

# Quality of life of elderly in dialytic treatment: a reflective theoretical study

## Abstract

This is a reflective theoretical essay to stimulate readers to rethink how hemodialysis therapy affects the quality of life of elderly people with chronic kidney disease in this type of renal replacement procedure. The aim was to build reflections about hemodialysis treatment and quality of life, with emphasis on the elderly. Because it is an obligatory and exhausting therapeutic method, the patient undergoing hemodialysis has his physical activities reduced, including those of everyday life, generating dependence in the face of physical limitations arising from the disease itself and the health condition. It is hoped that this text can be a contribution to health professionals and managers of dialysis services, enabling them to think of ways to minimize the impact of this undesirable, but indispensable, renal replacement treatment.

**Keywords:** elderly, renal dialysis, comprehensive health care, quality of life

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## Introduction

The World Health Organization (WHO) indicates that diseases considered chronic-degenerative have a multifactorial etiology, indicating an interaction between behavior, environment, and biological factors. Among the chronic degenerative diseases that represent a public health problem, due to the high rates of morbidity and mortality and socioeconomic impact, is Chronic Kidney Disease (CKD),<sup>1</sup> defined as the progressive, slow, and irreversible loss of kidney function, affecting homeostasis and causing numerous signs and symptoms such as edema, decrease in urinary volume, weakness, nausea, cramps, arterial hypertension, among others.<sup>2</sup> It is a pathology considered serious and recognized as an important global health problem.<sup>3,4</sup>

Kidney injury is manifested by abnormal excretion of albumin or decreased renal function, quantified by the measured or estimated Glomerular Filtration Rate (GFR), which persists for more than three months<sup>4</sup>. Current international guidelines define it as a clinical condition of impaired kidney function, shown by less than 60mL/min/1.73m<sup>2</sup> (milliliters per minute per 1.73 square meters) or markers of kidney damage or both, with at least 3 months in duration, regardless of the underlying cause.<sup>5</sup>

The individual's nutrition is profoundly altered in CKD as a result of disordered renal regulation of systemic homeostasis. Malnutrition, therefore, is one of the most serious complications of this kidney disease. Its consequences for patients on both hemodialysis and peritoneal dialysis are devastating in terms of quality of life, morbidity, hospitalization, and mortality.<sup>3</sup>

Another complicating and under-recognized aspect, becoming secondary to the other alterations caused by this disease, refers to the sexuality of the patient with CKD, as sexual health seems to be directly associated with the estimated GFR and may also be associated with adverse cardiovascular outcomes, depression, low self-image and impaired quality of life.<sup>6</sup>

The progression of this disease is associated with a series of serious complications, including an increased incidence of cardiovascular

disease, hyperlipidemia, anemia, and bone mineral disease<sup>4</sup>. Diabetes mellitus and systemic arterial hypertension are the main causes of CKD in economically developed countries and also in low-income countries. The incidence, prevalence, and progression of CKD also vary by ethnicity and social determinants of health, possibly through epigenetic influence. Many people are asymptomatic or have nonspecific symptoms, such as lethargy, itching, or loss of appetite.<sup>5</sup>

With this, it is highlighted that people with CKD are five to ten times more likely to die prematurely than to progress to the end stage of kidney disease. This risk of death grows exponentially as kidney function worsens and is largely attributable to death from cardiovascular disease, although cancer incidence and mortality also increase.<sup>5</sup>

Patients with CKD should be evaluated for the presence and evolution of complications and should receive treatment that aims to reduce their morbidity and mortality, thus requiring a multidisciplinary approach.<sup>4</sup>

CKD affects approximately 5 to 10% of the world's population and is usually accompanied by complications.<sup>7</sup> In the United States of America (USA) this disease affects close to 13% of the population; the number of carriers tends to increase, reflected by the growth of the elderly population and by the increase in the number of diabetics and hypertensives.<sup>4</sup>

In Brazil, the growing number of people diagnosed with the disease is evident, thus becoming a public health problem in the country.<sup>8</sup> However, its prevalence in the Brazilian population is still imprecise. More recent population estimates reveal around 1.5% of self-reported kidney disease;<sup>9</sup> it is estimated that 11% of the Brazilian adult population has some degree of CKD. Children, on the other hand, have morbidity and mortality rates 30 times higher when compared to those without kidney disease. The literature points to a significant increase in the incidence and prevalence of CKD in recent decades, regardless of the level of development of the country analyzed.<sup>10</sup>

A Brazilian study aimed to evaluate the diagnosis, prevalence, and factors associated with CKD in patients with type 1 diabetes

mellitus; it was a cross-sectional and multicenter survey, carried out in 14 public clinics in 10 Brazilian cities; of 1760 patients, 1736 were included (98.6%); CKD was determined using estimated GFR and the presence of albuminuria in two of three-morning urine specimens. The prevalence of this disease was 33.7%; female gender, duration of diabetes, high levels of glycated hemoglobin (HbA1c) and uric acid, use of renin-angiotensin system inhibitors, retinopathy, high systolic blood pressure, and economic status were associated with CKD (medium, low and very low).<sup>11</sup>

Belonging to the list of chronic diseases in Brazil, CKD is increasingly impacting public health policies, in the economic, emotional, and physical aspects of the population, causing damage to the quality of life of individuals and their families.<sup>12</sup> According to information from the Department of Informatics of the Unified Health System (DATASUS), in Brazil, between January 2016 and May 2017 alone, public spending was around 4 billion Reais (approximately 770 million US dollars) on hemodialysis procedures.<sup>13</sup>

When the individual is diagnosed with CKD and is in an aggravated stage of the disease, that is, the kidneys are unable to perform their vital functions, it is necessary to start some modality of Renal Replacement Therapy (RRT), which can be hemodialysis, peritoneal dialysis or kidney transplantation; however, it is the physician's responsibility to indicate the most appropriate type.<sup>14</sup>

Among these types, the most used in Brazil is hemodialysis,<sup>14</sup> which consists of the process of blood filtration and ultrafiltration, through a dialysis machine, performing part of the functions that the kidneys are no longer able to perform. The purpose of this treatment is to reduce the serum levels of elements that can harm the body, such as excess sodium, liquid, urea, and creatinine, among others. Because there is no cure for CKD, hemodialysis must be maintained until the individual has the opportunity to receive a kidney transplant,<sup>15</sup> changing only the modality of renal replacement therapy.<sup>16</sup>

Chronic renal patients undergoing some RRT may have their quality of life affected, whether physical, emotional, or even mental, due to the major changes that occur in their daily lives.<sup>17</sup>

In view of the above, there is a need to carry out this reflection, since the CKD added to the hemodialysis process brings to adult and elderly patients some functional and psychosocial impairments, which, in addition to the high financial cost, also implies important changes in their lifestyle, in addition to physical, sexual, psychological, family and social limitations, which culminate in a decrease in quality of life.

So, this text seeks to answer the following guiding question: what are the biopsychosocial and quality of life consequences caused by the submission of elderly patients to hemodialysis treatment? In this sense, the objective was to build reflections on this treatment and its consequent reduction in quality of life, with emphasis on the elderly.

In the end, it is hoped that the reflections on this theme will facilitate the deepening of this content and that the problems identified here will be motivation for the development of strategies in favor of the psychosocial well-being and quality of life of elderly people who need it of this therapy.

## Method

The reflective theoretical essay method was adopted for the elaboration of this text, about the quality of life of elderly people undergoing hemodialysis treatment. Because it is this method, there was no need for appreciation by the Research Ethics Committee.

For the search for articles/texts, in English and Portuguese, controlled descriptors extracted from Descriptors in Health Sciences (DeCS) and Medical Subject Headings (MeSH) were used, namely: "Kidney Dialysis", "Elderly", "Integral Health Care", "Psychosocial Impact" and "Quality of life". Then, the search took place in the bases and databases: Latin American and Caribbean Literature in Health Sciences (LILACS), in addition to the Public Medline or Publisher Medline (PUBMED) portal, Google Scholar academic search engine, and Scientific Electronic Library Online (SciELO) journal directory.

Subsequently, after searching for articles/materials about the quality of life of elderly people undergoing hemodialysis treatment, the contents on the main points were listed, being called: "problems related to elderly chronic kidney disease", "the quality of life and sexuality of patients with chronic kidney disease" and "Living with Chronic Kidney Disease: feelings experienced".

## Theoretical reflection

### Problems related to the elderly chronic renal patient

In several populations, the process of "old age" shares the common sense meaning of this term used in different languages: the relationship between aging of the body (acquired experience, more advanced age according to the individual's perception) and prolonged age, with the important individual biological factor for the aging process.<sup>18</sup> Population aging can be justified by the demographic transition and has a very significant projection, when considering the "aging index" (percentage of elderly people over young people), from 43.2% in 2018 to an estimated 173.5% in 2060.<sup>19</sup>

CKD is considered a global public health problem, affecting a significant number of people, especially the elderly.<sup>15</sup> There are several problems that are directly related to patients with CKD and among them, there are the emotional factor, the stressful conditions caused by the change in lifestyle, the organic changes that have an impact on sexuality, and even the presence of depression and other mental disorders.<sup>20</sup>

These problems can negatively interfere with the quality of life of elderly people undergoing hemodialysis, given that they are associated with physical, emotional, spiritual, and psychological aspects, taking as an example the restrictions on liquid intake, work distance, limitations of a physical nature, sexual inclination, among others.<sup>21</sup>

Like other organs in the body, the kidneys are affected by the aging process, which results in a natural loss of their capacity and function. Furthermore, the elderly population is heterogeneous; some have GFR decline explained by diseases that complicate aging, such as arteriosclerosis with hypertension, whereas in most healthy adults GFR decline is slower but inevitable. Estimated normal GFR (eGFR) values in the elderly population have important implications for the diagnosis of CKD in the elderly; thus, the decision to start renal replacement therapy in the elderly is accompanied by more challenges compared to younger patients.<sup>22</sup>

The cause of end-stage renal disease is considered to be entirely biological, that is, it is believed that social and psychological factors do not play a direct causal role; however, once the disease is installed, psychosocial factors will significantly affect the patient's health, causing several changes in their lives. For example, physical changes in the body may affect and be influenced by the individual's social and psychological environment. Elderly patients on hemodialysis face uncertainties about their own future, not only dealing with treatment-related complications such as left ventricular hypertrophy,

joint sclerosis, and secondary hyperparathyroidism, among others but also with changes in their perceptions of self-esteem resulting, for example, from oral health problems and bone deformities.<sup>14</sup>

Hemodialysis treatment is responsible for a restrictive daily life that causes limitations not only to patients but also to their families; during hemodialysis sessions, the patient may experience various intercurrences such as malaise, vomiting, hypotension, cramps, arrhythmias, among other conditions, including life-threatening ones, situations that clearly impact the conduct of one's own life.<sup>23</sup>

It is also worth noting that most patients on hemodialysis have depressive symptoms related to the disease itself.<sup>24</sup>

The practice of physical activities by chronic kidney patients has a positive and significant impact on the functional capacity, development, and maintenance of muscle function in the elderly, thus improving their quality of life. However, despite the benefits of regular physical exercise, the literature shows that those on hemodialysis have a lower frequency of physical activity, which leads to a sedentary lifestyle and functional deficits. Added to this is the fact of the physiological and progressive muscle loss of aging in the body, which is exacerbated both by lack of physical activity and by CKD.<sup>25</sup>

Due to resistance to changes, elderly patients need family support to intervene in their habits and routines, seeking adherence to the proposed nephrological therapeutic plan. However, the process often fails, with consequences for their well-being. Therefore, tripartite communication between patient, family, and health team is necessary, aiming to improve adherence and therapeutic efficacy.<sup>26</sup>

Other problems that affect chronic kidney patients are related to the decrease in libido, halitosis, excess fluids, and weakness, caused by the evolution of the disease.<sup>8</sup>

### **Quality of life and sexuality of patients with chronic kidney disease**

According to WHO, an individual's quality of life is multifactorial and is associated with five dimensions: physical health, psychological health, level of independence, social relationships, and environment. It is also possible that chronic kidney patients experience mood swings caused by the hemodialysis procedure and medications, which can cause irritability and depression, which in some way affect relationships with multidisciplinary teams in general.<sup>14</sup>

CKD was identified as a risk factor and predictor of worsening quality of life for people with this condition, especially those undergoing hemodialysis treatment.<sup>27</sup> Quality of life can be affected by factors such as the chronicity of the disease, rigorous therapeutic schemes, changes in eating and living habits, social and work activities, the need for many medications, and dependence on a machine for survival. Physical and emotional changes that come with the disease and the effects of the treatment can lead the patient to depreciate their self-esteem and generate sexual dysfunction, in addition to contributing significantly to suffering, discrimination, and social isolation. The worsening of the signs and symptoms of the pathology, together with the beginning of body changes,

Having an active sex life is considered essential for the majority of the population; the deficiency in this act involves impacts in relation to one's own image, making the person feel less attractive and even reducing their libido<sup>20</sup>. Another important factor that interferes with the quality of life and sex life of these patients and even with the increase in the mortality rate is depression, which has a direct and indirect influence on daily life and affects treatment and love life.<sup>12</sup>

Depression may be related to an increased risk of progression of kidney disease, as the rate of involvement of this disorder in kidney patients is 3 to 4 times higher than in the general population.<sup>13</sup> Depression and anxiety, very present in patients undergoing hemodialysis treatment, are directly associated with poor quality of life<sup>14</sup>. Another important factor involves self-image, fueled by the popular culture of body aesthetics, therefore, it is necessary to encourage self-care and encourage the belief in the permanence of the human being concomitant with the exhausting disease<sup>8</sup>. These problems have a high incidence in hemodialysis individuals, resulting in a possible increase in the morbidity and mortality rate.<sup>14</sup>

People on hemodialysis are less sexually active, as sexual activity requires a high level of energy and the treatment causes them wear and tear.<sup>14</sup> A study reveals that sexuality is an integral factor of quality of life and, for this reason, the best rates of satisfaction and sexual performance can contribute to increasing the quality of life of these patients. In transplanted patients, however, there was an effective improvement in the prevention and rehabilitation of sexual function.<sup>28</sup>

Therefore, it is important that the health team involved in the hemodialysis service seek to carry out actions focused on reducing possible sexual dysfunctions, encouraging self-esteem, promoting biopsychosocial well-being, and mitigating the impacts of the disease and the treatment itself.<sup>8</sup>

### **Living with chronic kidney disease: feelings experienced**

Most elderly patients see hemodialysis as an obligation, as they are sure that there is no other option to stay alive. However, in addition to the changes in the physical condition, which result in the limitation of work and leisure activities, there are changes related to the state of humor and the way of relating to the world. The difficulty of integrating the disease as part of life is related to the difficulty of looking at oneself. On the other hand, the potential for overcoming is related to the acceptance of limitations and the construction of a positive meaning for the treatment.<sup>29</sup>

The shock imposed by hemodialysis therapy is a consequence of the fact that the elderly person with CKD often does not have prior information about the pathology and consequent lack of psychological preparation. In addition, together with the issue that most patients have a low educational level, it is assumed that there is a lack of knowledge necessary to understand the process of becoming ill and treatment with hemodialysis. Once again, it is necessary to engage the team to make clear the whole process that the patient will go through, alleviating the fears and doubts that he may have during the follow-up.<sup>30</sup>

Dependence on hemodialysis can be a negative experience, both physiologically and emotionally, since it does not allow the patient to forget his chronic health condition and dependence on a machine. With that, the fear of death and the uncertain future end up appearing as a result of the disease and its treatment.<sup>31,24</sup>

The restrictions imposed by CKD, as well as its treatment, are rigorous and the degree of assimilation and adherence is diverse, as it depends on the value that each individual attribute to himself and his life.<sup>32</sup>

Because it is a mandatory and tiring treatment method, the patient undergoing hemodialysis has their daily activities reduced, generating dependence, thanks to the physical limitations arising from the disease itself and the health condition. Therefore, family support is needed in the management of this patient's routine, aiming at improving the particularities and demands that he needs.<sup>26</sup>

The need for dependency on the family and the health team, as well as on the hemodialyzer and physical limitations restrict their social life, negatively modifying their affectivity and sexuality.<sup>33</sup>

Within the scope of changes imposed on the lives of patients with CKD, financial instability also stands out, resulting from a probable loss of employment or the need for prior retirement. Furthermore, if they continue to be able to carry out their work activities, they are unable to enter the job market, since it does not accept them, due to the obligation to release them to carry out the treatment or due to lack of knowledge or even prejudice.<sup>34</sup>

Although hemodialysis is seen by chronic renal patients as a mechanism to prolong their lives and they even compare the fistula with life itself as something vital, it can still symbolize an object of destruction for the person.<sup>35</sup> Such aspects condition the reflection that the patient sees the arteriovenous fistula as a “part” of his being, a companion who is with him at all times. And this mark goes beyond the surface of the body.<sup>33</sup>

It is evident that for these patients with CKD on hemodialysis, together with the feeling of being trapped, there is a pulse that takes them in the direction of life. This impulse can be family, faith in a certain belief, or even in values and principles built during their life journey. This needs to “get attached” to something or someone who seems to bring about an improvement in health and well-being.

## Conclusion

There are several problems that affect elderly people undergoing hemodialysis treatment, with quality of life being an important aspect, as they have physical, emotional, and psychosocial limitations.

This reflective theoretical text made it possible to observe and recognize the relevance of knowledge of the biopsychosocial aspects that afflict elderly people undergoing hemodialysis treatment. The text sought to address subsidies so that health professionals who serve this population can identify the factors that affect the quality of life and, thus, provide complete health care and have a positive and humanized evolution, in order to provide a better adaptation of life and treatment and, consequently, an improvement in the patient's quality of life.

In this sense, it is expected that an assessment of the quality of life and the main difficulties, coping strategies, and social marks imprinted by the patient's submission to hemodialysis treatment can be useful for multidisciplinary teams, helping to assess the prognosis, efficiency, and adequacy of the treatment, as well as in the planning of the necessary measures, in order to minimize the comorbidities and psychosocial alterations of patients with CKD.

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## Conflicts of interest

Authors declare that there is no conflict of interest exists.

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