Acting of the nurse in the prompt care of complications in the process of Renal Therapy

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1 INTRODUCTION

Chronic kidney disease (CKD) affects about 500 million people worldwide (Nunes et al., 2019). Since the mid-twentieth century, health systems began to emphasize the importance of people's accountability in the individual surveillance of kidney disease, largely due to the change in the pattern that the disease presented, from acute to chronic. This self-accountability gave rise to several concepts that have differences and similarities - such as self-care, self-management, self-monitoring, symptom management, and self-efficacy (Vinicius et al., 2019).

According to Silva et al. (2020), Chronic Kidney Disease consists of irregularities in the structure and function of the kidneys present for more than three months, leading to health complications (Jesus et al., 2019; Silva et al., 2020). In healthy individuals, the kidneys act as a regulator of the amount of calcium and phosphorus by modifying their tubular reabsorption to ensure their homeostasis in the body (Vasconcellos, 2017). Renal Disease (RD) is classified into acute and chronic, and is characterized by the irreversible and advanced staging of the pathology; in contrast, the reversible staging is defined as Acute Renal Disease (ARD). The number of cases of progression to death of patients diagnosed with CKD and AKD has been maintained over the years (Nunes et al., 2019).

Acute renal failure (ARF) is characterized by a temporary deficit in the regulatory function of the kidneys due to injuries in their tissues; causing the retention of urea and creatinine that should be eliminated through urine and raising their rates in the blood (Figueiredo, 2017). Individuals affected by ARF may need hemodialysis to correct the elevated levels of metabolites (Jesus et al., 2019).

Chronic Kidney Disease (CKD) is considered a worldwide public health problem and the number of sufferers is increasing considerably globally. This condition is characterized by high

morbidity and mortality rates, whose impacts extend to economic, social and personal aspects, as well as to health systems (Figueiredo, 2017). In this condition, the treatment adopted is the Renal Replacement Therapy (TRS), which consists of three different modalities, Hemodialysis, Peritoneal Dialysis and Renal Transplantation. Currently, Hemodialysis is the most used modality of SRT and aims to maintain life (Jesus et al., 2019).

Following this historical construction, it is in the 21st century that nursing professionals in Brazil are inserted in the universe of Renal Replacement Therapies and Renal Transplantation, including a clinic involved by the expansion of technology, especially with regard to equipment, keeping away from the relationship and care to the Chronic Renal patient (Silva et al., 2020).

Studies point out that, since the 1960s, nurses working in dialysis services have expanded their field of action, performing several functions, namely: a) care, promoting the patient an effective dialysis treatment; b) social, teaching, research, management, and legal responsibility; and c) interdependence, maintaining, promoting, and recovering health, together with the other members of the multidisciplinary team (Nunes et al., 2019).

2 OBJECTIVE

To know the nurse's role in the prompt care of complications in the process of Renal Replacement Therapy.

3 METHODOLOGY

This study is a bibliographic research of descriptive aspect, with qualitative approach, with the purpose of showing the relevance of the nurse's role in the immediate care of complications arising from the process of Renal Replacement Therapy.

The search for the theoretical framework was conducted in the electronic platforms of the Virtual Health Library (VHL), and in the International Literature in Health Sciences (Medline) VIA site of the National Center for Biotechnology Information (NCBI) via PubMed (PubMed is a free resource developed and maintained by the National Library of Medicine (NLM®) of the United States).

Data collection was performed on articles published from 2016 to 2020, in Portuguese and English languages, using the following descriptors: Acute renal failure, renal treatment, hemodialysis, peritoneal dialysis and nursing care.

4 DEVELOPMENT

The SRT is a maintenance therapy, which has the function of replacing the renal function in patients with ARF or CRF (Nunes et al., 2019). To start this treatment, some resources are needed,

such as: suitable environment, materials / supplies for circuit assembly, machines for SRT and reverse osmosis, and a professional care team. There are several forms of TRS, and all use the principle of osmosis and diffusion to remove waste and excess fluid from the blood (Cunha & Lemos, 2020).

Ideally, SRT is started in acute conditions before toxin accumulation or severe hypervolemia (which can cause complications or damage to other organs). Once this is decided, a specific treatment should be selected (Jesus et al., 2019). The factors that determine the choice of mode are the catabolic state, hemodynamic stability, and whether the primary goal is to remove solute or fluid, and may be both (Nunes et al., 2019). TRS aims to remove toxic nitrogenous substances from blood and excess water. In this process, due to the complications that can occur during treatment, the patient needs to be intensively monitored (Almeida, 2017).

Stages of the Processes Involving Renal Replacement Therapy

The evolutionary specificity of chronic kidney disease is segmented into two approaches, the clinical and the epidemiological, and may go through several stages. In the most advanced stage of CKD, the Glomerular Filtration Rate (GFR) reaches very low levels, of approximately 15 ml/min/1.73 m^2, establishing Renal Functional Failure (RFF), showing the most critical moment of the disease. In the last stage of kidney disease, the patient needs the help of RRT (Rocha et al., 2019).

Dialysis methods have the following modalities: peritoneal dialysis, hemodialysis and kidney transplantation. The advantages and disadvantages of each one should be carefully evaluated, because it will directly affect the standard of living and even the survival of those affected[11] . The main modalities of renal replacement therapy are hemodialysis, peritoneal dialysis, and kidney transplantation. Hemodialysis is the most widely used, consisting of a diffusion process for the clearance of relatively small solutes, such as electrolytes and urea (Banhara et al. 2020).

The system consists of the dialyzer, mechanical devices that pump the patient's blood, and the dialysate. The treatment is carried out in a specialized nephrology service, where the patient must attend three times a week for four-hour sessions a day. To perform this treatment it is necessary that patients have a vascular access that can be done by arteriovenous fistulas, using autogenous veins or prostheses, or by venous catheters, taking into account the indications (Rocha et al., 2019).

Peritoneal dialysis has two modalities, continuous ambulatory peritoneal dialysis (CAPD), which is a manual method, in which the exchange of dialysis solution from the peritoneal cavity is performed by gravity every 4-5 hours, and automated peritoneal dialysis (APD), which is effected by means of a machine responsible for the process of dialysis solution exchange for 8 to 10 hours per night, leaving the patient free during the day for other activities (Marques et al., 2020).

Kidney transplantation is one of the alternative therapies of choice that the client with CKD has, for which he must be able to undergo a surgical process, which is the transplant and cannot have

restrictions to make use of immunosuppressive medications. This type of SRT allows a better quality of life to the client, being well informed about all the care and precautions, because this therapy gives you a better socioeconomic return with lower cost (Nunes et al., 2019).

There are so many steps involving dialysis treatment that it is impossible to define one of them as the main one. Failure to adhere to each of these processes can lead to serious consequences involving one or more patients in a hemodialysis unit (Vasconcellos, 2017).

Collaborative nursing care in the complications presented by patients during a SRT session

It is considered that hemodialysis treatment and related complications are highly complex procedures, in which the know-how is not enough. Thus, it is essential to know-know, as well as the handling of high technology used and knowledge about the renal compensatory pathophysiological mechanisms to reduce damage and adverse events to the patient (Marques et al., 2020).

According to Barreiros, the hemodialysis procedure generates potential complications, so the nurse must be able to intervene in such complications, among them: hypotension, hypertension, muscle cramps, nausea and vomiting, headache, chest and back pain, pruritus, fever and chills. It is concluded that monitoring, detection and early intervention, in order to treat events that may develop into complications, is a differential to obtain safety and quality in the hemodialysis procedure (Barreiros, 2020).

Nursing should act to prevent and control complications, in addition to paying attention to the biopsychosocial aspects experienced by patients, developing actions more efficiently with the implementation of the Nursing Care Systematization in their daily routine (Almeida, 2017).

Chronic Kidney Disease (CKD,) although still a public health problem, due to the aging population and the delay in diagnosing the condition, the transaction of the choice for renal replacement therapy depends on the underlying disease, stage, speed of progression, and comorbidities (Rocha et al., 2019).

Although the goal of renal replacement therapy (RRT) is to try to correct the changes caused by existing kidney function and dysfunction, in order to distribute the extracellular fluid well, the electrolyte balance must be placed. For basic treatment, hemodialysis can be achieve positive results (Nunes et al., 2019).

The nurse in turn has one of the main importance in the participation of renal replacement therapy (RRT), because the presence of this professional within the clinical and physiological changes as a strategy to contribute to quality care and improvements for CKD patients (Jesus et al., 2019). However, the nursing team is closer in the process of measures that are appropriate for these patients in treatment, providing care and a better adaptation for possible complications and intercurrences

during the facing of the disease, seeking to have respect and trust for the need for good communication with the professionals there (Silva et al., 2020).

Given this fact, nurses must assess the quality of life of patients undergoing renal replacement therapy, as a way to identify and contribute to a follow-up on the diagnosis and factors that may compromise health and therapeutic recovery for better results is physical, mental and social aspects in the lives of these patients (Figueiredo, 2017).

5 CONCLUDING REMARKS

It is concluded that chronic kidney disease is an invasive treatment, which has an impact on the patient's lifestyle change, therefore, complications will occur in this method of treatment, among them the hemodynamic changes are the most frequent due to the cardiopulmonary bypass process. In the face of such complications, the care intervention plans may include monitoring the patient, where any abnormalities, which may lead to the risk of death or discomfort, the rapid intervention is essential to ensure a safe and effective response to the patient.

Since nurses are professionals who assist and maintain a close relationship with the patient during the treatment process, they must be able to intervene in time to avoid other potential complications. The nursing team is present at all stages of the operation and is very important in reducing the incidence of complications, especially as a personal educator. For this reason, it is important that nursing care provides qualified assistance throughout the process so that the patient maintains adherence to all care and treatment, which will prove successful and increase survival.

REFERENCES

Almeida, O. A. E de. Person involvement in the management of chronic kidney disease and renal replacement therapy. Res. Soc. Dev. v. 6, p. 46-55, 2017.

Banhara, C. D.; Schneider, C. M.; Toigo, C.; Petry, C. J. Late complications from the use of double lumen catheter in chronic renal patients on hemodialysis therapy. Pesqui. e Extensão Unoesc. v. 4, n. 2, p. 325-33, 2020.

Barreiros, J. R. R. Renal complications of exercise-induced rhabdomyolysis. Rev. Ciência e Saúde On-line. v. 6, n. 3, p. 36-45, 2020.

Cunha, T. G. S.; Lemos, K. C. Nursing care to the phases of renal transplantation: an integrative review. Ensino e Pesqui. em Ciências da Saúde. v. 8, n. 1, p.1-16, 2020.

Figueiredo, A. V. The clinical-epidemiological profile of individuals with chronic kidney disease undergoing hemodialysis treatment in the renal sin-therapy clinic of Campo Grande/MS. Rev. Baiana Enfermagem v. 5, n. 7, p. 43-1, 2017.

Jesus, N. M.; Souza, G. F. De; Mendes-Rodrigues, C.; Pereira, O.; Neto, D. A.; Cunha, C. M. Quality of life of individuals with chronic kidney disease on dialysis treatment. Brazilian Appl. Sci. Rev. v. 3, n. 41, p. 364-74, 2019.

Marques, F. E.; Souza, O. R. P de; Bezerra, J. L.; Sousa, J. C de. Use of antibiotics in renal failure: need for dose adjustments and individualized doses. Res. Soc. Dev. v. 9, n. 11, p. 1-23, 2020.

Nunes, C.; Barbosa, E. S.; Nunes, E.; Aoyama, E. de A.; Lima, R. N. Atuação do enfermeiro no tratamento de diálise. Rev. Bras. Interdiscip. Saúde. v. 1, n. 3, p. 66-72, 2019.

Rocha, G. A.; Lima, F. G.; Carvalho, P. R.; Rodrigues, V. E. S. Application of the nursing process to the patient in hemodialysis treatment: experience report. Brazilian Appl. Sci. Rev. v. 3, n. 6, p.2648-57, 2019.

Silva, M. R da; Moura, L. M. S de; Batista, G. S.; Filho, M. L da S. Quality of life of chronic renal patients undergoing hemodialysis: An integrative review. Brazilian J. Heal. Rev. v. 3, n. 4, p. 9344-74, 2020.

Vasconcellos, A. C. N. Risk management in hemodialysis: an assessment to improve the quality of care for patients with kidney disease. J. Chem. Inf. Model. v. 53, n.9, p. 21-5, 2017.

Vinicius, T. R.; Souza, R. De; Jorge, A.; Mariana, T. R; Frota, A.; Stephanie, T. R.; et al. Actions of nurses facing a transfusion reaction. Rev. Ciência e Saúde On-line. v. 80, n. 1: p. 30-4, 2019.