DIABETICS WITH FEET IN RISK SELF CARE PRACTICES

PRÁTICAS DE AUTOCUIDADO DE PESSOAS COM DIABETES E PÉS EM RISCO

Nádya dos Santos Moura¹, Maria Vilani Cavalcante Guedes², Luciana Catunda Gomes de Menezes³

ABSTRACT

Objective: to identify the self-care practices of the diabetic people with their feet in risk, well as the difficulties and/or facilities at the preventive measures Implementation. Method: a descriptive study with quantitative and qualitative approach, with 40 patients from a Unit of Primary Health Care. Data were produced between March and August 2013, through semi-structured interviews. To data analysis, was used the Thematic Content Analysis Technique. Quantitative data were analyzed by the descriptive statistic presented in a table. Results: from the discourses emerged two categories: good self care practices to the feet and difficulties to the feet self care. Conclusion: the studied population presented many difficulties at the feet care because of the lack of knowledge about some preventive measures. Descriptors: Nursing; Mellitus Diabetes; Diabetic Feet; Self Care.

RESUMO

Objetivo: identificar as práticas de autocuidado de diabéticos com pé em risco, bem como as dificuldades e/ou facilidades na implementação das medidas preventivas. Método: estudo descritivo, com abordagem quantitativa e qualitativa, com 40 pacientes de uma Unidade de Atenção Primária à Saúde. Os dados foram produzidos entre março e agosto de 2013, por meio de entrevistas semiestruturadas. Para análise dos dados, utilizou-se a Técnica de Análise de Conteúdo Temática. Os dados quantitativos foram analisados pela estatística descritiva apresentados em uma tabela. Resultados: dos discursos emergiram duas categorias: boas práticas de autocuidado com os pés e dificuldades para o autocuidado com os pés. Conclusão: os pesquisados apresentam muitas dificuldades no cuidado com os pés em virtude do desconhecimento sobre algumas medidas preventivas. Descritores: Enfermagem; Diabetes Mellitus; Pé Diabético; Autocuidado.

RESUMEN

Objetivo: identificar las prácticas de autocuidado de los diabéticos con pies en situación de riesgo, así como las dificultades y/o instalaciones en la aplicación de las medidas preventivas. Método: estudio descriptivo con un enfoque cuantitativo y cualitativo, con 40 pacientes en una unidad de atención primaria de salud. Los datos se produjeron entre marzo y agosto de 2013, a través de entrevistas semiestructuradas. Para el análisis de los datos, se utilizó la técnica de análisis de contenido temático. Los datos cuantitativos se analizaron utilizando estadística descriptiva presentadas en una tabla. Resultados: de los discursos emergieron dos categorías: las buenas prácticas de auto-cuidado con los pies y las dificultades para el auto-cuidado con los pies. Conclusión: los encuestados tienen muchas dificultades en el cuidado de los pies debido a la falta de algunas medidas preventivas. Descriptores: Enfermería; Diabetes Mellitus; Pies Diabético; Auto-Cuidado.

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INTRODUCTION

In the last years, the mellitus diabetes (MD) has been considered a serious disease and frequent on the adult population, characterized as a serious public health problem and a challenge to the health professionals. Several factors have contributed to this increase in prevalence: increased rate of urbanization, industrialization, sedentary lifestyle, hyperglycemic and diets rich in rapid absorption of carbohydrates.\(^1\)

Being silent installation disease, the patient is predisposed to micro-vascular complications among these the most prevalent is diabetic neuropathy. Many people with diabetes lose their sensitivity and may develop deformities, trauma or repetitive superficial cracks in the skin.\(^2\)

When uncontrolled or diagnosed early, it can cause the diabetic foot is a chronic complication fearful, mutilating, recurrent and costly to the individual and to the health system.\(^3\)

In this context, preventive measures added to the stimulus to self-care, the interdisciplinary care and health education, could prevent 44% to 85% of amputations and thus avoid costly complications, both physical and emotional and disability associated with chronic problems.\(^2,4,5\)

The importance of adherence to self-care for diabetics with foot at risk was exacerbated especially when one of the researchers began acting in Primary Health as Family Health Strategy nurse, in which it was faced with these patients and can accompany them closely. The concern was based on the lack of professionals and patients about the prevention and management of these wounds, including knowledge and practices. Furthermore, as was also observed, patients tend to value the medical treatment at the expense of other non-pharmacological treatment measures. Thus, they failed to prevent complications that could often be avoided by performing self-care actions.

Self care has been defined by Dorothea Orem as practice activities, initiated and implemented by individuals for their own benefit to maintain life, health and wellbeing.\(^6\)

Orem, all individuals are able to take care of themselves, and when a person cannot perform this care, the nurse can help you with a view to promoting better patient adherence to treatment by stimulating the behavioral changes essential for effective disease control.\(^5\)

The importance of self-care for the treatment and prevention of chronic complications in the lower diabetic members have emphasized the examinations of the feet and stepped changes in life habits, but it is observed that patients do not realize that care and professionals, generally do not emphasize its importance.

In this context, the following question was defined: which self-care practices of diabetics with foot at risk and the difficulties and/or facilities in the implementation of preventive measures?

There are wide difficulties in relation to personal habits change, as these are part of a social construction and are influenced by the environment in which patients are part of not giving in isolation, but in conjunction with environmental, economic, hereditary and related to health services.\(^4\)

Finally, it is proposed important contributions on the injuries prevention on MD people’s feet, giving attention to the previous detections of the complications, trough guidance promoted rightly, more specific cares, decreasing the overload of the Social Security system by previous retirements, lost of work functions during the productive age and high hospital’s costs to its treatment and rehab.

OBJECTIVE

- To identify the diabetic people with feet in risk self care practices and/or the implementation of preventive measures.

METHOD

A descriptive study, with quantitative and qualitative approach, conducted at the Unit of Primary Health Care (UPHC) belonging to the Regional Executive Secretary IV (RES IV), located in Fortaleza-CE, from March to August 2013.

Applied the formula to calculate the finite sample, based on the prevalence of diabetic foot, significance level and sampling error, and came to the total of 107 patients who should compose the study sample. However, this number has not been achieved, considering that most of the patients enrolled in the program did not attend the consultations in the unit during the period of data collection and those with less than three years of diagnosis of MD, preventing the scope of the initial sample. Finally, in the study 40 clients, who were present in the medical
consultations and/or nursing in the period of data collection and who agreed to participate. They were included in the study patients who met the following criteria: have clinical diagnosis of mellitus diabetes (MD) 2. There is at least three years (as the diabetic foot develops in the chronic phase of the disease and silently): be 18 years of both sexes; registered and monitored regularly to the unit. They excluded those with cognitive impairment and have any difficulties make it impossible to communication and responses to the instrument.

To collect the data we used the semi-structured interview recorded with the consent of the researched and later transcribed consisting of: (1) questions pertaining to socio demographic data and (2) issues inherent in the practice of self-care with your feet.

The interviews were transcribed verbatim, beautiful repeatedly and subjected to thematic content analysis technique. According to the technical assumptions of the three steps were followed: the pre-analysis; exploration of the material and the processing of the results; and inference and interpretation.7

This analytical process emerged two thematic categories: 1. Good self-care practices with their feet and 2. Difficulties in self-care with your feet.

The interpretation was based on the current literature on diabetic foot. Quantitative data were analyzed using descriptive statistics, presented in a table.

The ethical and legal aspects of the research were respected in accordance with Resolution 466/12 and was approved by Ethics Research Committee from the Ceará State University, under Opinion nº 201.279. The participants who accepted to participate signed the Terms of Consent and to guarantee the anonymity at the results were identified with the letter P, of patient, followed by Arabic numerals according to the order that they had been interviewed.

## RESULTS

Participated from the study 40 patients and the majority of the sample were female 25 (62.5%). The age range between 32 to 90 years old, the mean was \(58.6 \pm 11.7\) years. The origin of the sample equally divided between capital and metropolitan region 20 (50.0%) and interior, 20 (50.0%). Regarding the level of education, 13 (32.5%) of those interviewed had completed elementary school.

Marital status was shown as a contributing factor for self-care, where 23 (57.5%) of participants were married and reported receiving stimulus for self-care from our partners. The number of children of respondents varies from 2 to 7 children, with an average of \(3.5 \pm 1.7\) children. As for family income, 27 (67.5%) people have between 1 and 3 minimum wages, ranging from less than 1 minimum wage to more than 4 salaries, averaging \(2.0 \pm 0.6\). Regarding the occupation, the sample was composed of retired/pensioners 11 (27.5%).

On the variables related to foot care, the data are shown in Table 1.

<table>
<thead>
<tr>
<th>Feet Care</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash rightly the feet</td>
<td>12</td>
<td>30.0</td>
<td>28</td>
<td>70.0</td>
</tr>
<tr>
<td>Dry rightly the feet</td>
<td>8</td>
<td>20.0</td>
<td>32</td>
<td>80.0</td>
</tr>
<tr>
<td>Cut rightly the nails</td>
<td>10</td>
<td>25.0</td>
<td>30</td>
<td>75.0</td>
</tr>
<tr>
<td>Moisturize the feet</td>
<td>13</td>
<td>32.5</td>
<td>27</td>
<td>67.5</td>
</tr>
<tr>
<td>Use tight shoes</td>
<td>1</td>
<td>2.5</td>
<td>39</td>
<td>97.5</td>
</tr>
<tr>
<td>Walk barefoot</td>
<td>15</td>
<td>37.5</td>
<td>25</td>
<td>62.5</td>
</tr>
<tr>
<td>Exam the feet</td>
<td>12</td>
<td>30.0</td>
<td>28</td>
<td>70.0</td>
</tr>
<tr>
<td>Care the injuries</td>
<td>10</td>
<td>25</td>
<td>30</td>
<td>75.0</td>
</tr>
<tr>
<td>Use right socks</td>
<td>3</td>
<td>7.5</td>
<td>37</td>
<td>92.5</td>
</tr>
</tbody>
</table>

As noted, the data presented show that, among the surveyed, most do not perform complete foot care, highlighting the use of appropriate socks as care less run (92.5%), followed adequate drying of the feet (80.0%). In contrast many of the respondents avoided tight shoes (97.5%) or walk barefoot 25
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(62.5%), is protecting it from the appearance of traumas and injuries.

From the analysis of the interviews, two themes emerged: the first was called good self-care practices with the feet and the second entitled difficulties for self-care with your feet.

In this category, good self-care practices emerged two subcategories: coping strategies, present in the speeches:

*And do not see anyone help me [look to the feet], but now I can move your hand to feel [the feet] (P8).*

*I set foot on a stool, there is high and can see [examine] to brush (P32).*

The subcategory support Search has been identified in the following lines:

*The family helps to examine [the feet] (P6). I ask my daughter to look [the feet] and cut my nails (P18). As I can’t see well and depend on others, I will wait for people [see the feet], because they helped me a lot (P40).*

Difficulties in the category for self-care with your feet emerged two subcategories: behavioral and socioeconomic aspects present in the speeches and well characterized:

*[I have difficulty] I don’t give importance [to my feet], because I thought something so far without (P16). It is laziness [to see the feet] (P22). [I have difficulties] regarding shoes [to the feet], because it not easy and accurate to work with closed shoes because the special shoes are also very expensive (P38).*

Also are difficulties related to the physical limitations, we highlight the following statements:

*I forget to see [to my feet], because I always forget (P1), [I have difficulty] to remember and to care [of my feet] (P10). [I have difficulty] to see [my feet], because of my cataract (P2). [I have difficulty] Due to the problem in the spine and osteoarthritis in the knee, I can’t look at him [feet] (P13). [I have difficulty] because of the fat [because of my belly] it does not let [examine the feet], I depend on the good will of my daughter (P3).*

At the same time that the habit change is seeing as a difficulty to some group members, others searched different ways to understand the same necessity.

**DISCUSSION**

From the patients’ socio-economical conditions’ analysis regarding to gender, there is predominant female sample. This result may reflect a demand bias because, in Brazil, the first MD national census promoted in the late 1980s, which evaluated the urban population 30-69 years prevalence also was found in both sexes, increasing but with the progression of age and body adiposity. This can also be justified by the lacking of male presence in primary care services to health and also by a socialization process, leading the way individuals express their masculinity and behave in society.

A study conducted in São Paulo, in 2008, to identify the prevalence of diabetes in Brazil, pointed out that the frequency gradually increases after the age of 50, indicating increasing prevalence of cases among women, the predominance of women in relation to men, which can be explained by the fact that women have more care with health, greater awareness of the disease and seek health services more often.

Regarding age, data from this study are consistent with the estimate of the Brazilian Society of Diabetes, which shows a higher prevalence of MD2 after 40 years. Added to this, there is an increasing elderly population in the world and simultaneously a decrease in the proportion of younger groups in society. Although an increasing number of people was affected by MD2 at younger age. The increasing prevalence of obesity in adolescence and the development of metabolic syndrome associated with cardiovascular disease in maturity have justified the emergence of MD2 at younger ages.

These early start makes more aggressive complications and brings higher costs to public health.

The developmental process is one of the factors to characterize the demand for self-care, as the difficulties faced in everyday generate dissatisfaction, stress, metabolic changes and divert people’s attention on performance and maintenance behaviors towards health. The different therapeutic demands punctuate deficiency of knowledge, lack of interest and lack of motivation related to the disease. Faced with the situation, the nursing care in this group deserves special attention because it requires health professionals a distinctive look and expanded, covering not only the appearance of the disease, but the whole context in which this person.

The sample of the study preceded, also the capital and the interior. The prevalence of diabetes in Brazil, according to the National Survey by Household Sampling (NSHS), was higher in individuals of the urban area (3.99%) compared to those from rural areas (2.97%), while in China the lowest prevalence of MD is in the countryside and is related to...
underreporting of the disease, showing little knowledge about this population and their health.\textsuperscript{11}

As for education of the sample group, most of the people interviewed have low education. The development of MD independent of education level, and can affect people of all social classes. However, the low level of education can lead to lack of access to information for proper metabolic control.

According to studies, the level of education should be taken into consideration when you want people to participate in the actions of self-care.\textsuperscript{12} Research involving Brazilians with diabetes indicate the level of education as a hard variable in the care process. This condition was also identified in this study as a situation that compromises the process of teaching and learning people. Soon, it constitutes a contributing factor to the onset of chronic complications due to have higher degree of difficulty in access to information and learning process for carrying out health care.\textsuperscript{4}

Given this fact, the use of communication and information as process technology to educate people with diabetes with foot at risk is a strategy that can be employed in order to meet the needs of these patients reducing the complications of the disease, however, as noted, the vast majority of subjects, even with some degree of instruction, needed guidance on the care of the diabetic foot. Non-adherence to treatment, neglecting the fragile therapeutic education and poor access to health services are risk factors for developing foot ulcers.\textsuperscript{2}

Also as noted marital status proved to be a contributing factor for self-care. This result is in agreement with a study conducted in Ribeirão Preto city, in 2011, in which the prevalence of people with married MD was 60.4%.\textsuperscript{4}

Studies show the importance of the family context as motivation component for adherence, being significantly related to self-care behavior of the patient.\textsuperscript{4,5} Thus, before a physical disability, cognitive or sensory, especially in older diabetic person should receive significant emotional support, and be encouraged by their families to adopt the changes in lifestyle imposed by the disease.\textsuperscript{4}

The MD is a chronic disease that required adjustment in dynamics and family organization and requires permanent care and continuous. Family and friends exert decisive role in people's lives, influencing decision making as to follow the recommendations, favoring the acquisition of healthy habits among family members and be decisive for adherence to treatment.\textsuperscript{13}

The family income of respondents, the sample had one to two minimum wages. The socioeconomic conditions of people with MD interfere directly in their daily lives, because it is a disease that requires treatment that often requires significant expenditure, especially in the use of appropriate footwear, glycerin control and food plan. This condition may represent a limiting factor for treatment, especially regarding the proper diet, constitutes a high cost factor for this population. This can be crucial for diabetics neglect the recommendations prescribed by health professionals.\textsuperscript{12}

Expenditures for the diabetic people directly affecting families, especially low-income arriving to spend 56% more, since individuals with lower income live and work in environments related to poorer health, not having access to services health or preventive measures, compared to families in which there are no people in these conditions.\textsuperscript{5}

Regarding occupation, most participants are retirees, pensioners or receive sickness. This rate is explained by the number of people aged over 65 years. This fact was also found in a study made in Ribeirão Preto in 2011, where 66.7% of the participants were retired.\textsuperscript{1}

\textbullet\ Category 1: Good self care practices to the feet

Deal with a chronic disease can be really complex. The coping strategies depend on some factors that permeate from the emotional, affective and psycho-social aspects to the family dynamics, as well as the patient's relationship with the health professional, in which nurses can provide information, promote the strengthening of attitudes active for the disease, especially in caring for the lower limbs and the prevention of complications.

Discussing coping and chronic diseases need to consider the implications of these on the development of information, motivation and empowerment of the individual, family and social groups.\textsuperscript{14} The basic conditioning factors for the implementation of self-care requirements are related to age, sex, stage of development, stage of the life cycle in which the individual is environment, family, social, cultural, religious, financial and health status.\textsuperscript{6}

In a study in Fortaleza with colostomy patients the knowledge of the factors related to self-care possible to obtain data that besides contributing to effective strategies and interventions in their rehabilitation
process also contributed to the improvement of care by strengthening the education of nursing practice.\textsuperscript{12} Positive living with chronic disease due to the use of coping strategies that allow adaptation and tolerance to the stressor.

Thus, it was considered that the nursing orientation is one of the strategies that could encourage and develop the potential of patients and families, and instrumentalize them to take as active subjects, the actions aimed at dealing with problems arising from this treatment.\textsuperscript{11}

Regarding the involvement of the family, the support of family members is an essential requirement for the patient to be able to perform self-care. According to studies, people with MD who had adequate family support joined to better self-care practices, which positively affected the improvement of self-management behaviors of care.\textsuperscript{7,12}

However, the service this need is basic requirement of nurse-patient interaction to help you in understanding your condition of patient, but the family also plays a key role in the face of the MD chronicity. From this emerges the self care importance as a relevant practice on the consolidation of the life style change, necessary to the metabolic control obtaining and life quality enlargement.\textsuperscript{15}

\textbf{Category 2: Difficulties to the feet self care}

Because of the life style change imposed to MD people in a life stage which their habits are already consolidated, it is essential to the people participate actively monitoring their disease. It's up to you to modify your health, but for these changes occur, in addition to knowledge and skills, you need motivation to perform simple procedures such as the examination of the feet.

The foot care should also be a priority among professionals for two reasons: first, because the patient requiring amputation presents a risk of higher mortality and poorer quality of life; second, because patients who have already had some ulceration have a 57 times higher risk of another ulceration. However, if held intensive prevention with remedial education, could avoid this risk by 25%.\textsuperscript{2}

Simple precautions, according to the recommendations of the \textit{International Working Group on the Diabetic Foot} prevention of the diabetic foot is based on the following instructions: wash your feet daily with mild soap and water, dry them thoroughly with a soft towel, primarily between the fingers, and hydrate with urea-based cream in the plantar region, back and heel, except in the inter-digital spaces, preferably three times per day.\textsuperscript{2}

Regarding the importance of using proper footwear in the population studied, many reported that they were using common and open shoes, therefore, have a self-care deficit, which may be associated with low socioeconomic status of study participants, because due to low-income patients can't afford to buy proper footwear for use and therefore are more prone to risk of injury. Even if the used sandals are not suitable due to the high costs of therapeutic shoes, people with MD should always be oriented to walk the sidewalks, not wearing tight shoes and they protect them from possible extrinsic injuries.\textsuperscript{2}

As stressed in his Orem Self-Care Deficit Theory, the deficit is when the demand exceeds the patient's ability to perform self-care actions, evidencing disorganization of structural and functional order of being.\textsuperscript{6}

So from there is no need for intervention to minimize or overcome these deficits. The \textit{International Working Group on the Diabetic Foot} stresses that 85% of serious injuries of hospitalized diabetic patients are commonly associated with minor trauma, caused by sharp objects to walk barefoot through the use of inappropriate footwear, common dermatoses, incorrect manipulation of the feet and nails by unauthorized persons. Such complications could be minimized by guidance on the appropriate care.\textsuperscript{2}

Importantly, in the case of neuropathy, even in the absence of visible deformations, that the shoes should be made of soft leather sized in length, width and height with extra depth, allowing the adaptation of removable insoles, without internal seams counter rigid, padded internally; adjustable closure (velcro or shoelaces), jumps of up to 3 centimeters and which completely covers the fingers and the heel.\textsuperscript{3}

However, it was observed in other studies that poor adherence to the use of therapeutic shoes is due to the aesthetic aspect, as patients considered the "ugly and bad", giving preference to the use of new shoes, but unsuitable for use may result in calluses and lesions.\textsuperscript{3,16}

Regarding nail care, surveyed diabetics cut their nails improperly, so denote one self-care deficit and thus are more vulnerable to the risk of developing foot ulcers. Cutting the nails rounded it is not recommended because when the corners of these are removed frequently, a deep and intact portion of the nail is left in the distal nail groove, which...
ends up favoring injuries on the sides of the nails contributing to the occurrence of nail stuck, causing injury and pain.17

For the International Working Group on the Diabetic Foot, cutting the nails should be performed with pliers, should have good lighting, comfortable position and good vision; should stabilize the toe with his hand and cut with the other, and any rough edges using sandpaper.2

However, as registered, only a quarter of diabetics has knowledge nail cut to the correct format and yet, not realized, often by virtue of impaired visual acuity.18

It is good to underline that the inadequate way that they CUT their nails may be associated to the lack of knowledge about the used instrument to this procedure.

**REMARKS**

This study helped to identify the diabetics with feet in risk self care practices and difficulties and/or facilities of the preventive measure implementation, considering the knowledge acquired by them in routine appointments, in contact to the team and according to their daily experiences.

Among the variables related to foot care, stood out: the non-use of appropriate socks, followed by not proper drying of the feet, cutting not suitable nail and not taking care of injuries. On the other hand some participants cite avoid the use of appropriate footwear and avoid walking barefoot in order to prevent traumas and injuries.

In the concerning good self-care practices with the feet include: coping strategies as a way to facilitate self-care actions, as well as family support the self-care practices.

Regarding the difficulties for self-care with their feet, the data revealed highlighting the economic, physical problems, visual and mobility.

These deficits are likely related to the few opportunities guidelines. Participants said that the guidelines are important, therefore, to improve the knowledge of the person with MD on foot care is essential to minimize adverse actions resulting from ineffective self-care.

In this context, health professionals must, along with patients and families, teach the proper way to take care of the feet, especially those classified at foot at risk. This is essential to achieve an adequate care level.

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