabetes...

Submission: 2015/10/13
Accepted: 2016/02/10
Publishing: 2016/03/01

Corresponding Address
Natália Daiana Lopes de Souza
Universidade Regional do Cariri
Departamento de Enfermagem
Rua Santa Cecília, 250
Bairro Socorro
CEP 63010-255 – Juazeiro do Norte (CE), Brazil