

CUIDADO É FUNDAMENTAL

UNIVERSIDADE FEDERAL DO ESTADO DO RIO DE JANEIRO • ESCOLA DE ENFERMAGEM ALFREDO PINTO

RESEARCH

DOI: 10.9789/2175-5361.2018.v10i2.358-367

A técnica de buttonhole em pacientes submetidos ao tratamento hemodialítico

The buttonhole technique in patients submitted to hemodialytic treatment

La técnica del ojal en pacientes para hemodiálisis tratamiento

Michell Platiny Cândido Duarte¹; Francisco Arnoldo Nunes de Miranda²; Deyla Moura Ramos Isoldi³; Glauber Weder dos Santos Silva⁴; Fernando de Souza Silva⁵; Clélia Albino Simpson⁶

How to quote this article:

Duarte MPC; Miranda FAN; Isoldi DMR; et al. The buttonhole technique in patients submitted to hemodialytic treatment. Rev Fund Care Online. 2018 abr/jun; 10(2):358-367. DOI: <http://dx.doi.org/10.9789/2175-5361.2018.v10i2.358-367>

ABSTRACT

Objective: To evaluate the performance of the Buttonhole technique during hemodialysis sessions at a service in Natal/RN- Brazil. **Method:** This is a descriptive, exploratory and observational study that was performed with 17 users of a hemodialysis health service, with data collected in 2016, using a check-list questionnaire and visual analog scale. **Results:** The majority of the subjects were men (76.5%). The women presented arterial hypertension and chronic renal insufficiency as a disease based on the variables gender, age, alcohol use and other drugs, for both sexes. On the implementation of Bottonhole, the greatest frequency of arteriovenous access, between the sexes, was the radiocephalic. The direct and indirect complications of the button were more frequent in males, with chills, tremors, button infection and access bleeding. **Conclusion:** The Buttonhole technique was well accepted and performed in the service, contributing to the reduction of pain intensity and the best aesthetic of the user.

Descriptors: Hemodialysis; Arteriovenous fistula; Nursing.

¹ Nurse. Specialist in Labor Nursing and Nephrology. Professor at the University Center of Rio Grande do Norte. Natal (RN), Brazil. E-mail: michell_candido@hotmail.com.

² Nurse. PhD in Psychiatric Nursing. Associate Professor III of the Nursing Department of the Federal University of Rio Grande do Norte. Natal (RN), Brazil. E-mail: farnoldo@gmail.com.

³ Nurse. PhD student in Nursing in Health Care. Professor of the Undergraduate Nursing Course of the Mauritius University of Nassau. Natal (RN), Brazil. E-mail: deylinha@hotmail.com.

⁴ Nurse. Master in Nursing. Substitute Professor of the Faculty of Health Sciences of Trairí, Federal University of Rio Grande do Norte. Natal (RN), Brazil. E-mail: gluaberweder@hotmail.com.

⁵ Nurse. Doctor in Nursing in Health Care. University Hospital Onofre Lopes. Natal (RN), Brazil. E-mail: fernandosouzajpa@gmail.com.

⁶ Nurse. PhD in Nursing. Associate Professor II, Department of Nursing, Federal University of Rio Grande do Norte. Natal (RN), Brazil. E-mail: cleliasimpson@hotmail.com.

RESUMO

Objetivo: Avaliar a execução da técnica de Buttonhole durante as sessões de hemodiálise em um serviço em Natal/RN-BR. **Método:** Trata-se de estudo descritivo, exploratório e observacional, realizado com 17 usuários de um serviço de saúde hemodialítico, com dados coletados em 2016, por meio de um questionário tipo check-list e escala analógica visual. **Resultados:** A maioria dos sujeitos eram homens (76,5%). As mulheres apresentaram hipertensão arterial e insuficiência renal crônica como doença de base frente às variáveis sexo, idade, uso de álcool e outras drogas, para ambos os sexos. Sobre a execução do Bottonhole, a maior frequência de acesso arteriovenoso entre os sexos foi o radiocefálico. As intercorrências diretas e indiretas do botão foram mais frequentes no sexo masculino, prevalecendo calafrios, tremores, infecção do botão e sangramento do acesso. **Conclusão:** A técnica de Buttonhole foi bem aceita e executada no serviço, contribuindo para a diminuição da intensidade da dor e melhor estética aparente do usuário.

Descritores: Hemodiálise; Fístula arteriovenosa; Enfermagem.

RESUMEN

Objetivo: Evaluar la aplicación de la técnica de ojal durante la sesión de hemodiálisis de un servicio en Natal / RN-BR. **Método:** Estudio descriptivo, exploratorio y estudio de observación. Se utilizó un tipo de instrumento de la lista de comprobación y la escala analógica visual. **Resultados:** De los 17 pacientes, 13 eran varones con peso seco varió de 61 kg a 80 kg, mientras que las mujeres tenían hipertensión y la insuficiencia renal crónica como enfermedad subyacente en todo el género, la edad, el alcohol y otras drogas, tanto para sexos. **Conclusión:** Desde el punto de vista de la aplicación del ojal que había una mayor frecuencia de acceso entre los sexos era radiocefálico. El botón complicaciones directas e indirectas fueron más frecuentes en varones, con escalofríos y temblores, infección botón de acceso y sangrado.

Descriptores: Hemodiálisis, Fístula arteriovenosa, Enfermería.

INTRODUCTION

In the world, kidney and urinary tract diseases account for an estimated 850 million annual deaths and the incidence of chronic renal failure (CRF) increases by around 8% per year. This disease is considered worldwide a public health problem, in which it affects millions of people from all walks of life. Thus, it presents high incidence and high rates of morbidity and mortality.¹

At the present time chronic renal failure (CRF) is being considered as a major and important public health problem. Thus, the indices point to a considerable increase in the number of chronic kidney patients in the Brazilian population, information confirmed by the Brazilian census of Chronic Dialysis 2012, in which the number of people with Chronic Renal Insufficiency (CRI) only increases. In July 2012, the estimated total number of dialysis patients in the country was 97,586.²

Chronic Renal Failure (CRF) is the gradual and irreversible loss of renal function. In the beginning, when the renal function is modestly compromised, the patient does not present symptoms.³

Chronic Kidney Disease (CKD) is a gradual onset disease in which the individual becomes dependent on a modality of dialysis, characterized by structural abnormalities of the kidney that can lead to a reduction in renal function, diagnosed by a glomerular filtration of less than 60 ml/min/1.73 m² over a period of three months or more.⁴

Among chronic diseases, chronic renal failure (CRF) is notable for the marked changes brought about by the treatment, which can be considered a source of stress and responsible for the adaptation needs of the individual and the family.⁵

Regarding the modalities of dialysis treatment, management procedures related to chronic kidney disease are linked to minimizing symptoms and prolonging the life of people undergoing treatment. Currently there are three modalities of substitution therapies for renal disease: Hemodialysis (HD), Peritoneal Dialysis (PD) and Renal Transplantation.⁴

Chronic renal failure manifests itself with a reduction in renal dimensions that develops over months or years. Thus, it is understood that the progression of chronic nephropathy is fatal when there is no positive intervention.⁶

The causes of chronic renal failure include congenital anomalies such as polycystic kidney disease, obstructive diseases (kidney stones, tumors), infections, use of nephrotoxic substances, glomerulopathies, systemic lupus erythematosus, diabetes mellitus and hypertension.³

The nurse has a fundamental and extremely important role, since it is he who periodically is close to the patient, performing care, is an agent that facilitates the adaptation of the chronic kidney in hemodialysis treatment. Thus, the professional is close to all this change, so it is up to him to assist the patient in the process of resilience, acting as an educator and facilitator in the hemodialysis therapeutic process.⁷

Recently, an alternative technique has been driven by being associated with fewer complications in the hemodialysis patient due to the use of blunt-tipped needles, that is, non-cutting needles introduced in the same place with the intention of forming a tunnel. This procedure is done about ten to twelve times (cannulations) using a cutting needle, a procedure called Buttonhole.

Thus, the literature shows several beneficial points of the Buttonhole technique, such as: less sensation of pain during cannulation; Easier insertion of needles at the cannulation site; Possibility of self-punishment; And less likely to develop hematoma.⁸

OBJECTIVE

To analyze the technique of Buttonhole in patients submitted to hemodialysis treatment from a pilot study.

METHOD

A descriptive, observational and prospective study of a quantitative approach performed at the Natal Nephrology Center during the month of March 2016 in patients undergoing hemodialysis using the Buttonhole technique, whose data were produced by means of a check list and an accompanying card Based on the literature⁹ adapted to attend a service of nephrology as object and collection of the present study. Project submitted to the Brazil Platform, evaluated and approved by the Research Ethics Committee / University Hospital Onofre Lopes, under the CAEE 34804214.1.0000.5292. The norms recommended by Resolution No. 466/2012 were respected.

The population was constituted by 70 patients in hemodialysis treatment, of which the intentional sample was defined with 17 patients who accepted to participate in the study, respecting the inclusion criteria: both sexes, adult, to perform weekly sessions, that is, three times per week. Patients were included for some reasons, such as:

Arteriovenous fistula (AVF), including short AVF, tortuous AVF, puncture difficulty, tendency to bruise, tendency to aneurysm formation and severe pain to puncture. Exclusion criteria were defined as follows: very developed AVF, blood flow and fragility of the skin.

The daily follow-up record is a collection instrument in which notes are taken and consequently information is also collected from the patients included in the program, information related to the patient's name, dry weight, amount of heparin, starting date, blood pressure, pressure Arterial blood pressure, intensity of pain, bleeding, time of hemostasis, intercurrentence and responsible for the annotations (Figure 1). It reinforces the adoption of the evaluation instrument and is considered an effective and important process in the nurse's work, that is, informing the patients, as a routine of the periodic assessment of the level of adaptation of the chronic renal patient undergoing hemodialysis.¹

Figure 1 - Patients on hemodialysis with the Buttonhole technique⁹

PATIENT PROFILE									
NAME									
AGE (SEX (M,) F) DRY WEIGHT									
BASIC DISEASE									
TYPE ON PROGRAM									
USE OF ANTICOAGULANT () YES () NO									
SMOKING () YES () NO									
USE OF ALCOHOL AND OTHER DRUGS () YES () NO									
USE OF ANTI-AGGREGATION () YES () NO									
TYPE OF ACCESS RADIOCEPHALIC () BRACHIOCEPHALIC ()									
ULNAR () BRACHIOBASILIC ()									
REASON FOR INCLUSION IN THE BR PROGRAM SHORT AVF () TRAINING ANEURYSM FORMATION ()									
TORTUOUS AVF () DIFFICULTY OF PUNCTURE ()									
TENDENCY TRAINING OF HEMATOMAS () SEVERE PAIN TO PUNCTURE ()									
TYPE OF NEEDLE									
DIFFICULTY OF PUNCTURE EASY () MODERATE () HARD ()									
NURSE RESPONSIBLE FOR THE TUNNEL									
PREPARATION TIME FOR PUNCTURE									

DAILY FOLLOW UP OF PUNCTIONS										
PATIENT PS		HEPARINA					STARTING DATE			
DATE	PA mmHg	PA INICIAL	PA FINAL	UF	FS	PAIN INTENSITY	BLEEDING	HEMOSTASIS TIME	INTERCURRENCE	RESPONSIBLE
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			
							INTRA-DIALYSIS ()			
							POST-DIALYSIS ()			

RESULTS

The data were transferred to an Excel spreadsheet and analyzed from absolute data, percentage and central dispersion measures: average, median and standard deviation. The research was performed at CNN (Natal Clinic of Nephrology), composed of 17 patients, most of them men (13) and women (4). Regarding the application of the questionnaires (Patient profile and daily puncture follow-up), the mean duration for both instruments was 5 minutes and 1 minute for VAS.¹⁰⁻¹¹

Patients were approached and questioned about: age, marital status, use of alcohol and other drugs, dry weight, underlying disease. The interviewer also saw the following indications: use of anti-aggregant, type of access, puncture difficulty, interurrences, reason for inclusion in the program, hemostasis time and fistula bleeding (Table 1).

Table1 - Distribution of hemodialysis patients using the Buttonhole technique: sex, age, ethnicity, alcohol and other drugs, and marital status in relation to dry weight and underlying diseases in hemodialytic patients

Group	Gender	Average Median Standard deviation	Age	Average Median Standard deviation	Alcohol and other drugs	Average Median Standard	Marital Status	Average Median Standard deviation
	M		28 -49		Yes		Stable Union	
	F		≥ 49		No		Not stable	
DRY WEIGHT								
	1		0		0		1	
40 kg - 60 kg			3		1		0	
	2		1		0		1	
			1		2		1	
			1		1		7	
61 kg - 80 kg	9	2.833	7	1.417	8	1.417	3	1.500
		1.500		1.0		1.0		1.0
	1	3.12516666	0	1.975225342	0	2.193309386	1	1.930614598
			1		1		0	
			0		1		1	
≥ 80 kg	3		2		2		1	
			1		0		1	
	1		0		1		0	
Basic disease								
	5		0		0		4	
Arterial hypertension			5		5		5	
	2		0		0		2	
			2		2		0	
			0		0		1	
Idiopathic gout	1		1		1		0	
	0		0		0		0	
			0		0		0	
	1		1		0		1	
Cardiac insufficiency			0		1		0	
	0		0		0		0	
		1.417	0	0.708	0	0.708	0	0.875
		1.0000		0.000		0.000		0.000
Chronic Renal Insufficiency	1	1.62135372	0	1.301476308	0	1.197067673	1	1.329023833
			1		1		0	
	2		1		0		1	
			1		2		1	
			0		0		0	
Renal obstructive diseases	1		1		1		1	
	0		0		0		0	
			0		0		0	
			0		2		2	
Multiple diseases	4		4		2		2	
	0		0		0		0	
			0		0		0	

* M = Average; dp = Standard deviation

In table 01 the sample was performed with 17 patients, 13 men (76.47%) and four women (23.52%), with reference variables being dry weight and basal diseases. The dry weight was divided in three groups, being: Group 1: from 40 kg to 60; Group 2: from 61 kg to 80 kg; And Group 3: ≥ 80 kg, in which Group 2 prevailed with nine men (69%) and Group 1 with two women (50%).

The underlying diseases were mentioned as follows: hypertension, idiopathic gout, heart failure, chronic renal failure, obstructive renal diseases and multiple diseases. Hypertension was higher in males, thus accounting for five males (38%). In females we had a finding of two women (50%) for hypertension and two women (50%) for chronic renal failure.

Given this perspective regarding dry weight and the variables gender, age, alcohol and other drugs and marital status we had a prevalence in line with the sex variable, with a standard deviation equivalent to 3,12516666.

Table 2 - Distribution of patients on hemodialysis using the Buttonhole technique: age, alcohol and other drugs, and marital status in relation to anti-aggregant, puncture difficulty, intercurrents, reason for inclusion in the BH program in hemodialytic patients

Group	Gender		Age		Alcohol and other drugs		Marital Status	
	M	Average Median Standard deviation	28 -49	Average Median Standard deviation	Sim	Average Median Standard deviation	União estável	Average Median Standard deviation
	F		≥ 49		Não		Não estável	
Anti-aggregate								
Heparin	13	8.500	2	4.250	2	4.250	9	4.250
		8.500	11	2.000	11	3.000	4	3.500
	4	6.36396103	2	4.50000000	0	4.78713554	3	3.40342964
			2		4		1	
Type of access								
Radioceftic	10		1		1		6	
			9		9		4	
	2		2		0		2	
		0		2		0		
Brachiocephalic	4		0		1		3	
			4		3		1	
	1	2.125	0	1.063	0	1.063	1	1.063
	0.5000	1	0.5000	1	0.0000	0	0.0000	
	3.48209707	0	2.37960081	0	2.29401395	0	1.80623919	
Brachiobasilic	0		0		0		0	
			0		0		0	
	0		0		0		0	
		0		0		0		
Ulnar	0		0		0		0	
			0		0		0	
	0		0		0		0	
		0		0		0		
Difficulty of puncture								
Easy	3		1		1		2	
			2		2		1	
	2		0		0		1	
		2		2		1		
Moderate	4	2.833	4	1.417	4	1.417	0	1.417
		2.500	1	1.000	0	1.000	1	1.000
	1	1.94079022	0	1.88092498	1	1.62135372	0	1.31137217
		0		1		0		
Hard	6		0		1		3	
			6		5		3	
	1		1		0		1	
		0		1		0		

* M = Average; dp = Standard deviation

Following the findings of Table 2, the use of heparin was found in the entire researched population, being 13 men and 4 women (100%); the type of radiocephalic access was found more frequently among the population, thus, ten men showed this type of access (76%), the same type (Radiocephalic) in two female patients (50%). The difficulty of the puncture was characterized by easy, moderate and difficult, in which we had a greater indicative in the difficult puncture among the men (46%) and referring the women the finding was characterized as easy (50%). The standard deviation of the highest indication is characterized by the variables heparin and sex (6.36396103).

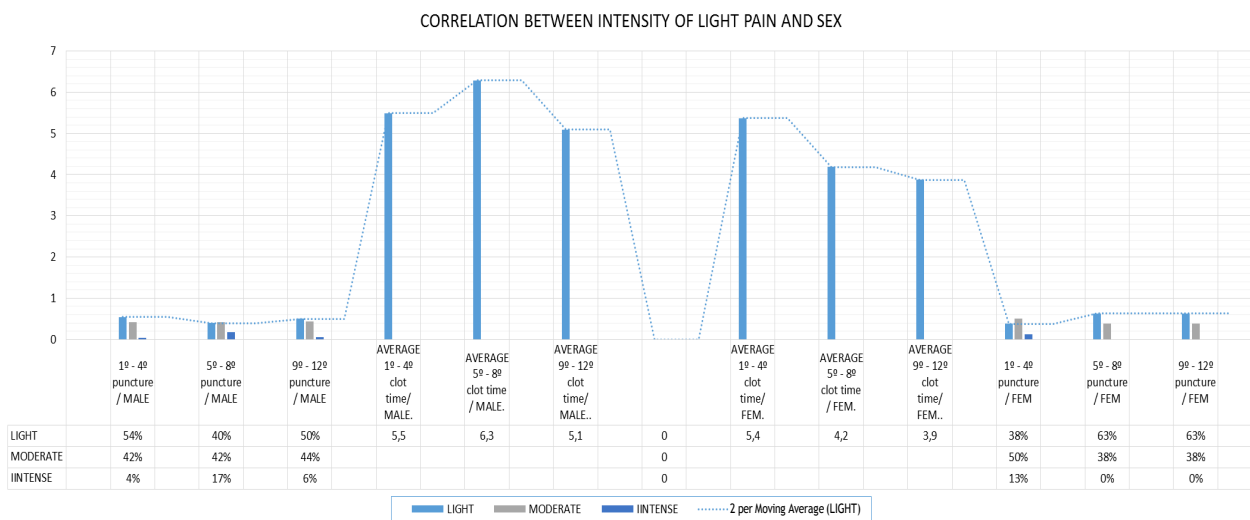
Table 3 - Distribution of patients on hemodialysis using the Buttonhole technique: age, alcohol and other drugs, and marital status in relation to anti-aggregant, puncture difficulty, intercurrences, reason for inclusion in the BH program in hemodialytic patients

Group	Gender		Age		Alcohol and other drugs		Marital Status	
	M	Average Median Standard deviation	28 -49	Average Median Standard deviation	Sim	Average Median Standard	União estável	Average Median Standard deviation
	F		≥ 49		Não		Não estável	
Complications								
Chills and tremors	1		1		0		1	
			0		1		0	
	0		0		0		0	
Button Infection	1	0.667	0	0.333	1	0.333	0	0.333
		1.000	1	0.000	0	0.000	1	0.000
	0	0.51639778	0	0.49236596	0	0.49236596	0	0.49236596
Bleeding from access	1		0		0		1	
			1		1		0	
	1		1		0		0	
		0		1		1		
Reason for inclusion in the BH program								
Short arteriovenous fistula	3		1		0		2	
			2		3		1	
	1		0		0		1	
Tortuosa arteriovenous fistula	0		0		0		0	
			1		0		1	
	1		0		1		0	
Tendency to form bruising	3	1.700	0	0.850	0	0.850	3	0.850
		1.000	3	0.000	3	0.000	0	0.000
	0	1.88856206	0	1.46089374	0	1.26802789	0	1.08942283
Trend of Aneurysm Formation	1		0		0		1	
			1		1		0	
	0		0		0		0	
Multiple reasons	6		0		2		3	
			6		4		3	
	2		1		0		1	
		1		2		1		

* M = Average; dp = Standard deviation

Other variables of the study that are expressed in table 3 mention the interurrences and the reason for inclusion in the Buttonhole program. In relation to the interurrences, we have (8%) for the male population, in which this value is associated with chills and tremors, button infection and fistula bleeding. In the female population, we found (25%) of the findings, related to fistula bleeding.

In the present study, patients were also evaluated in relation to the inclusion motif of the Buttonhole program. Therefore, the variable with the highest index of involvement was the multiple factors (short AVF, tortuous AVF, tendency to hematomas, tendency to aneurysm formation and severe pain to puncture). In the male population we found six men (46%) and, in relation to women, we have two findings (50%). The standard deviation of higher incidence is related to the variables, reason for inclusion in the Buttonhole program and gender (1.88856206).



Patients were also divided by type of arteriovenous fistula (AVF), Radiocephalic, Brachiocephalic, Brachio basilic, and Ulnar. According to the findings, 10 men with radiocephalic AVF and two women were obtained. With regard to Brachiocephalic AVF, we had four men and one woman.

The difficulty of the puncture is classified as easy, moderate and intense, being found the result of three men and two women with the degree of easy difficulty, four men and one woman with moderate degree finding and, finally, six men and one woman with difficult puncture.

Figure 1 - The intensity of the pain was using the Analog Visual Scale



In the use of the Visual Analogue Scale (E.V.A) there must be the patient's visual contact with the scale and he must be able to point or signal the examiner to what degree his pain is. It can be a numerical ruler with ten centimeters, divided into ten equal spaces, being presented in a simple way, in which the numeration goes from 0 to 10, that is, from 0 to 2 it is characterized by a slight pain, from 3 to 7 presents moderate pain and, finally, from 8 to 10 with a higher score, showing intense pain.¹⁰

DISCUSSION

Age averages varied between the two groups. The first one was established with the ages of 28 to 49 years and the second with age greater or equal to 49 years. Therefore, the following values were obtained: in the first group we have only one man and two women, and in the second group we have 12 men and 2 women.

The marital status was divided into a stable and unstable union, with nine men and three women being found as a stable union, and as a non-stable union four men and one woman. Regarding the use of alcohol and other drugs, it was registered as absent in 11 men and 4 women who do not use this substance and only two men that fit the profile yes, that is, that make use.

The dry weight ranged from the three groups pre-established by the interviewer, based on the following divisions: Group 1: From 40 kg to 60, with one man and two women; Group 2: From 61 kg to 80 kg, nine men and one woman; And Group 3: ≥ 80 kg, three men and one woman.

The identified underlying diseases were six, namely: Hypertension, reaching five men and two women; Idiopathic gout, with a single case in males; and equal number and condition for heart failure; chronic kidney failure, one man and two women; Renal obstructive diseases only one man and; Multiple diseases (diabetes, cirrhosis) four men and no women.

Regarding the bleeding of the fistula, it can be said that it happened with a man and a woman. The use of anti-aggregant

was necessary to all who participated in the research, totaling 17 patients, being 13 men and 4 women. Thus, hemostasis and bleeding time of the fistula was taken into account as a result of the use of anti-aggregant and antihypertensive agents.

In the withdrawal of the needles in the event of bleeding in the AVE, it is recommended to compress at least 10 minutes for haemostasis to occur at the puncture site, maintaining compression carefully so as not to block the flow.¹²

Consistent bleeding for more than 20 minutes should merit careful evaluation of anticoagulant and antihypertensive dosages, as well as a review of puncture sites, in this case in ladder-type punctures, prior to the implementation of the Buttonhole technique.¹³

The interurrences that were related in hemodialysis patients were chills and tremors, infection of the bud and access bleeding. Throughout the research period, one man presented with chills and tremors, another button infection and another bleeding from the fistula, only one woman had bleeding from the fistula.

The reason for inclusion in the program is related to short AVE, tortuous AVE, tendency to hematomas, tendency to aneurysm formation and multiple reasons. Pain stands out as one of the main causes of human suffering, resulting in incapacities, impaired quality of life and immeasurable psychosocial and economic repercussions, making it a public health problem.¹⁴

The International Association for the Study of Pain (IASP) claims to be an unpleasant sensory and emotional experience associated with present or potential harm, or described in terms of such harm, whose subjective assessment of pain.¹⁵

The use of EVA for its ease and speed in the application is presented as an adequate instrument to measure pain, besides being a simple procedure and easy to understand because of the easy and quick application by the patient. Therefore, it is reinforced in the present study its adequacy to estimate the intensity of the present pain. It agrees with its limitation by its comprehensiveness as a one-dimensional instrument, that is, it analyzes only the intensity of the pain, disregarding any other aspects of this pain, proven in these results.¹⁵

Thus, the intensity of the pain was divided into three groups, or intervals, totaling 12 punctures for each person submitted to the Buttonhole technique, that is, from the 1st to 4th puncture, from the 5th to the 8th and from the 10th to the 12th puncture, leading The Visual Analogue Scale (EVA), adopted in the research.

Therefore, the patients had a choice pattern in relation to the pain, being mild, moderate and intense. As we can observe the table below, it is explained how the punctures were divided and their related dispositions pain of each patient of the researched group, that is, men and women.

Table 4 - Distribution of hemodialysis patients using the Buttonhole technique

1° GROUP	LIGHT				MODERATE				INTENSE			
	MALE	%	FEM	%	MALE	%	FEM	%	MALE	%	FEM	%
1° PUNCTURE	8	62%	0	0%	5	38%	3	75%	0	0%	1	25%
2° PUNCTURE	7	54%	2	50%	6	46%	1	25%	0	0%	1	25%
3° PUNCTURE	7	54%	2	50%	5	38%	2	50%	1	8%	0	0%
4° PUNCTURE	6	46%	2	50%	6	46%	2	50%	1	8%	0	0%
TOTAL/AVERAGE	28	54%	6	38%	22	42%	8	50%	2	4%	2	13%
2° GRUPO	LIGHT				MODERATE				INTENSE			
	MALE	%	FEM	%	MALE	%	FEM	%	MALE	%	FEM	%
5° PUNCTURE	5	38%	2	50%	4	31%	2	50%	4	31%	0	0%
6° PUNCTURE	4	31%	2	50%	8	62%	2	50%	1	8%	0	0%
7° PUNCTURE	8	62%	3	75%	3	23%	1	25%	2	15%	0	0%
8° PUNCTURE	4	31%	3	75%	7	54%	1	25%	2	15%	0	0%
TOTAL/ AVERAGE	21	40%	10	63%	22	42%	6	38%	9	17%	0	0%
3° GRUPO	LIGHT				MODERATE				INTENSE			
	MALE	%	FEM	%	MALE	%	FEM	%	MALE	%	FEM	%
9° PUNCTURE	6	46%	2	50%	7	54%	2	50%	0	0%	0	0%
10° PUNCTURE	7	54%	3	75%	6	46%	1	25%	0	0%	0	0%
11° PUNCTURE	7	54%	2	50%	6	46%	2	50%	0	0%	0	0%
12° PUNCTURE	6	46%	3	75%	4	31%	1	25%	3	23%	0	0%
TOTAL/ AVERAGE	26	50%	10	63%	23	44%	6	38%	3	6%	0	0%

In the intensity of pain, the mild type is observed as predominant in men in the first group (54%). In the second group, there was a predominance of (63%) in relation to the intensity of mild pain in women and this percentile continues in the third group, in which women present the same (63%) in relation to men.

This process will only be effective and of paramount importance if nurses impregnate in their routine the periodic assessment of the level of adaptation of the chronic renal patient in hemodialysis treatment.¹

Adapting to a new lifestyle leads to a series of changes in the routine of these patients due to the needs that chronic renal insufficiency imposes, which may hinder their adherence to treatment. In this sense, the construction of an educational approach should be evidenced as a strategy to stimulate the adherence of these patients, reducing morbidity and mortality during the treatment of kidney disease.⁵

The construction of an educational approach should be evidenced as a strategy to stimulate adherence of these patients, decreasing morbidity and mortality during renal disease treatment. Perceiving and valuing the chronic renal patient means trying to understand their needs, their motivations, fact that will provide their cooperation with the team, valuing their own life, assuming their responsibilities, adhering to treatment and fulfilling their obligations.⁸

The ideal technique for arteriovenous fistula (AVF) puncture in patients on a chronic hemodialysis (HD) program has not yet been established in Brazil. However, the most commonly used cannulation technique is the ropeladder. For its effectiveness, venous puncture is performed at a new site, using sharp needles, at each dialysis session. However, it is associated with the formation of aneurysms and stenoses by repetitive trauma in the endothelium, whose progression compromises the longevity of vascular access.⁸

The prevalence rates and incidence of dialysis patients increased, and the mortality rate tended to decline in relation to 2011. Data on indicators of the quality of maintenance dialysis are stable with a tendency to fall in anemia levels; and show the relevance of the annual census to the planning of dialysis care.²

CONCLUSION

This study aimed to analyze the Buttonhole technique in patients submitted to hemodialysis treatment from a pilot study at Nephrology Center in Natal/RN-BR. For this, a quantitative approach was carried out during the month of March 2016, whose data were produced by means of a checklist, an accompanying record created on the basis of literature and a visual analogue scale.

The results point to a sample of 17 patients, predominantly males, whose dry weight ranged from 61 kg to 80 kg, while women presented arterial hypertension and chronic renal failure as the underlying disease in relation to gender, age, alcohol and Other drugs, for both sexes. From the point of

view of the execution of the Buttonhole, the frequency of access between the sexes was the radiocephalic, in which heparinization occurred in males and presented greater difficulty in puncture.

The direct and indirect complications of the button were more frequent in males, which included chills and tremors, button infection and access bleeding, especially in females. With regard to pain intensity from the visual analogue scale, the pain of the mild type was highlighted, on one side with predominance of the men in the first group, which corresponds from the first to the fourth puncture and, on the other hand, women in the second Group, referring to the fifth to eighth puncture and in the third, referring to the ninth to twelfth puncture.

As limitations of the study, we emphasize the descriptive and observational type since of the 17 patients submitted to the Buttonhole technique were observed for two weeks with three hemodialytic sessions. It is noteworthy that the 17 patients, with three weekly sessions, totaling 57 hemodialytic procedures weekly and 208 monthly, which it was not possible to do integrally.

Another outstanding limitation concerns the development in a single hemodialysis service compared to the six others registered in the Health Care Secretariat, through the National Registry of Health Establishments in Rio Grande do Norte. For future research, it is suggested to design a comparative study with greater scientific evidence as intervention intervention to improve the hemodialysis process using the Buttonhole technique. These limitations of the present study do not make it less relevant and important since it contributes to the dissemination and publication of a method of access to hemodialytic treatments.

REFERENCES

1. Silva RAR, Souza Neto VL, Oliveira GJN, Silva BCO, Rocha CCT, Holanda JRR. Coping strategies used by chronic renal failure patients on hemodialysis. *Esc. Anna Nery Rev Enferm.* 2016;20(1): 147-154. doi: 10.5935/1414-8145.20160020.
2. Sesso RC, Lopes AA, Thomé FS, Lugon JR, Watanabe Y, Santos DR. Report of the Brazilian Chronic Dialysis Census 2012. *J. bras nefrol.* 2014;36(1): 48-53. doi: 10.5935/0101-2800.20140009.
3. Fermi, MRV. *Diálise para Enfermagem.* 2º ed. Rio de Janeiro: Guanabara Koogan Ltda; 2010.
4. Coutinho D, Benetti ERR, Ubessi LD, Barbosa DA, Kirchner RM, Guido LA, et al. Complications in hemodialysis and health assessment of chronic renal patients. *Av enferm.* 2015;33(3): 362-371. doi: 10.15446/av.enferm.v33n3.38016.
5. Prezotto KH, Abreu IS. The chronic renal patient and the adherence to hemodialysis treatment. *Rev enferm UFPE on line.* 2014;8(3): 600-5. doi: 10.5205/reuol.5149-42141-1-SM.0803201414.
6. Degrassi F, Quaia E, Martingano P, Cavallaro M, Cova MA. Imaging of haemodialysis: renal and extrarenal findings. *Insights Imaging.* 2015;6(3): 309-321. doi: 10.1007/s13244-015-0383-3.
7. Cardoso LB, Sade PMC. O enfermeiro frente ao processo de resiliência do paciente em tratamento hemodialítico. *Rev eletrônica da faculdade evangélica do paraná.* 2012;2(1): 2-10.
8. Silva DM, Gurgel JL, Escudeiro CL, Ferreira HC. Patient satisfaction with the Buttonhole technique. *Cogitare enferm.* 2015;20(3): 483-488.
9. Castro MCM, Silva CF, Souza JMR, Assis MCSB, Aoki MVS, Xagoraris M, et al. Punção da fístula arteriovenosa com a técnica em casa de botão com agulha romba. *J. bras nefrol.* 2010;32(3): 281-285. doi: 10.1590/S0101-28002010000300010.
10. Fortunato JGS, Furtado MS, Hirabae LFA, Oliveira JA. Escalas de dor no paciente crítico: uma revisão integrativa. *Rev HUPE.* 2013;12(3): 110-117. doi: 10.12957/rhupe.2013.7538.
11. Gift AG. Visual Analogue Scales: Measurement of Subjective Phenomena. *Nursing Research.* 1989; (38)5: 286-287.
12. Silva KA, Nunes ZB. As intervenções de enfermagem mais prevalentes em um serviço de hemodiálise frente às intercorrências com a fístula arteriovenosa durante a sessão de hemodiálise. *J. Health Sci Inst.* 2011;29(2): 110-3.
13. Fernandes EFS, Soares W, Santos TC, Moriya TM, Terçariol CAS, Ferreira V. Arteriovenous fistula: Self-care in patients with chronic renal disease. *Medicina (Ribeirão Preto).* 2013;46(4): 424-8.
14. Bottega FH, Fontana RT. A dor como quinto sinal vital: utilização da escala de avaliação por enfermeiros de um hospital geral. *Texto & Contexto enferm.* 2010;19(2): 283-90. doi: 10.1590/S0104-07072010000200009.
15. Martinez JE, Grassi DC, Marques LG. Analysis of the applicability of different pain questionnaires in three hospital settings: outpatient clinic, ward and emergency unit. *Rev bras reumatol.* 2011;51(4): 299-308. doi: 10.1590/S0482-50042011000400002.

Received on: 06/10/2016

Reviews required: No

Approved on: 20/03/2017

Published on: 10/04/2018

Author responsible for correspondence:

Michell Platiny Cândido Duarte
Rua Manoel Leolpodo, 48
Rosa dos Ventos, Parnamirim/RN
ZIP Code: 59141-820