

## A reflection on anxiety and depression in patients undergoing hemodialysis treatment



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### ABSTRACT

This study aimed to analyze the relationship between End-Stage Renal Disease (ESRD) and the appearance of anxious and depressive symptoms among patients. Thus, ESRD is understood as a set of changes in kidney structure and function due to

various causes, thus requiring renal replacement therapy (RRT), with hemodialysis being the main one used. However, due to the significant changes caused by this illness, the patient must undergo a series of adaptations to their lifestyle and daily routine. This can be explained by the limitations on physical activity, absence from work, increased dependence on others and changes in daily habits. As a result of being a tedious process, hemodialysis treatment can generate signs of anxiety, anguish and fear about the future, promoting depressive symptoms as side effects of the worsening of their condition, such as intense sadness and suffering. The combination of all these negative factors can stimulate the development of mental disorders among patients, either by reducing their quality of life or by the clinical effects of the disease itself.

**Keywords:** End-stage renal disease (ESRD), Hemodialysis, Anxiety and depression.

## 1 INTRODUCTION

Chronic Kidney Disease (CKD) can be defined as heterogeneous modifications that, together, alter the structure and function of the kidney, due to multiple specific or non-specific causes (BRASIL, 2014). In this sense, because it is so comprehensive and promotes significant changes, it is considered a serious public health problem, since the most severe patients can also progress to end-stage CKD (ESRD). Within the latter scenario, such individuals require renal replacement therapy (RRT), with hemodialysis being the most widely used in Brazil (ARAÚJO *et al.*, 2021).

However, although the organic alterations are known and debated exaggeratedly, there is a neglect regarding the psychic implications generated due to the diagnosis and changes in the patient's lifestyle. In support of this, there is a notable lack of literature studies that address the somatization of symptoms in the mental sphere due to RRT (AMARAL and TAVARES, 2022).

From this perspective, although research is lacking, it is understood that the diagnosis of CKD is a predictor of several negative feelings present throughout the disease process, from sadness to insecurity about the future (FERREIRA and PEREIRA, 2020). Therefore, physical exhaustion is



responsible for emotional exhaustion that generates mental disorders, among them, the most commonly found, depression, in about 10 to 20% of cases (KUPSKE *et al.*, 2020).

In addition, studies conducted by Azevedo (2020) demonstrate the positive link between CKD emotion regulation strategies and reduced levels of anxiety. Concomitantly, corroborating the idea, the same research also discusses the high rates of depression among those patients with affective imbalances. Demonstrating, therefore, the importance of good mental health for a better prognosis of the disease.

Therefore, considering the above, the guiding question of this study was: How does hemodialysis treatment interfere with the high frequency of anxiety and depression in patients with end-stage renal disease? Thus, this research raises awareness of the need for interaction measures that stimulate mental health practices directed to this group, thus contributing to the promotion of well-being and improvement of the quality of life of such fragile patients.

## 2 DEVELOPMENT

### 2.1 UNDERSTANDING CHRONIC KIDNEY DISEASE AND HEMODIALYSIS

The kidneys are responsible for maintaining homeostasis from essential blood filtration functions in the human body. In this way, they have the responsibility of eliminating the products of excretion that usually, in excess, become toxic to the individual. Therefore, if this capacity is affected, there will be an increase in the concentration of compounds such as urea and creatinine.

In this scenario, there is the establishment of kidney disease, which can present itself acutely or chronically. The first represents a rapid and acute loss of renal function, which may be reversible, or even complicate to worsen and evolve into a condition of Chronic Kidney Disease (CKD), usually irreversible (LAGOA, 2020).

In this sense, CKD is understood as a set of heterogeneous alterations that affect both the structure and the renal function itself, and the prognosis is affected by multicausal causes and factors (BRASIL, 2014). This can be explained by the fact that several other uncontrolled underlying diseases interfere with the increase in the incidence of renal cases, such as diabetes mellitus, systemic arterial hypertension, obesity, smoking, among others.

The diagnosis of the disease follows the Clinical Guidelines of the Ministry of Health, which considers a decrease in the Glomerular Filtration Rate (GFR) and/or evidence of parenchymal renal damage. According to the latest update from 2014:

"A carrier of CKD is any individual who, regardless of the cause, has a GFR < 60ml/min/1.73m<sup>2</sup> for at least three consecutive months. In cases of patients with GFR ≥ 60ml/min/1.73m<sup>2</sup>, consider CKD if associated with at least one marker of parenchymal kidney damage or alteration in the imaging test."



Among the treatments for the most advanced cases in Brazil, hemodialysis continues to be the most widely used Renal Replacement Therapy (RRT) (ARAÚJO *et al.*, 2021). As detailed by Matos and Fazenda (2022), this procedure occurs three to four times a week, for three to four hours, and consists of pumping the patient's blood through a dialyzer (machine) to filter toxins from the blood.

## 2.2 ANXIETY AND DEPRESSION: OVERVIEW OF SYMPTOMS AND SCREENING.

There are several factors that directly affect the mental well-being of individuals, whether social, economic, cultural, or even clinical health problems. In view of this, there are multiple disorders that can be developed, among them, anxiety and depression stand out.

In this context, depression is a recurrent chronic disease that involves several characteristics, such as low appetite, feelings of guilt, death ideations, as well as changes in sleep, motor activity, and lack of motivation (RUFINO *et al.*, 2018). As a result, the way of life that once provided contentment becomes apathetic and without pleasures.

This disorder can be assessed using the PHQ-9, which is an instrument for screening depression based on 9 items indicated by validated questions, and are scored from 0-3. According to Melo *et al.* (2023):

"Positive screening for depression was measured by the following symptoms: depressed mood, anhedonia, difficulty sleeping, tiredness or lack of energy, change in appetite or weight, feelings of guilt or worthlessness, difficulty concentrating, feeling sluggish or agitated, and thoughts about being better off dead or hurting oneself in some way."

On the other hand, Generalized Anxiety Disorder (GAD) interferes with symptoms such as inability to relax, tremors, dyspnea, palpitations, sweating, motor tension, and mood changes, such as negative and apprehensive thoughts (LOPES; SANTOS, 2018). Thus, it involves apprehension and anguish during several moments of intense worry, differentiating itself from depression.

## 2.3 HEMODIALYSIS AND PATIENT BEHAVIORAL AND BODY CHANGES

Individuals affected by CKD experience numerous episodes during the course of the disease that interfere with behavioral and physical changes in their reality. From the discovery of a comorbidity that can cause their death, to routine restrictions and/or changes in habits due to the diagnosis, patients are conditioned by feelings of limitation that permeate this process (FERREIRA; PEREIRA, 2020).

From this perspective, the adaptation to the treatment predicts interference in several areas, since the dependence on a machine for a long period of time even infers in absences from work or disability retirements (CASSELHAS; MAGELLAN; NAKASU, 2020). This clearly leads to a reduction in the quality of life and increased frustrations for those involved.



Concomitantly with this scenario, these changes also interfere in the lives of family members, since the need for support and dependence increase within CKD conditions (RIBEIRO; JORGE; QUEIROZ, 2020). This situation can also be explained by the limitations of physical capacity in daily activities, such as lifting weights, domestic activities or playing sports (CASSELHAS; MAGELLAN; NAKASU, 2020). Therefore, the union of all these aspects incites feelings of anxiety, negativism and hopelessness among those involved.

## 2.4 THE PREVALENCE OF ANXIETY AND DEPRESSION IN THE HEMODIALYSIS EXPERIENCE

Hemodialysis is seen by many patients as a loss of autonomy and increased dependence, and there is a strong association between this Renal Replacement Therapy (RRT) and depression (SANTOS *et al.*, 2018). However, this group also recognizes that the procedure allows the possibility of waiting for a transplant that increases their quality of life (RIBEIRO; JORGE; QUEIROZ, 2020).

From this point of view, because it is an arduous and long process, this treatment can generate signs of anxiety, such as tension about the future, fear of death, and persistent anguish (MARTINS *et al.*, 2021). Thus, the persistence of these symptoms associated with restlessness, palpitations and nervousness can interfere with the prognosis of Chronic Kidney Disease (CKD).

In addition, due to the various changes that occur in the usual routine of this reality, such as unemployment, sexual changes, and dietary restrictions, the individual may present depressive signs as a side effect of CKD (AZEVEDO, 2020). These symptoms can be characterized as sadness, suffering, anguish and/or isolation (RIBEIRO; JORGE; QUEIROZ, 2020).

In view of this, according to comparative studies carried out in several countries by Amaral and Tavares (2022):

"Among the manuscripts evaluated, it was observed that the samples obtained in different countries, and using the most varied instruments, present a rate of depression at all levels, ranging from 27% to 100% of the samples. Regardless of this, the rate of anxiety disorders ranged from 25.2% to 64.6% of the samples."

Therefore, it is possible to understand the relationship between the onset of anxiety and depressive symptoms concomitant with hemodialysis. Thus, it is notorious that the alterations promoted by CKD generate disorders in the mental health of patients, either due to routine, decreased quality of life or due to the direct clinical effects of the disease itself (AMARAL; TAVARES, 2022).

## 3 FINAL THOUGHTS

Empirical evidence makes it possible to describe that social experiences about the development of CKD in individuals who at some point in their lives were healthy actually incite the establishment



of anxiety and depressive symptoms. After all, there are several changes in the physical environment, in life habits and in interpersonal relationships that these individuals go through to adapt to the new hemodialysis routine, as well as to the reality of experiencing the disease itself.

That said, this study allows us to suppose a possible relationship between CKD and increased rates of mental disorders in patients, in addition to the importance of intervention prevention programs, since psychic integrity is indispensable for the respective prosperity and good prognosis of treatment. Therefore, the analysis from the emotional perspective of renal patients allows a comparison regarding the negligence of this subject.

For this reason, it is essential for the medical field, as well as for the treatment of patients as a whole, to understand and evaluate the relationship between hemodialysis treatment and the onset of anxiety and depressive symptoms in patients. After all, psychological well-being affects the way the individual acts and responds to treatments, and mental disorders lead to unwillingness to achieve improvements.

Thus, this research qualitatively provided that the awareness of the need for intervention measures that stimulate mental health practices directed to this group of individuals is very important, thus promoting well-being and improving the quality of life of such fragile patients.



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