

RESSIGNIFICAÇÃO DO CUIDADO DE UMA PESSOA COM DIABETES E PÉ DIABÉTICO: RELATO DE EXPERIÊNCIA

A RESIGNIFICATION IN DIABETIC PATIENT CARE WITH DIABETIC FOOT: A CASE REPORT

RESIGNIFICATION DEL CUIDADO DE UNA PERSONA CON DIABETES Y PIES DIABÉTICOS: RELATO DE EXPERIÊNCIA

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RESUMO

Objetivo: relatar a experiência de integrantes de um projeto de extensão no acompanhamento longitudinal à pessoa com Diabetes Mellitus. **Método:** trata-se de um relato de experiência dos integrantes de um projeto de extensão realizado com um homem de 63 anos, com pé diabético, lesão crônica há 15 anos, infectada e necrótica na região medial plantar esquerda e direita, com amputação de dois pododáctilos em cada um dos membros inferiores e dificuldades na convivência com o adoecimento. As ações pautadas no princípio da Clínica ampliada e compartilhada apresentavam por objetivo o incentivo ao tratamento, o processo cicatricial de lesões e o autogerenciamento dos cuidados em Diabetes. Utilizou-se instrumento para conhecer o contexto social e cultural e para a consulta de enfermagem. **Resultados:** constatou-se melhor controle dos níveis glicêmicos, mudanças em relação aos hábitos alimentares com perda ponderal significativa, processo cicatricial das lesões, domínio e habilidade na aplicação de insulina e mais cooperativo. **Conclusão:** A relação dialógica, a interação prolongada e o vínculo, princípios que fundamentaram as ações, foram capazes de produzir mudanças nos integrantes do projeto e na sensibilização do participante, contribuindo para a ressignificação do cuidado e para a melhoria da condição de saúde.

Descritores: Enfermagem; Diabetes Mellitus; Cuidados de enfermagem; Pesquisa qualitativa.

ABSTRACT

Objective: to report the experience held by members of an extension project on a longitudinal follow-up of patients who have Diabetes Mellitus. **Method:** it is an experience report of the members from an extension project carried out with a sixty-three-year-old man with diabetic foot, a chronic lesion - lasting 15 years, left and right plantar medial region under infected and necrotic conditions, amputation of two toes in both inferior members and difficulties in accepting the illness. The actions based on the principle of extended and shared clinic aimed at getting the patient to take therapy, healing process of lesions and, self-management of care in Diabetes. It was used a protocol to know the social and cultural context and nursing assessment. **Results:** better control of glycemic levels, changes in dietary habits with significant weight loss, scarring of lesions, mastery and ability in insulin shots and patients being adherent to treatment. **Conclusion:** The dialogic relation, a prolonged interaction and bonding, principles that underpinned the actions were able to bring along improvements among project members and patient's willingness to participate, resulting in an overall mindset change in health care and health condition improvements.

Descriptors: Nursing; Diabetes Mellitus; Nursing Care; Qualitative research.

RESUMEN

Objetivo: para divulgar la experiencia de un proyecto de extensión en el seguimiento longitudinal de la persona con Diabetes Mellitus. **Método:** los estudios de caso de un proyecto de extensión realizado con un hombre de 63 años de edad con lesiones crónicas, pie diabético por 15 años, infectados y necróticos en la región plantar medial izquierda y derecha, con amputación de dos pododáctilos en ambos miembros inferiores y dificultad de vivir con la enfermedad. Las acciones basadas en el principio de Clínica ampliada y compartilhada terria como meta fomentar el tratamiento, la cicatrización de heridas y fortalecimiento de la autogestión de los cuidados en Diabetes. Instrumento se utilizó para conocer el contexto social y cultural y a la consulta de enfermería. **Resultados:** tiene mejor control de los niveles de glucosa, cambios en lo referente a alimentación hábitos con pérdida de peso significativa, el proceso de curación de lesiones y habilidad en la aplicación de insulina y más cooperativas. **Conclusión:** la relación dialógica, prolongada interacción y vinculación, principios que subyacen a las acciones, fueron capaces de producir cambios en el proyecto y en la conciencia de los participantes, contribuyendo a la ressignification de la atención y para la mejora de la condición de salud.

Descritores: Enfermería; Diabetes Mellitus; Atención de enfermeira; Investigación cualitativa.

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INTRODUCTION

Diabetes mellitus (DM) is defined as a set of multiple metabolic disorders due to either failure of the insulin action, its secretion or both, resulting in hyperglycemia⁽¹⁾.

Long-term hyperglycemia associated with other factors, such as obesity, insulin resistance, mild and chronic inflammation and endothelial dysfunction, has contributed to the high risk of developing micro and macrovascular complications, as well as Neuropathies. These complications are responsible for significant health expenditures, as well as a substantial reduction in work capacity and life expectancy⁽²⁾.

Complications often result from the person's difficulty in keeping DM under control, because care is often neglected because of the difficulty in recognizing the severity of the disease and lifestyle changes are difficult to incorporate into the everyday lives of the sick, thus compromising adherence to treatment and quality of life⁽³⁾.

Although it is difficult to control it, the person with DM needs to be oriented and motivated by health professionals in an individualized and integral way, in order to meet their needs and to allow adherence to treatment⁽³⁻⁴⁾.

The educational actions undertaken in this process should prioritize glycemic control, through non-pharmacological and pharmacological measures, evaluation and foot care⁽⁵⁻⁷⁾. Foot evaluation is fundamental because it is one of the most serious complications and a major socioeconomic impact⁽⁷⁾, for prevention and/or minimization of complications at the neuro-musculoskeletal and vascular levels, which contributes to the human living process with less Risk of DM complications⁽⁵⁾.

Diabetic foot is defined by the glossary of the International Consensus on Diabetic Foot, such as infection, ulceration and/or destruction of the deeper layers of the skin, accompanied by neurological changes and different degrees of peripheral vascular disease in the lower limbs⁽⁸⁾.

The pathophysiology of diabetic foot is related to ischemic, neuropathic or mixed component. Ischemia is characterized by history of intermittent claudication, pain at rest and worsening with exercise. The neuropathic component is due to the involvement of the

sensory, motor and autonomic peripheral nervous system, with changes in the foot's sensitivity, leading to deformities, atrophy of the interosseous muscles, enlargement of the plantar arch, claw toes and callus in areas of increase of pressure. These components contribute to the appearance of blisters, calluses, lesions and ulcers^(7,9-10). In general, the following extrinsic factors, inadequate footwear, trauma, walking barefoot and fissures are involved⁽¹⁰⁾.

Given the magnitude of the problem related to the complexity of the diabetic foot and its high prevalence, it is necessary for its prevention and control, the development of health actions and the involvement of all the multidisciplinary team, since it requires a process of continuous education^(7,10), comprehensive and multi-professional care, and facilitated access to health services⁽¹¹⁾.

A Cochrane review conducted to evaluate educational programs for people with DM in the prevention of foot ulceration concluded that educational interventions were shown to improve knowledge about foot care in the short term and people reported that behavior with self-care has also improved⁽¹²⁾.

Health education is one of the pillars of the care process⁽¹³⁾. It aims to sensitize, to motivate and to change people's habits in order to reduce complications, to provide a better quality of life, to value and to respect their limitations and to involve them as subjects in self-care actions⁽¹³⁻¹⁵⁾. In this perspective, care for the person with DM should address the needs affected, taking into account the biological, social, emotional, spiritual and cultural dimensions, the life context of the person, the assessment of LLL, general care, Glycemic levels, control of other comorbidities such as Systemic Arterial Hypertension, obesity and dyslipidemia, physical exercise, eating habits, ways of being cared for and treated, issues that are decisive for improving their quality of life and increasing their survival^(5,7,15-16).

Based on these considerations, this article intends to present the experience lived by the professors and nursing students, members of a university extension project in the longitudinal follow-up of a person with DM and diabetic foot and the motivation for self-management of Diabetes, making it co-responsible by this process of change. It is expected that this article will be

able to create conditions for discussing health education and the strategies that have enabled the re-signification of care.

METHODS

This is an experience report that is inserted in the field of research with a qualitative approach, which allows a reflection on the actions developed in a lived situation and brings relevant contributions to the nursing area.

This study is based on the principles of the Extended and Shared Clinic⁽¹⁷⁾ and the literature on care for the person with DM, specifically in the Basic Attention Notebook: Strategies for care of the person with chronic disease, Diabetes mellitus and in the Diabetic Foot Manual^(7,15).

This report describes the experiences of professors and students in the longitudinal monitoring of the domicile, from August 2014 to January 2016, of a man with DM who for 10 years has lesions in the left and right plantar medial regions. The actions developed had the objective of encouraging treatment, the cicatricial process of injuries, autonomy and motivation for self-management of illness.

For data collection and follow-up, the instrument developed by the members of the university extension project, based on the evaluation of the person with Diabetes Mellitus of the Ministry of Health⁽⁷⁾, was used to monitor people with chronic conditions, consisting of questions that made it possible to raise the social and cultural context, nursing consultation, personal and family history, pharmacological and non-pharmacological treatment, physical examination, evaluation of the lesion and indication of coverage.

This report is linked to the research project, Chronic illness: Nursing as a link, approved by the Ethics Committee of the Federal University of Alfenas under 06655512.0.0000.5142. As this was an experience report, the participant's formal consent to participate in the study was obtained by signing the Informed Consent Form and preserving anonymity with change of initials.

RESULTS AND DISCUSSION

The participant selected for this report is T.A.O., a 63-year-old man, 1.79 m tall, 98 kg, melanodermic, retired due to disability, incomplete elementary school, single, resides with three siblings in a suburban neighborhood, characterized by a population of low socioeconomic level and in an area attached to

the Family Health Strategy Unit (UESF). It refers to the medical diagnosis of DM for 15 years and Systemic Arterial Hypertension (SAH) for approximately five years. It makes continuous use of Hydrochlorothiazide 25 mg[®], Losartan potassium 50 mg[®], Nifedipine 20 mg[®], Metformin 850 mg[®] Hydrochloride, Glibenclamide 5 mg[®] and NPH[®] Insulin. He reports that he has had foot injuries for 10 years, as he said "it closes, but then it gets open again", hyperglycemia with difficulty of control, "it has already reached 600, it is very difficult to lower." At the beginning of the follow-up he referred to the habit of consuming hypercaloric, hyper-glycemic, hyper-sodic foods, with irregular intervals between meals and consumption of alcoholic beverage. He remained in an almost permanent hyper-glycemic state, performed an irregular capillary glycemic test, despite having three glycemeters and tapes for the tests. He was always suspicious of the results of capillary glycemia to the detriment of body manifestations. Their testimonies revealed poor knowledge about the disease, storage, preparation, and technique of insulin administration. He performed capillary glycemia in the middle area of the middle finger and the mode of disposal of contaminated and punctured material was in common trash.

In relation to his antecedents, he reported that his mother died due to DM decomposition, had almost total visual deficit, right lower limb amputation, because her fingers were "full of white things", his father also had DM and died as a result of "stroke". His three brothers also have DM. The older one also has "this wound in the leg, here almost everyone has Diabetes", only my older sister who does not have it. In narrating his story, he seems to treat the experiences of family sickness with naturalness and it is evident that his relationship with some professionals of the UESF is marked by misunderstandings, because when asked about the accompaniment, he said: "That people there never come to do the bandage, no, I've already given up on them".

Regarding the physical examination, the main alterations were related to the presence of visual deficit mainly to the right, abdominal circumference of 120 cm, Brachial ankle index 1,2; Capillary glycemia 270 mg, Pa: 150/95 mmHg, impaired physical mobility with anatomical alteration in both feet, inappropriate footwear and socks, hyperpigmentation of the skin and dryness in the tibial, dorsal and plantar region of both LLL, edema +++ / the presence of a

lesion in stage 3, in the medial region of the foot with 9 cm², in irregular circular shape, lesion bed with 30% of necrotic tissue and 70% of hyperkeratosis, absence of exudate, although it had a foul odor, a peri-emissary hyperemic bed, irregular and floating edges. Left foot with amputation of the first and fifth toes, with purulent exudate in the third toe; Lesion in stage 3, in the plantar medial region with approximately 12 cm², of irregular shape, lesion bed with 40% of necrotic tissue and 60% hyperkeratosis, with dark yellow exudate with fetid odor, hyperemic perilesionar bed and irregular borders. We took care of the lesion with a daily dressing with saline solution 0.9% and the dermatological cream silver sulfadiazine 1% for coverage in the bed of the lesion and in the region perilesionar the sunflower oil. We kept the bandage covered with gauze and crepe bandage.

Initially, our first approach was to raise the following priorities for the planning of actions: skin dryness, infected lesions in the lower limbs, hyperglycemia, hypertension, obesity, mainly central obesity, need for changes in eating habits, shoes and socks, need for guidance on the disease, the storage and self-application of insulin and capillary glycemia and solid waste disposal, referral for evaluation of visual deficit and support to improve coexistence and control of the disease. For the initial treatment of the lesions, he was consulted with the UESF professionals with a view to requesting laboratory tests, which involved hemogram, total proteins and fractions, evaluation of renal function, culture of secretion of lesions with anti-biogram, radiological examinations of MMII for assessment of possible osteomyelitis, referral to ophthalmologist, orthopedist and physiotherapy.

After 15 days, the results of laboratory and radiological examinations and medical prescription were already in hand. The main changes were for leukocytosis without deviation and the presence of *Pseudomonas aeruginosa*, for which antibiotic therapy with Gentamicin 80 mg / 2 ml[®] IM was started once a day for four days, without, however, requiring evaluation of renal function. Referrals to other professionals were scheduled and, according to UESF guidelines, the wait lasts on average six months. Due to the severity of the lesion, the daily dressings were chosen, to be performed by the project members, since they required

debridement and evaluation to indicate coverages. The dressings were performed with warm saline solution 0.9%, applied in jets, in addition to the respective coverings throughout the cicatricial wound process: antimicrobial dressings with Hidrofibra impregnated with silver, Activated charcoal with silver, Matrix Cadexomer of Iodine 0.9% Gel, Hydroalginate with Silver, 10% papain and 2%, Adhesion Barrier Gel with Polyhexanide. Essential Fatty Acids (EFAs) were used to hydrate the skin of LLLs.

It should be noted that nurses' performance in the assessment and indication of coverage is ensured by Resolution COFEN No. 0501/2015⁽¹⁸⁾, which regulates the competence of the nursing team in wound care.

The therapeutic options for the treatment of an injury also transpose the mere accomplishment of the dressing. It is necessary to be able to take care of the injury and the expectations of the patient, to sensitize to the continuity of the treatment and to the change of life habits.

In this sense, nurses have great concern in providing individualized, systematized and effective services, based scientifically on the evaluation and coverage of the ideal coverage for a cicatrization of each type of injury⁽¹⁹⁾.

It is important to emphasize that the covering used in dressings were obtained by the project with the public resources of the university and those ones indicated and not available by the university were donated by researchers.

At the beginning of the wound treatment we used the activated carbon with silver as covering, which promotes an adsorption of exudate, reducing the odor. In addition, the silver has bactericidal action, bacteriostatic, it is indicated in fetid, exudative, and infected wounds, and has an adsorption capacity as bacteria concomitant with the absorption of exudate in addition to filtering odors⁽²⁰⁾.

Next, the hydro-alinguate silver was used due to excellent exudate control ability and prolonged antimicrobial activity due to the presence of silver ions. This coverage is indicated without treatment of chronic wounds, with the presence of moderate to high exudate. Its structure is composed of a sterile cushion composed of a mixture of calcium alginate, carboxymethylcellulose and silver coated fibers. Its formula has the power to control effectively or exudating, in addition to broad spectrum antimicrobial action⁽²¹⁾.

Polyhexanide Gel was prescribed, which is effective in the treatment of chronic wounds and difficult healing, especially those colonized/infected, its action promotes a favorable environment to the cicatricial process, reducing the time necessary for cicatrization, reducing expressively the inflammatory signs and/of infection/colonization⁽²²⁾.

The dressing followed the 10% coverage with papain, due to its debriding and stimulating action in the healing process. It is indicated for wounds of different etiologies, in the various stages of the healing process and in patients of any age group⁽²³⁾.

During the follow-up, another culture of the lesion was performed, with *Pseudomonas aeruginosa*, antibiotic therapy was prescribed with Ciprofloxacin 500 mg, 12 / 12hours for 10 days. In this period, it was necessary the return of Activated Charcoal with Silver. With the disappearance of the foul odor of the lesion, the iodized cadexomer was indicated. It is a gel that is useful in debridement of wounds, reduction of clinical signs of infection and reduction of exudate⁽²⁴⁾. The iodinated cadexomer has shown superior efficacy in both *in vitro* and *in vivo* models and may represent a better choice for treating bacterial biofilm in chronic wounds⁽²⁴⁾.

The lesions after 18 months of dressing showed a cicatricial process, considering that the lesion in the right foot plantar area presented 1 cm² in circular format, lesion bed with 80% granulation tissue and 30% hyperkeratosis, absence of exudate and fetid odor, intact perilesion bed, irregular borders. Left foot, healed lesion with 30% flat-shaped hyperkeratosis, intact perilesion bed.

The anatomical deformities of the foot, as a result of amputation, compromised the ambulation, in addition to the pressure area at a certain point, which necessitated the need for orthopedic evaluation and follow-up by a professional physiotherapist, to indicate footwear and to make anatomical insole. It was noted the difficulties faced by the person in this therapeutic itinerary, due to the fact that they wait a year for care, and also because the municipality does not have professionals specialized in this area. One of the professionals of the public network became aware of the case and proposed to study and to produce the insole until they can refer to the specialized center.

The consultation with the ophthalmologist has not been performed so far. Although rights are guaranteed in federal and state legislation

and in the SUS Users' Bill of Rights, it has been found that in practice, people with DM have faced difficulties in guaranteeing these rights, violating the principles of beneficence and justice.

Concomitant with the clinical treatment of the lesion, efforts were made to sensitize the participant to co-responsibility for the recovery process, by adhering to non-pharmacological treatment and correcting inappropriate actions related to drug treatment, eating plan, obesity reduction, reduction of alcohol consumption and adoption of a healthier lifestyle⁽²⁵⁾.

Thus, nursing orientations about DM, its complications, were performed; the correct mode of storage, preparation and application of insulin, the importance of rotating sites for application, in order to avoid complications such as lipodystrophy; the proper disposal of solid waste; the importance of regular checking of capillary glycemia; other parts for glycemia such as the calf and ear lobe; the importance of maintaining glycemic and blood pressure levels within acceptable reference standards; foot care, daily observation of the lower limbs, keep them properly hydrated and in case of any change, request evaluation of a health professional; the importance of maintaining healthy habits with the adoption of a low-sodium diet, hypoglycemic and hypolipidic diet, the importance of adherence to medication treatment and the need for follow-up by health professionals.

During these 18 months of follow-up, we noticed that the relationship of trust and bonding was established and that behavioral changes not only occurred but also remained in the daily life. These changes can be revealed in the testimony "I see how longstanding it is for you to be here every day to do this dressing, so we need to play our part, it is necessary to change, now when I do the test (Capillary glycemia), one day it is 100, another day it is 99, in addition to that, I also lost some weight, I'm feeling this way, lighter and the leg is not swelling much".

These changes were also confirmed by the values of glycated hemoglobin of 6.0%, changes in eating habits with significant weight loss, and are more cooperative, adequate insulin application and maintain the necessary care with the same, discard the material in a sturdy plastic bottle container, comprises the need for the treatment to enable it to live with some restrictions, especially dietary, but without imposition.

FINAL THOUGHTS

The effective actuation of university extension projects in a perspective of inseparability, teaching, research and extension is able to provide for their members the opportunity for the development of skills and abilities that corroborate for the professional improvement, for the understanding of the relevance of the bond to the processes of changes, to the approximation with the experience of the process of illness, to the need for commitment and co-responsibility with the other, to understand the nurse's capacity as agent of transformation and the potential of practical experience for the production of knowledge.

By prioritizing health care and education actions, it is possible to reduce the damages caused by illness and demonstrate the capacity for autonomy towards self-care.

The dialogical relationship, the prolonged interaction, the horizontality and the bond-principles that underpinned the actions were able to produce changes in the project members and in the awareness of the participant, contributing to the re-signification of care in the lives of people with DM and to improve the health condition with DM.

This report also contributes to the strengthening of extension actions and to demonstrating their potential for the citizen, political and committed formation of health professionals.

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