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The autocuidado and the security in patients with standing diabetic risk

Abstract

Introduction: Diabetic foot is a chronic complication of Diabetes Mellitus, which affects the life of these patients, so it is important that they systematically practice self–care for the maintenance of health.

Objective: To show the efficacy of an educational intervention in type 2 diabetic patients with risk of diabetic foot.

Method: An action research was carried out where the theoretical bases of the Dorotea Orem self–care model were used, in the Municipality of Colón in the Matanzas Province, from March 2016 to March 2017.

Universe: of 250 patients admitted to the hospital. Diabetic Care Center.

Sample: Conformed by 50 patients through stratified systematic sampling, the variables of the study were obtained after the application of the designed instruments.

Results: The female sex predominated, metabolic control with admissible range, the time of evolution of the disease for more than 10years, the toxic habit with the highest incidence was smoking, the predominant risk factors being overweight and obesity, there was ignorance before the intervention, managing to reverse the result once the intervention is concluded.

Conclusion: The educational intervention proposed as the basis of the model for the comprehensive care of the diabetic was effective. The theoretical bases of the self–care model were established to give scientific study, they achieved satisfactory results in metabolic control showing the importance of the educational component planned in the intervention. Providing better quality of life and increasing the expectation in years.

Keywords: diabetic foot, diabetological education, patient safety, diabetic foot, diabetológica education, security of the patient, autocuidado

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Introduction

Diabetic foot is a chronic complication of Diabetes Mellitus, which affects the life of these patients. One of the most common complications of Diabetes Mellitus (DM) is diabetic foot ulcer (UPD), a significant source of morbidity and mortality in diabetic patients. Hence, it is suggested that between 10–15% of diabetic patients develop an UPD at some point in their lives and of those between 10–15% ends in an amputation. The most feared complication of diabetes mellitus is the amputation of a member, with the psychological and social burden that comes with it,[1,2] It is currently estimated that more than 25% of the hospital admissions of diabetics in the US, Great Britain, Spain and Mexico are related to problems in their feet.[3] In Cuba, at the National Institute of Angiology and Vascular Surgery, where there is a specialized service in diabetic angiopathy, 20% of patients who enter is diabetic foot between 8% and 13% where you can establish a causal relationship statistically.[4,5] There is a criterion that approximately 15% of all patients with diabetes mellitus develop an ulcer in the foot or leg during the course of their disease, in the Province of Matanzas 13% of patients admitted is per diabetic foot, in the Municipality of Colón there is a prevalence of patients with diabetic foot ulcers of 8%, that's why the importance of education since people with diabetes can prevent diabetic foot with a personal, individual and collective education. Self–care is the key to maintaining health one of the great theories of nursing, Dorothea Elizabeth Orem, described Nursing in 1958 as a service. He then established his theory of self–care deficit as a general model and addressed self–care as a human need. He highlighted the particular attention to be paid by nurses to the satisfaction of the need for self–care of people, to prolong their life and health or to recover from injuries and illnesses.[6,7] The educational support system that we apply in this study is based on the Dorothea Orem self–care model, taking into account the risk factors of diabetic foot and the need to integrate self–care as a model in the patient's daily behavior to contribute to the reduction of complications and amputations in lower limbs,[8–10] taking into account the following objectives: Show the effectiveness of an educational intervention as the basis of the model for the comprehensive care of the diabetic, determine the epidemiological and sociodemographic clinical aspects related to diabetes mellitus, Identify the self–care knowledge that these patients have with diabetological education and foot care.

Method

An action research was carried out, with the aim of showing the effectiveness of the educational intervention as the basis of the self–care model and the patient's safety for the comprehensive care of the diabetic with risk factors of diabetic foot, in the Municipality of Colón, Province Slaughters in the time comprised from March 2016 to March 2017. Universe: It was comprised of 250patients who practiced daytime admission in the Diabetic Care Center (CAD).

Sample

It was made up of 50 type 2 diabetic patients through systematic stratified sampling taken as stratum for those patients who present risk factors. The study variables were: sex, metabolic control, time of evolution of the disease, toxic habits, risk factors, knowledge of the feet before and after the intervention.

Instruments

Prior to the beginning of their application, the Informed Consent of each individual patient was obtained (Annex 1). Subsequently, a questionnaire (Appendix 2) on self–care was applied to knowledge about the risk factors of diabetic foot and diabetes, was also designed by the author, an algorithm of approach to the patient shown in (Annex 3) was an educational program that was given to the patient as shown in (Annex 4).

Procedures

A group of interventions was applied as part of the study, which were grouped into: Educational and preventive interventions. Group dynamics, individual interviews, conferences, monitoring and control. Participation of the multidisciplinary team and advised by the teaching staff of experience the educational program was given with 20hours of duration during 5 working weeks with a daily frequency of 4hours where 2 facilitators participated at least, for the development of the same five groups were made of 10 patients in each. The program lasted 9 weeks, to evaluate the same was applied, at the end, the same questionnaire shown in (Annex 2). The parameters established to ensure patient safety were taken into account for the design of these actions, in addition to the Dorotea Orem model that promotes self–care, taking into account that these actions must be carried out by the patient himself, which is why he previously tested this program in a pilot group that responded satisfactorily to these actions, and also prepared the care staff with diplomas and courses on diabetic foot ensuring adequate understanding of the issues, thus avoiding possible incidents in relation to the cutting of nails and other aspects related to the topic.

Ethical aspects

Prior to the beginning of the application, the informed consent of each individual patient was obtained (Annex 1). All the patients were informed that it would be very useful for the investigation to know some aspects related to their degree of general information. On DM complications and risk factors, that the information derived from this study would be used to improve the explanations that diabetics would receive to prevent future complications. After receiving this information they were invited to cooperate with the interview and it was emphasized that they had full freedom to accept or not. It was found that there was a predominance of female sex with 27 patients (54%); they presented an admissible metabolic control 54%, patients with more than 10 years of evolution of diabetes 18 (36%) Table 1. The percentages were calculated based on the total sample. (n=50). Table 2 shows that 86.9% of men are smokers, 13% of them are alcoholics, among women none was found with alcohol intake but 55.5% smoked. Table 3 shows the relationship of the risk factors of the patients. It is observed that 70.5% of the men had overweight, 60.6% of the women were obese. When analyzing the Table 4 it is observed that the knowledge on the self–care before the intervention 90% of these did not know that the feet had to be checked daily, 94% did not know of the use of adequate footwear, it is noteworthy that 88% of the patients did not know that to prevent a diabetic foot it is important the good metabolic control after the intervention 100% of the patients reversed this knowledge.

Table 1 General characteristics of the sample studied

Variables		n	(%)
Sex	Female	27	54
	Male	23	46
Metabolic control	Adequate	11	22
	Admissible	26	54
	Unsuitable	13	24
Time of evolution of the DM (years)	Less than	5	10
	5–Jan	12	24
	10–Jun	15	30
	More than 10	18	36

Source: Clinical histories, DM, diabetes mellitus

Table 2 Type 2 diabetic patients according to toxic habits

Toxic habits	Sex			
	Female n–27		Male n–23	
	No	%	No	%
Smoker	15	55.5	20	86.9
Alcoholism	0	0	3	13

Source: Clinical stories

Table 3 Type 2 diabetic patients with risk of diabetic foot and sex

Risk factors	Sex			
	Female n–27		Male n–23	
	No	%	No	%
On body weight	13	39.3	12	70.5
Obesity	20	60.6	5	29.4
Inadequate shoes	20	60.6	10	35.2
Metabolic decontrol	7	21.2	5	29.4
Increase in plantar pressure	20	60.6	5	29.4

Fuente: Historias clínicas

Table 4 Knowledge of self–care of the feet in type 2 diabetic patients with risk of diabetic foot before and after the intervention

Care of the feet	Before the intervention				After the intervention			
	Do not know	%	Know	%	Do not know	%	Know	%
Maintain good Metabolic Control	44	88	6	12	–	–	50	100
Check the feet daily	45	90	5	10	–	–	50	100
Check footwear daily	42	84	6	12	3	6	47	94
Use of the right footwear	47	94	3	6	–	–	50	100

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Discussion

The female sex has been recognized and has a direct relationship with the frequency of women affected by Diabetes Mellitus.[11] It is evident that type 2 diabetics constitute a greater risk of suffering from diabetic foot according to (Rivero Fernández F), in our work it was evidenced that the highest% corresponds to the female sex, coinciding with Ibáñez Esquembre that states that women are the most affected Because of this disease, as well as those prone to suffer from diabetic foot, this being in relation to what is found in most countries in which the prevalence of diabetes is higher in women than in men, which suggests that after women spend 40years decreases the functional capacity of the ovaries,[12] which is why this constitutes a risk group to take into consideration in terms of prevention. Metabolic control is an important indicator of the diabetic patient, so diabetological education directly affects this parameter with these people, therefore in their future evolution. For a person with diabetes to be considered controlled, it is necessary to maintain adequate levels of glycemia according to medical research, they are those that have demonstrated a significant decrease in the risk of chronic complications and therefore are considered low risk.[13] In the investigation, the metabolic control is admissible. There are authors who state that self–management and self–care is essential to assess the metabolic status of the disease, for no reason will it replace the periodic medical check–ups, to which the patient must go and in which the doctor will evaluate them. an integral way, their state of health and the therapeutic behaviors available to improve the metabolic control of patients with Diabetes Mellitus,[14] according to Rosario García in research conducted, only people with diabetes educated in their ailment will be those who will achieve a good metabolic control, will have lower risk of developing complications and therefore live longer and better. Metabolic control has been shown to decrease the appearance and progression of microvascular and neuropathic complications, which is the factor that most contributes to the development of diabetic foot and subsequent to amputation.[15] International studies have been carried out, in which it was determined that complications occur after 12years of evolution of diabetes, more frequently in men and with an average age of 52years.[16] In the present study it was observed that the highest% corresponds to patients with more than 10years of evolution, coinciding with previous studies that state that the time of evolution of the disease have a greater risk of suffering diabetic foot,[17] not so in relation to sex. If the patient has a time of evolution of his disease over 10years, promotes the progress of diabetes and vascular diseases; It has been seen that women, at ages over 50years with a recognized family history of diabetes mellitus or not and with more than 10years of evolution of diabetes have the highest risk of suffering diabetic foot as non–modifiable risk factors, and the modifiable ones are present with a high frequency in the macrovascular lesions in the lower limbs of the diabetic.[11] Recent research shows that there is an association between smoking and the appearance of type 2 diabetes for either sex.[18] In the present study it was found that the highest percentage of smokers were men, so it coincides with Bakker K and Riley P who conducted similar research to the current one, which states that people with diabetes mellitus who are smokers increase the risk of vascular complications, both small and large vessels, so that cardiovascular diseases, nephropathies, retinopathies and diabetic foot will be more frequent.[19] If it is true that they manage some favorable criteria and have healthy behaviors, they are not aware of all the risk factors to which they are subject, do not have a good perception of risk. Self–care is still insufficient, in the same way that they adopt risk behaviors due to lack of education, so it is of vital importance in these patients with toxic habits to self–care to have a good safety in their daily lives. This research shows that the lowest% of men ingested alcoholic beverages, there are authors who argue that the ingestion of alcoholic beverages is a controversial issue within the population in general and in particular of people with diabetes, about their benefit or harm. It is not convenient to consume alcohol regularly, only as an exception, its consumption leads to an increased risk of the appearance of hypoglycaemia, because ethanol, both in healthy people and in those with diabetes, slows the liver production of glucose through the liver.[20,21] Obesity seems to facilitate the onset of diabetes mellitus and weight loss seems to reduce the risk of this disease. Some authors have shown in studies that diet and physical exercise helps to reduce weight and with it insulin resistance, improving the control of hypoglycemia, dyslipidemia and hypertension. In addition, the decrease in weight prevents overload in areas of high pressure and helps improve the architecture of the foot.[22] According to García R and colleagues who argue that diet and exercise are beneficial and effective for the obese and overweight diabetic patient, so a plan of eating and physical activity reduces body weight and maintains blood glucose levels and in normal urine. It is known that body weight is an important factor to take into account to prevent or control some of the factors that can trigger a diabetic foot, as well as type 2DM, the results that the author has obtained in the present investigation reflects that the Most of the patients studied were obese, they were overweight, which is an important element in the lack of control of these patients, where diabetic education plays an important role in the control of these patients.[23]

According to the report of the Study Group for the prevention of DM and diabetic foot diabetic education is defined as the fundamental activity, this has been to inform and educate the patient from the fundamental points of their disease being demonstrated the importance of planning and impart educational programs to these patients.[24] Diabetological education is the therapeutic measure with the greatest impact on the reduction of diabetic coma, amputations and days of admission after one year of hospitalization. The acceptance and understanding of the program by patients who have positive results has been analyzed. In the present study it was evidenced that patients perform insufficient self–care of their feet and assume risk behaviors due to lack of education. Regarding how they perform self–care of the feet, the majority reported in the survey that they do not perform the drying and the daily revision of his feet, others realized it. Another important aspect that they did not know before the intervention was maintaining good metabolic control, the use of adequate footwear, as well as other aspects that are included in the survey indicated by the patients themselves, which indicates the insufficiency of their knowledge and their self–care, which shows a deficiency of them and a low perception of self–care as the main tool in the well–being of their health this brings as a consequence the patient's non safety due to what can cause a diabetic foot, hence the importance of education to the patient so that they themselves are capable of self–care. Self–care is a theory promoted by Dorotea Orem that allows the individual to be held responsible for their health status, guaranteeing their safety. After the intervention, this knowledge was satisfactorily reversed so that the patient is able to perform the care of his feet on his own. The authors show in the results once again the importance of the correct education of diabetic patients, self–care in the technique of foot care and diabetes education, self–care is a human regulatory function that must be applied every deliberately, for himself in order to maintain his life and his state of health, educators should return often to check

the capacity of their patients, the achievement of this study has been to have achieved the goal set at the beginning of this program with the arrest of the difficulties in the patients, it has been proven that the education to the diabetic patient and the self–care that these can have reduces the risk of complications. It is concluded that the educational intervention proposed as the basis of the model for the comprehensive care of the diabetic was effective. The theoretical bases of the self–care model were established to provide the necessary scientific study for the self–care of these patients. Satisfactory results were achieved in metabolic control showing the importance of the educational component planned in the intervention. Providing better quality of life and increasing the expectation in years.

Conclusion

The educational intervention proposed as the basis of the model for the comprehensive care of the diabetic was effective. The theoretical bases of the self–care model were established to give scientific study, they achieved satisfactory results in metabolic control showing the importance of the educational component planned in the intervention. Providing better quality of life and increasing the expectation in years.

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None.

Conflict of interest

Authors declare that there is no conflict of interest.

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