



HEMODIALYSIS PATIENTS: THE IMPORTANCE OF SELF-CARE WITH THE ARTERIOVENOUS FISTULA

PACIENTES EM HEMODIÁLISE: IMPORTÂNCIA DO AUTOCUIDADO COM A FÍSTULA ARTERIOVENOSA

LOS PACIENTES EN HEMODIÁLISIS: LA IMPORTANCIA DEL AUTO CUIDADO CON LA FÍSTULA ARTERIOVENOSA

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ABSTRACT

Objective: to investigate the knowledge of patients with chronic renal disease on self-care with the arteriovenous fistula (AVF). **Method:** a quantitative, cross-sectional, descriptive-exploratory study, which involved 32 patients. The data were collected through the understanding of an interview, using a semi-structured questionnaire. The data were analyzed using the SPSS version 22.0 and R3.33. **Results:** 59.4% males; 13 (40.6%) aged between 41-60; 46.9% married; 46.9% incomplete elementary education; 46.9% with income of up to one minimum wage; 30 (93.8%) unemployed; etiology of CKD: hypertension and diabetes mellitus; 17 (53.1%) were submitted to two or more AVF; 16 (50%) AVF made in the radiocephalic region. The score of correct answers related to self-care ranged from 15 (62.5%) to 24 (100%). **Conclusion:** the patients showed knowledge of the actions necessary for performing self-care, although there are gaps in knowledge about these. In addition, it is important that the nursing team encourage the practice of self-care to ensure greater durability of the AVF and, consequently, improve the quality of life of patients. **Descriptors:** Renal Dialysis; Chronic Renal Insufficiency; Nursing; Self-Care; Arteriovenous Fistula; Hemodialysis Hospital Units.

RESUMO

Objetivo: averiguar o conhecimento dos pacientes com doença renal crônica acerca do autocuidado com a fístula arteriovenosa (FAV). **Método:** estudo quantitativo, transversal, descritivo-exploratório, que envolveu 32 pacientes. Coletaram-se os dados mediante a realização de uma entrevista, utilizando-se um roteiro semiestruturado. Analisaram-se os dados segundo o programa SPSS versão 22.0 e R3.33. **Resultados:** 59,4% sexo masculino; 13 (40,6%) com idade entre 41-60 anos; 46,9% casados; 46,9% ensino fundamental incompleto; 46,9% com renda de até um salário mínimo; 30 (93,8%) desempregado; etiologia da DRC: hipertensão e diabetes mellitus; 17 (53,1%) submeteram-se à realização de duas ou mais FAV; 16 (50%) FAV confeccionada em região radiocefálica. O score de acertos das questões relacionadas ao autocuidado variou de 15 (62,5 %) a 24 (100%). **Conclusão:** os pacientes mostraram-se conhecedores das ações necessárias para a realização do autocuidado, apesar de haver lacunas do conhecimento acerca destes. Diante disso, é importante a equipe de enfermagem estimular a prática do autocuidado para garantir maior durabilidade da FAV e, consequentemente, melhorar a qualidade de vida dos pacientes. **Descritores:** Diálise Renal; Insuficiência Renal Crônica; Enfermagem; Autocuidado; Fístula Arteriovenosa; Unidades Hospitalares de Hemodiálise.

RESUMEN

Objetivo: investigar el conocimiento de los pacientes con enfermedad renal crónica acerca del auto-cuidado con la fístula arteriovenosa (FAV). **Método:** estudio cuantitativo, de corte transversal, descriptivo-exploratorio, en el que participaron 32 pacientes. Los datos fueron recolectados a través de la realización de una entrevista, utilizando un cuestionario semi-estructurado. Los datos fueron analizados mediante el programa SPSS versión 22.0 y R3.33. **Resultados:** el 59,4% hombres; 13 (40.6%) con edades entre 41-60 años; 46,9% casado; 46,9% de educación primaria incompleta; el 46.9% con ingresos de hasta un salario mínimo; 30 (93,8%) personas desempleadas; etiología de la IRC: hipertensión arterial y diabetes mellitus; 17 (53,1%) fueron sometidos a dos o más FAV; 16 (50%) con FAV en la región radiocefálica. La puntuación de respuestas correctas relacionadas con el autocuidado variaron de 15 (62,5%) a 24 (100%). **Conclusión:** los pacientes se mostraron conscientes de las acciones necesarias para el logro de autocuidado, aunque hay lagunas en el conocimiento acerca de estos. Además, es importante que el equipo de enfermería fomentar la práctica de autocuidado para garantizar la durabilidad de la FAV y, consecuentemente, mejorar la calidad de vida de los pacientes. **Descriptores:** Diálisis Renal; Insuficiencia Renal Crónica; Enfermería; Autocuidado; Fístula Arteriovenosa; Unidades de Hemodiálisis en Hospital.

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INTRODUCTION

Chronic Kidney Disease (CKD) is a growing public health problem worldwide, which is characterized by progressive and irreversible deterioration in renal function, in which the body's ability to keep metabolic homeostasis and hydroelectrolytic fails. With the reduction of renal function, the final products previously excreted through urine accumulate in the blood, leading in many of these patients to terminal CKD (TCKD). Patients who evolve to TCKD need continuous treatment to replace kidney function, renal replacement therapy (RRT), being the available modalities the dialysis, including hemodialysis (HD) and peritoneal dialysis, as well as kidney transplantation. For the conduction of HD, the patient requires the preparation of an arteriovenous fistula (AVF).¹⁻²

Among the treatments for CKD in its terminal stage, it uses, with more frequency, HD, which imposes to the patient a new condition that determines changes in life style in the light of the limitations that are imposed on this therapy, which often influence the accession of the renal patient treatment. The dialysis favors changes that include food and water restrictions, changes in body image, loss of autonomy, reduction of social activities, limitation of life expectancy and ambiguous feeling between the fear of live and die.³⁻⁴

It found in the Brazilian Investigation of Chronic Dialysis, that there are 747 active dialysis units in Brazil. The estimated total number of patients in the country is 122,825, representing an increase of 31.5 thousand patients in the last 5 years. It estimated that in 2016, 39,714 patients began treatment in Brazil. The main diagnoses related to primary renal disease were systemic hypertension (HTN) and diabetes mellitus (DM), followed by chronic glomerulonephritis and polycystic kidneys. The HD showed itself as the predominant modality of dialysis therapy.⁵

HD is a substitutive treatment of extra body renal function, in which blood is pumped by means of a vascular access for equipment, the dialyzer, which extracts from the blood, toxins, nitrogenous wastes and excess water, returning, then the clean blood to the patient. This process lasts approximately 4 hours, with three sessions per week. The conduction of HD can only be established by means of a vascular access, which can be temporary or permanent.⁶⁻⁷

Consider the AVF, the autologous graft or artificial and temporary permanent double lumen catheter, such as the permanent access

of choice for chronic renal patients. The temporary access that is used most often is the temporary double-lumen catheter (TDLC), used in dialysis of urgency, until realize the manufacture and/or maturation of the AVF. To start the punctures in the AVF, need to wait for a period of at least 4 weeks after its manufacture, for which there is a venous dilatation sufficient, pertinent to its maturation.^{6,8}

AVF consists in a subcutaneous anastomosis of an artery with an adjacent vein, usually in the non-dominant limb of the patient, to limit the consequences of any functional disability. The recommended location, initially, is the more distal, saving you the most proximal vessels, because if there is a failure of AVF, will be able to rebuild it in a more proximal location.⁹

As for location, the AVF ranks in distal, including the radiocephalic on fist and forearm; and proximal, which include the brachiocephalic, surface brachio basilic and brachioaxilar or brachio brachial in grip with prosthesis. AVF is the best type of vascular access for HD treatment, by presenting a longer survival and low rates of complications.⁸⁻⁹

It requires fundamental care for maintenance of arteriovenous fistula, on the part of health professionals and patient, which need to orient one about self-care in the management of its new vascular access. When thinking in care with the arteriovenous fistula, detects a range of actions to be undertaken in the preoperative period of manufacture of the AVF. The period of maturation, before, during and after the sessions of HD provides from this care performed greater durability to the fistula, which include performing antisepsis with antiseptic solution before the HD. It ties the puncture in the AVF to maintain adequate distance to the arterial punctures (3 cm) and venous anastomosis (5 cm from the arterial puncture), to attach properly the needles, avoid circumferential dressings adjusted, save the state of access, avoid carrying weight, not sleeping on the arm, not to allow the checking of blood pressure (BP) and blood collection in the state, do not remove crusts formed by punctures in the region, perform daily exercises in the state in which was the AVF. It proceeds with the proper compression for hemostasis after dialysis, daily check the presence of thrill in the AVF, look for any changes at the site of the AVF, among other types of care.⁶

Considers it essential that the knowledge of this information in the maintenance of access,

it influences the attitude and the proper practice of the care of patients with FAV. Not performing these precautions may complicate the clinical picture of these customers, requiring more complex interventions and/or hospitalizations.^{4,10}

The nurse is a professional who has contact with the patient and handles the access with frequency. Therefore, it is able to advise the patient regarding its use, evaluate and diagnose changes that may occur in the AVF and, therefore, prevent the loss of the same.^{4,10}

Good communication between the health team and the patient is essential for providing the proper care and continuous, aiming to stimulate the self. Thus, it demonstrates the importance of the role of the nursing team in direct care to patients, which is responsible, mainly, for the actions of health education, so that patients can become autonomous in their care, thus guaranteeing greater durability of the AVF, and improvement in the quality of treatment and the patient's life.^{4,10}

The theory of the Self-Care Deficit consists basically in the capacity that individuals have to take care of themselves, performing activities in their own benefit for the maintenance of life, health and well-being. She componse three inter-related theories: theory of the Self-Care Deficit; The Self-care theory; theory of nursing systems, which reported that the self is a learned behavior by his own person and has as its focus the promotion and recovery of self-care. The Care helps the individual to grow, develop, and in the prevention, control and cure of disease processes and damage and, when done in the correct way, helps to maintain the structural integrity and human functioning, contributing to its development. It is vital that the person with AVF in HD understands the importance of the development of self-care behaviors, once the realisation of these behaviors can prevent complications and improve his quality of life.⁸

The care performed with the AVF is what will ensure its durability and, consequently, an improvement in the quality of treatment and the patient's life. Faced with these considerations, it is important to know the care that they perform with venous access and the main difficulties presented on the care with the fistula, since this is essential for the hemodialysis treatment. In addition, this study provides support for planning a program of education to patients, so that they feel motivated to perform self-care.^{3,11}

OBJECTIVE

- To determine the knowledge of patients with chronic renal disease about the care with the arteriovenous fistula.

METHOD

This is a quantitative study, cross-sectional, descriptive, and exploratory, with prospective data, developed in the sector of nephrology at a large public and high-complexity hospital of the metropolitan region of Recife-PE, in the period from May to July 2017.

In this hospital, there are daily visits of HD in a single room structured with 14 machines, a room of re-use, and a procedure. The HD sessions take place from Monday to Saturday, with an approximate duration of four hours.

The study consisted of 32 patients with CKD, users of this service, which underwent HD through permanent venous access the type AVF. The sample size was limited by the amount of patients who fit the sample profile in the hospital used as a reference for the same.

Data collection occurred through an interview using a semi-structured questionnaire developed by the researchers, containing the patients' identification data, clinical data related to the disease and treatment, as well as questions regarding the care developed by patients on the AVF.

Data analysis occurred by means of descriptive statistics. Quantitative data were processed by means of statistical software Statistical Package for Social Sciences (SPSS) version 22.0 for Windows, and the R3.33. The codified statements used in accordance with the number of the form for each patient (Ex: P6 - patient 6), in order to protect their identity. The Research Ethics Committee of the Federal University of Pernambuco approved this research (CAEE 65730217.1.0000.5208), since it is in accordance with the ethical precepts contained in Resolution 466/12.

RESULTS

In table 1, shows that the patients (n=32) who participated in this study were aged between 19 and 84 years, with an average of 53.22 years. Among them, 19 (59.4%) were male and 13 (40.6%) were female. As to nationality and residence, it was observed that most patients was natural of Pernambuco (96.9%) and lived in the metropolitan region of Recife. In addition, we noticed a predominance of the interviewees (46.9%)

with Marital Status Married, with a family income of up to 1 minimum wage, and the highest level of schooling was incomplete primary education.

Regarding occupation, 30 patients (93.8%) were unemployed at the time they participated in the study. Of this total, 13 (40.6%) had a remuneration of Social Welfare, through the disease benefit; 9 (28.1%) were retired from disability; 2 (6.25%) received pension and the other 6 (18.7%) survived with the income of other family members.

In relation to the patients' clinical data, 16 (50%) underwent the treatment for more than

three years and 26 (81.2%) presented as the etiology of CKD, hypertension and diabetes mellitus. The others (18.7%) presented other etiologies such as polycystic kidneys and the use of drugs. It was found that 17 (53.1%) patients were submitted to two or more favorite, while 15 (46.9%) were submitted only to one. Regarding the time of preparation of the AVF, 11 (34.4%) had more than 3 years. The most frequent locations of AVF confection were radiocephalic (50%), followed by the brachiocephalic vein (46.7%) and brachioaxilar (3.1%).

Table 1. Sociodemographic and clinical characteristics of the patients in hemodialysis treatment at a public hospital of the metropolitan region of Recife. Recife (PE), Brazil, 2017.

Characteristics	n	%
Gender		
Male	19	59.4%
Female	13	40.6%
Age		
19-40 years	8	25.0%
41-60 years	13	40.6%
> 60 years	11	34.3%
Education		
Illiterate	1	3.1%
Incomplete elementary school	15	46.9%
Complete elementary school	8	25.0%
High school	8	25.0%
Occupation		
Employed	2	6.2%
Unemployed	30	93.8%
Amount of AVFs		
Only 1	15	46.9%
2 or more	17	57.3%
Time using AVF		
Up to 3 years	21	65.6%
More than 3 years	11	34.4%

Table 2 shows the evaluation of the patients' understanding about the care with the AVF, and showed that of the 24 questions, the score of correct responses ranged between 15 (62.5 %) and 24 (100%). It was evidenced that 26 (81.2%) patients had a score greater than or equal to 20 (83.3%) scores. Among them, only 1 (3.1%) got the 24 (100%) issues. We observed a higher disability, especially in relation to the patients' knowledge about the influence of the PA with the durability of the AVF, in which only 15 patients (46.9%) responded to this question.

Among the patients, 21 (65.5%) pointed out care as the permanence of the dressing

after HD and the placement of hot compresses 24 hours after the procedure, while 22 (68.8%) mentioned the use of watches, rings or wristbands on the AVF arm.

On the other hand, all 32 (100%) patients knew the importance of washing the arm before the beginning of the HD, the need for conducting manual compression exercises with the ball, the importance of keeping the weight controlled and the protection of the AVF against traumas.

Table 2. CKD Patients’ care with their AVF. Recife (PE), Brazil, 2017.

Questions regarding AVF self-care	n	%
Isn't it important to wash your arm before the dialysis?	32	100.0%
Do exercises of manual compression with the ball develop my fistula faster?	32	100.0%
Should I protect my AVF from injuries?	32	100.0%
Is it always important to have my weight under control?	32	100.0%
Should I look for a doctor in case of any abnormality with my AVF?	31	96.9%
Can't I carry heavy items on my AVF side?	31	96.9%
Can I check the ABP on my AVF limb?	31	96.9%
Is it important to preserve the fistula arm, avoiding drug administration or blood sampling on the AVF limb?	31	96.9%
Should I remove crusts from the AVF?	31	96.9%
Should I perform a compressive dressing on the AVF in case of bleeding?	31	96.9%
Do I never observe my AVF functioning?	30	93.8%
Isn't it important to daily observe the AVF regarding the presence of changes?	30	93.8%
Is it right to change the puncture sites?	29	90.6%
Should I remove immediately the dressing from the puncture site soon after finishing the hemodialysis?	29	90.6%
Can I sleep on any side regardless of the AVF limb?	28	87.5%
Does the puncture have to be on the same side?	28	87.5%
Isn't it right to put a cold compress in case of hematomas?	25	78.1%
At the end of the dialysis, should I remove a single needle at time?	24	75.0%
Aren't very close punctures allowed?	23	71.9%
Can't I remove the hair from the AVF site?	23	71.9%
Aren't there problems in using watches, rings or wristbands on the AVF arm?	22	68.8%
Do I keep the dressing during 24 hours after the hemodialysis?	21	65.6%
Does a hot compress 24h after the hemodialysis help to absorb the hematoma?	21	65.6%
Doesn't the control of my arterial blood pressure interfere with my AVF durability?	15	46.9%

The analysis was performed using Pearson linear correlation between quantitative variables (time of HD, quantity of fistulas made, time of use of the fistula and age) in relation to the quantity of correct answers questions related to the care of the patient with the AVF. We observed a moderate

$$\hat{y} = 23,394 - 0,05087x$$

Next, the representation of dispersion with the regression line above (Figure 1) is presented. It was observed that the normality in waste by the Anderson-Darling and Shapiro-Wilk test, presenting na explainability of approximately 16.7% of the variability of the scores according to the coefficient of determination.

negative correlation (-0.409) and significant at 5%, between the old and the amount of hits on issues related to self care. Set, on the basis of this result, a simple linear regression analysis to estimate the amount of hits (dependent), introducing significant parametrização below (Equation 1):

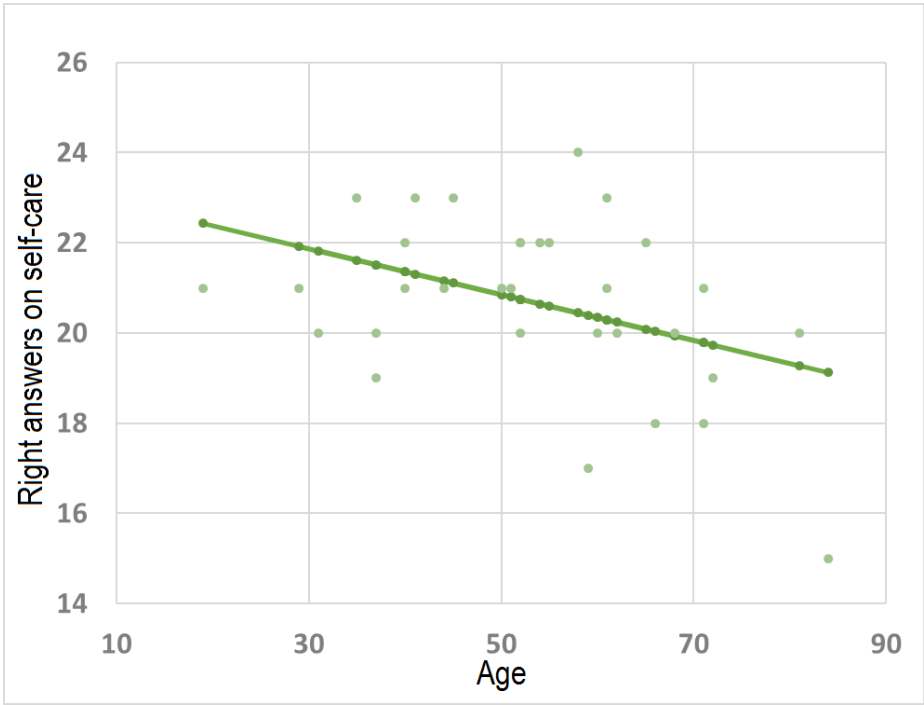


Figure 1. Regression analysis between hits and the patient's age. Recife (PE), Brazil, 2017.

The patients were asked about the difficulty performing the care with the AVF, and only 6 (18.75%) reported difficulties performing them, as observed in reports:

- Yes. Sometimes you want to do things that you can't, such as picking up things with the fistula member and sleeping on the fistula side. (P6);*
- I do feel it. I want to sleep on the fistula side, but I can't, I want to feel free with my arm, but I can't. (P9);*
- Yes. Because I can't do anything because of the fistula. (P26)*

Regarding the practice of self-care, the patients were asked whether they performed other types of care with the AVF. All 32 (100%) participants reported some type of care:

- I wash with yellow soap, put ice on it and, at night, I put warm water on it. The next day, I wash, put cream on it, massage it and stay with the ball. (P18);*
- I pay attention not to hit with it. The next day, I make a dressing with a ointment. (P26);*
- I don't play with animals and children, I don't pick up water canister. (P25);*
- I always preserve my arm. I fear losing my fistula. I am very careful. (P19);*
- I am careful with everything I do. Today, I avoid everything. (P27);*
- I don't let anyone near my arm. (P21)*

DISCUSSION

This study identified that 59.4% of the subjects were male, despite the DRC achieve, without distinction, men and women. This coincides with the results of the census, conducted by the Brazilian Society of Nephrology (BSN), which indicates the percentage of patients in treatment of substitutive therapy for HD in Brazil, of which

57% were male.⁴ It was demonstrated, in a similar study, the predominance of males (57%).⁶

In this study, the age range varied from 19 to 84, with a prevalence of 40.6% in the age between 41 and 60, with an average of 53. The structure and renal function deteriorate with age, and the glomerular filtration rate (GFR) slowly decreases with aging when, at 40 years of age, there is a decline of 25%. In addition there is a decrease of kidney weight and volume, which is associated with the common comorbidities of the third age, causes an increase in the vulnerability of the renal system, which causes a loss of the internal balance of the kidneys, causing these individuals to a greater predisposition to renal impairment.¹²⁻¹³ In this study, however, we observed a new profile of patients with CKD, which affects not only the elderly, who were considered as risk group, but also young and middle-aged people.

Regarding education, most research subjects had incomplete primary education (46.9%). A survey in Fortaleza-Ceará also showed the predominance of incomplete primary education.¹⁴ The level of schooling is a fundamental factor, since the higher education, the greater the access to information, and the better the economic condition. In contrast, the low schooling can negatively interfere in the learning of self-care and adherence to healthy life practices. In this way, professionals should carry out health education with a simple language, facilitating the users' understanding, thus contributing to a better adherence and follow-up of treatment.¹⁵

Regarding occupation, 30 (93.8%) patients were unemployed. The HD patient imposes a

new condition that determines changes in life style, which occur in function of the limitations imposed by this therapy. These constraints arise due to changed physical capacity; the HD sessions that happen three times per week, with duration of four hours (disregarding the time elapsed for going to and returning from the dialysis center); the physical disorders and the need for self-care. All this will be obstacles to work. The conciliation between the HD and employment is a complex and difficult issue, once the percentage of individuals that leave the labor market after discovering the CKD is significant.^{3,15-16}

Regarding the basic cause of CKD, there was a prevalence of hypertension, followed by diabetes and diseases of unknown etiology. This coincides with the results of the investigation of chronic dialysis, in which the main diagnoses of primary renal disease were hypertension (34%) and DM (30%), being responsible for more than half of the individuals on dialysis treatment.⁴ A study developed at two dialysis centers in the city of Imperatriz, Maranhão/Northeast of Brazil, showed 83% of study participants presented SAH and 25%, DM.¹⁶ Both SAH as DM constitute public health problems, which may have successful clinical control, in most cases, provided that they have an early diagnosis and patient's adherence to the proposed treatment. These diseases, when not treated and controlled properly, trigger, in different ways, a slow and progressive process of degeneration in target organs and tissues, among them the kidneys. When diagnosed early, these diseases are quite sensitive, providing multiple chances to avoid complications. We need, for this reason, training, awareness and vigilance of health professionals responsible for primary care, thus enabling the early diagnosis and referral to the nephrologist, in order to slow the progression of CKD, prevent complications and modify comorbidities.^{1,17}

With respect to the amount of fistulas, 17 (53.1%) patients were submitted to two or more fistulas and 11 (34.4%) had a fistula for over 3 years, different from a study conducted in the state of São Paulo, in which 35 (58.4%) patients were submitted only to the realization of a AVF and 48 (80%) patients had had the AVF for six years or more.⁶ The AVF is considered the best type of vascular access for HD treatment, by presenting low rates of complications and a longer survival between 65% and 75% in 3 years.³ Despite the technological advances, the maintenance of the AVF remains one of the biggest challenges

in care of patients with eskd. The problems related to access are one of the most frequent reasons for hospitalization in this population and, consequently, one of the main causes of mobilizing financial resources.⁹

The AVF is performed on the non-dominant limb to limit the consequences of any functional disability, and its initial recommended site is the most distal, as the radiocefálica, saving you the most proximal vessels, because if there is a failure, simply rebuild it above.^{9,14} The radiocephalic region of the forearm was the most frequently used by participants in this study, 16 (50%).

Care is fundamental to the maintenance of the AVF both in the preoperative period of manufacture of the AVF, during the maturation period and before, during and after the sessions of HD. It will be necessary to do so, that the bearer of the DRC has knowledge and skills specific to that these results are achieved.⁶ In this context, the interviewees were asked about the practice of care more performed with the AVF (Table 2). If the care was divided in groups below:

A. Washing the arm before the beginning of dialysis: all 32 (100%) patients follow this care. The patients underwent RRT present a high risk of developing infection in vascular access by virtue of their status, the interruption of uremic skin integrity and of nasocomiais surgical and hospital infections. The infection in the AVF is infrequent (1%-5%).⁸ However, it is essential that patients, before the puncture, wash the state in which is a favorite with soap and water or another antiseptic solution to prevent infection site. It is found in another study that only 8 (38%) patients underwent this care.³ Thus, it is observed that the patients in this study have greater knowledge about this care.

B. Manual compression exercises: all 32 (100%) patients responded to this question. A study carried out in the state of São Paulo, in which only 28 (46.6%) patients realize this care.⁶ Three days after the confection of the AVF, the patient should perform the exercises and maneuvers to promote the dilation, maturation and improve the performance of access, keeping the AVF effective for the realization of HD. It is the technique in opening and closing the hand against a soft object.⁸

C. Protect the AVF against trauma: all 32 (100%) patients knew the importance of this care. The trauma in vessels of the AVF may predispose or lead to aneurysm formation, which may lead, in the future, their spontaneous rupture.⁸ It was observed in a study that 13 (61.9%) patients exercising this

care.³ It is essential to achieving this careful, once, avoid traumas in the fistula protects the same occurrence of hematomas, thrombosis and aneurysms, favoring its greater durability.³

D. Maintenance of controlled weight: all 32 (100%) patients reported knowing the importance of this care, however not all performed. A study carried out in the same place, in the year of 2013, which showed that only 15 (50%) patients mentioned this care.⁴ It is essential that the patient maintains a nutrition and an adequate water control, thus allowing the balance between weight gain in the interdialytic period and weight loss in the dialysis session. The lack of nutritional control and water ingestion can trigger complications such as hypertension, acute pulmonary edema, hypotension intradialítica and, consequently, the impairment of the AVF, due to excessive reduction of blood volume.¹⁴

E. Search for a doctor when they see an abnormality/Observe the operation of the AVF/Observe the presence of changes: the number of patients who responded to questions related to such care is, respectively, 31(96.9%), 30 (93.8%) and 30 (93.8%). It was identified in another study that 47 (78.3%) patients checked daily to AVF regarding the presence of changes.⁶ It is strongly recommending that the realization of this care, since they are essential for the detection of problems or complications that could compromise the functioning of the AVF, allowing an early diagnosis and, thus avoiding the loss of access. It is the functioning of the AVF daily through the presence of thrill, auscultation of noises, presence of signs of infection, and the appearance of edema. Communicates to the team responsible for the patient any changes at the site of the AVF. From this, it is observed the importance of empowering and teach patients the achievement of self-care.^{6,8}

F. Load weight with the state of the AVF: 31 (96.9%) patients responded to this question. Despite the high rate of correct answers, you need to always guide patients about this practice, since it may cause the interruption of blood flow and lead to thrombosis at the site of access, causing their loss.³

G. Check PA/Administer medicines/Blood/Use remove watches, rings and bracelets in the extremity of the AVF: the percentage of patients who responded to questions related to such care is, respectively, 31(96.9%), 31(96.9%), 31(96.9%), 22(68.8%). Corroborating with this study showed that, in a similar study, which aimed to identify the

care with the AVF in patients with CKD, that 59 (98.3%) patients practiced this type of care.⁶ It interrupts the flow of blood through the checking of BP in the state of the AVF, on account of the pressure exerted on the state at the time of the procedure, which could lead to thrombosis of the AVF. Since the drug administration and blood collection cause multiple punctures in the location of the AVF, increasing the risk for infections and hematomas and, consequently, the non-preservation of venous network of that state. The use of accessories on the state of the AVF can compress the end and/or prevent the venous return, thus restricting the local circulation. Many patients in this study did not know the importance of this care, requiring a reorientation about this. Preserve the venous network contributes to an adequate blood flow, necessary for the realization of the HD, reduced the rate of complications.^{3,8,11}

H. Remove the crusts/Remove pubic hair in the region of the AVF: the number of patients who responded to questions related to such care is, respectively, 31(96.9%), 23(71.6%). The patient should not carry the trichotomy in the state of access, avoiding injure the skin along the path of the AVF, and should not remove the crusts are formed at the site of the AVF. It should be emphasized that, during puncture of the AVF, the nurse must always avoid these hardened areas, with the exception of the punctures in button, in which the nurse needs to remove the crusts in the region for only then perform the puncture, which always occurs in the same hole and angle.⁸ demonstrated in another study that 55 (88.3%) patients underwent this type of practice,⁶ thus showing that the patients of this research have a better understanding of this care.

I. In case of bleeding, perform a compressive bandage/Remove the bandage immediately after the end of the HD/Remove a needle each time after the end of the HD/Stay with the bandage during 24h after HD: The percentage of patients who were able to answer questions related to such care is, respectively, 31(96.9%), 29(90.6%), 24(75%), 21(65.6%). After the withdrawal of needles, you must perform the compression until total hemostasis, for only then will perform the bandage, which must not be circular, thus avoiding thrombosis in vascular access. It was evidenced, in this study, that some patients were not the withdrawal of needles, being necessary that there should be careful both on the part of the professional who provides care, as well as part of the patient who, many times, is eager to be released from the session

and will not tolerate this waiting. Hematomas and pseudoaneurysms may arise when it performs the compression so inadequate, due to extravasation of blood after the withdrawal of needles. Bleeding for more than 20 min deserves evaluation of dosages of anticoagulant, anti-hypertensive and revision of the puncture sites. Removes the bandages after 6h of the end of the HD, being necessary a reorientation of patients about this caution, bearing in mind that the vast majority remains with the bandage during 24h, which is inappropriate, since there is no data in the literature that point with this type of care. In cases of bleeding of the AVF outside the unit of dialysis, the patient must compress the location, raise the state in which the AVF is and if, even so, the bleeding persists, the patient should go immediately to the health center of his reference.^{6,9,11}

J. Change the puncture sites/Punching in the same location/Punctures very close: the percentage of patients who were able to answer questions related to such care is, respectively, 29(90.6%), 28(87.5%), 23(71.9%). If these precautions are held by the nursing staff and not by the patient. However, the same should be aware at the time of the puncture of your AVF, not to allow punctures very close to or in place of the previous puncture. It showed with this study that even not being a responsibility of patient care, many showed understanding about him, which is fundamental. It will be necessary to perform the puncture, that there is prior assessment and choose the best location for the puncture by nursing professionals. You should avoid punctures in areas with hematomas, crusts and/or skin changes. It is evident in the literature, three techniques of puncture of the AVF, such as puncture in ladder or rope; punch in area and punch button or button (buttonhole).^{3,8-9,18}

In this service, which carried out the survey, do not use the puncture in button. All of these techniques have their advantages and disadvantages, but if you use what is most appropriate for the patient.

K. Sleep on the state of the AVF: 28(87.5%) patients responded to this question. In contrast, it was evidenced, in another study, which only 4 (19%) reported the adoption of care.³ The literature affirms that the excess weight on the arm exerts a pressure that can cause the interruption of blood flow at the site, leading to thrombosis in the venous access.³

L. Cold/Hot compress Compress at the location of the hematoma: the percentage of patients who knew how to answer the

questions related to such care is, respectively, 25(78.1%), 21(65.6%). A survey was conducted in the city of Fortaleza - CE, showing that only 4 (19%) patients reported performing this type of care.³ The bruises are very common problems during therapy hemodialítica, needing to take some care with their occurrence. Initially, you should immediately apply ice on the site, to reduce the extravasation of blood. It protects the skin for only then apply ice, which should never be applied directly on the skin. In the subsequent 24h, you must apply heat in place with the help of bathing in hot water, and perform massages with ointments heparinóides to help absorb the hematoma. Throughout this process, it is advisable to keep the state level to facilitate the movement of return.⁸ In this study, it was observed that some patients did not practice this care. It is important, therefore, a reorientation about it, because it is essential to prevent the formation and/or the resorption of bruises.

M. Influence of BP in AVF: the largest deficiency was in relation to the patients' knowledge about the influence of blood pressure with the durability of the AVF, in which only 15 patients (46.9%) responded to this question, being essential to instruct patients regarding this care, since it can result in loss of the AVF. Hypotension is the most frequent complication (20-30%) during the sessions of HD. Results mainly in the reduction of blood volume resulting from the removal of liquids, which is associated with the inadequate hemodynamic compensation.¹⁰ Hypotension is the most frequent clinical situation that leads to thrombosis of the AVF, due to reduction of blood perfusion, caused by the stagnation of intravascular blood.¹¹

About the practice of self-care, wondered if the patients were other types of care with the AVF. All participants reported some type of care. Some of the precautions mentioned were created by the patient, no data in the literature, such as the use of cosmetics topics in the region of the AVF, achievement of dressing in the AVF on the following day, don't play with children or animals and avoid "do everything". Many patients believe that the AVF is something fragile and easy loss, which ends up influencing the creation of totally unnecessary care to use the same. Although there are no reports in the literature, there is also no evidence that restrict the realisation of some of these care, which in a certain way, can be beneficial, since it can promote the hydration of the skin and prevent trauma to the AVF. Other care cited, however, are fundamental to the maintenance of the AVF,

how to avoid "hit" in the AVF, not catch weight and preserve the arm of the AVF, care, those who have already been reported its importance in this study.^{3,19-20} In another study showed also that some patients created care that were not reported in the literature.³

Questioned to patients regarding the difficulty in performing the care with the AVF, and only 6 (18.75%) reported difficulties in performing them. The DRC is characterized by not having a cure and are diseases that will accompany the patient until the end of life, with direct repercussions on their individual behavior and, consequently, in social interactions and family. The substitute treatment of renal function, necessary to maintain these individuals, imposes several limitations, resulting in inability to perform activities of daily life.^{3-4,21} During the interview, the patients reported such limitations and incapacities.

To keep the AVF is a prerequisite for the success of the HD and the quality of life of patients, since, without the vascular access, the patient cannot perform the treatment. To do this, it is necessary to the achievement of care, both by health professionals and by the patient, fundamental in the process of maturation, and in periods preceding, during and which succeed one another on the HD sessions.⁶

As the nurse is directly involved in the practice of caring for the patient with CKD, he is responsible for providing information about the essential care you must have with the free, with the objective of minimizing the difficulties with the care presented by patients, and prevent infection and thrombosis of access, which makes patients responsible for the development of self-care behaviors, Influences their ability to carry out the activities necessary for the maintenance of their health and well-being, and consequently improves their quality of life and prevents the loss of vascular access.^{6,8}

It was evidenced that, according to the analysis of Pearson's linear correlation, a correlation between age and the number of hits on issues related to the care with the AVF, i.e., the higher the age of the patient was the amount of hits. Demonstrated that older patients are the ones who most need guidance about self-care, may be necessary, as the demand presented by the patient, the involvement of family members for carrying out such care.

The increase in age can bring significant changes, be they in the spheres biological, psychological, familial, social and economical, thus compromising the ability of the person

for self-care, essential for health promotion, prevention and intervention in diseases. When these individuals are unable to develop actions relating to self, family members should assume the role, since they will be responsible for directing and/or carry out the necessary care.^{12,22}

CONCLUSION

It allowed, with this study, analyzing the care and the difficulties that patients on hemodialysis have with the AVF. All patients interviewed were knowledgeable of the actions necessary for the achievement of self-care with the fistula, aiming to keep it functioning for a prolonged time. However, it also demonstrated gaps in knowledge about the care of patients with the AVF, being required greater exchange of appropriate guidelines for the care by health professionals, with the aim of patients become autonomous in their care.

In this way, the practice of self-care need to be encouraged by the nursing staff through support, supply and elaboration of guidelines along with chronic renal patients about their disease, clinical manifestations, life style, treatment and care with the AVF, once this aims to improve the quality of life of patients.

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Clementino DC, Souza AMQ, Barros DCC et al.

Hemodialysis patients: the importance of...

Submission: 2018/03/05
Accepted: 2018/05/16
Publishing: 2018/07/01

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