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QUALITY OF LIFE OF PATIENTS ON HEMODIALYSIS: INTEGRATIVE REVIEW

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ABSTRACT

Introduction: Renal failure is a syndromic, progressive and irreversible diagnosis related to the loss of blood clearance capacity. **Objective:** To analyze the scientific evidence on the quality of life of patients with chronic renal failure on hemodialysis treatment. **Methodology:** Integrative review conducted in the databases Índice Bibliográfico de Ciências da Saúde, Base de Dados de Enfermagem, Scientific Electronic Library Online and Literatura Latino Americana e do Caribe em Ciências da Saúde. The sample consisted of 21 primary studies, published between the years 2014 to 2019, without language delimitation. The analysis was descriptive and the results were presented in two categories. **Results:** There was a predominance of cross-sectional designs, level of evidence 2C, developed in Brazil and published in 2019. It was evidenced that during hemodialysis there can be significant impairment of the different dimensions that constitute quality of life, in addition to changes in sexual activities and the high prevalence of emotional reactions resulted in greater life impacts. Among the associated factors, sociodemographic, clinical and therapeutic aspects were determinants of the degree of impairment and affected dimensions. **Conclusion:** Hemodialysis had negative impacts on the quality of life of patients and contributed to a worse perception of health status.

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INTRODUCTION

Renal failure constitutes a syndromic diagnosis that involves the progressive and irreversible loss of blood clearance capacity, characterized by biochemical, metabolic, and clinical manifestations associated with high rates of hospitalization, high indicators of morbidity and mortality, and states of dependence (GUERRERO; ALVARADO; ESPINA, 2016; PINHO; SILVA; PIERIN, 2015). Considered a frequent condition in the world population, renal failure is a public health problem, which, even in the face of diagnostic and therapeutic advances, represents a significant demand for care services due to the need for substitutive modalities that have high costs and have severe repercussions on the general health status of this population segment (PINHO; SILVA; PIERIN, 2015). Among the substitutive therapies, hemodialysis is a viable technique to favor survival when conservative treatment is not effective.

Despite this benefit, the therapeutic regimen is complex and constantly associated with compromises in Quality of Life (QL), since it can lead to deterioration and limitation of physical, work and occupational capacity, as well as impacts on mental and social well-being that present themselves or intensify during the established treatment (JESUS et al., 2019; SCHMIDT, 2019). For the World Health Organization (WHO), QL is presented in a broad dimensionality, being constituted by physical, psychological, social, cultural and environmental contexts and comprises the person's perception of their position in life, value systems, goals, expectations, standards and concerns (PEREIRA; TEIXEIRA; SANTOS, 2012). Thus, the search for measurement strategies, identification of predictors, determinants and factors associated with QoL in hemodialysis has grown and configured itself as a marker of treatment quality and indicator of process and results. Still, it represents a tool for adequate management of stressful events arising from the disease and the proposed treatment, minimizing the

physiological, economic, emotional and social impacts, in addition to enabling the structuring of effective strategies for coping with this new life condition (GESUALDO et al., 2017; SCHMIDT, 2019). Given the complexity and extent of the problem, the measurement of QoL is widely referenced, being associated with the identification of the real dimension and magnitude of the problem that can contribute to the organization of integral lines of care and the direction of effective, integrated, sustainable and evidence-based public policies. In nursing, QoL assessment allows individualizing health care and considering people's subjectivity through measurement tools and instruments, planning and defining therapeutic behaviors (CARVALHO et al., 2012; MOURA, et al., 2015). Considering the impacts resulting from the disease and treatment, as well as the need to identify predictors, determinants and associated factors, this study aimed to analyze in scientific evidence the quality of life of patients with chronic renal failure on hemodialysis treatment.

METHODOLOGY

An Integrative Literature Review was carried out because it is a broad method that allows the inclusion of studies with different methodological designs and favors the analysis and synthesis of the knowledge produced to search for effective and cost-effective interventions. This study was based on six stages of investigation: elaboration of the research question; literature search and sampling; definition of the information to be extracted; critical evaluation of the included evidence; interpretation of results; synthesis of knowledge and presentation of the review (MENDES; SILVEIRA; GALVÃO, 2008). The research question was structured using the domains of the PICO strategy. This is a resource constantly used to support evidence-based practice, which considers definitions for Patient, Population or Problem, Intervention, Comparison and "Outcomes", results or expected outcomes (SANTOS; PIMENTA; NOBRE, 2007). It was considered as a problem the renal failure, as phenomenon of interest the quality of life and as context the hemodialysis. Thus, the question that formed the basis of this study was: What is the scientific evidence related to the quality of life of patients on hemodialysis?. The process of search and bibliographic survey was carried out in June 2020 through electronic consultation of the databases Index Bibliographic of Health Sciences (IBECS), Nursing Database (BDNF), Scientific Electronic Library Online (SciELO) and Latin American and Caribbean Literature on Health Sciences (LILACS) via Virtual Health Library (VHL). To operationalize the search, controlled and non-controlled descriptors were selected (keywords), after consulting the terms contained in the Health Sciences Descriptors (DeCS) vocabulary. The combination was carried out using the OR and AND operators. The search terms, as well as the strategy adopted, are described in Chart 01. The inclusion criteria were primary source studies that presented as an outcome the assessment of quality of life in people undergoing hemodialysis, published in the period from 2014 to 2019, without language delimitation. The exclusion was conditioned to duplicates, editorials, reviews, theses, dissertations, and research in which the target population consisted of terminally ill patients, for considering that the health condition can significantly interfere with the self-reported levels of quality of life. The operationalization of the search yielded a total of 468 studies. Of these 39 were included and after full-text analysis the sample consisted of 21 productions. The route taken for identification, eligibility and inclusion followed the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Figure 1).

For data collection, we used a specific instrument, in which identification variables (main author, title, country, year and publication journal), methodological aspects (design and level of evidence), main results and conclusions were contemplated. The Level of Evidence (NE) was determined by the recommendations proposed by the Oxford Centre for Evidence-based Medicine, which considers: "1A - systematic review of randomized controlled trials; 1B - randomized controlled trial with narrow confidence interval; 1C - all-or-nothing therapeutic outcomes; 2A - systematic review of

cohort studies; 2B - cohort study; 2C - observation of therapeutic outcomes or ecological studies; 3A - systematic review of case-control studies; 3B - case-control study; 4 - case reports; 5 - expert opinion" (PHILLIPS et al., 2005). The interpretation of evidence and the synthesis of results were performed descriptively, from the categorization, sorting, classification and analysis of data, and presented in a structured table according to the variables of interest for this research.

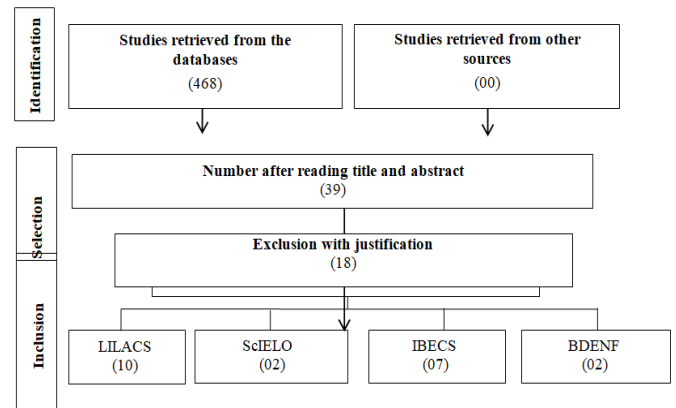


Figure 1. Selection path of the primary studies in the investigated databases

RESULTS AND DISCUSSION

The descriptive analysis of the results showed that the search for indicators of quality of life in people undergoing hemodialysis is a constant target of scientific investigations in multiple contexts of the national and international scenario, given that the studies, in its entirety, were published developed in different countries such as Brazil (85.71%) and Cuba (9.52%) that concentrated the largest number of productions. It was verified the growing interest of researchers in evaluating the compromises of hemodialysis treatment on physical, mental and social well-being, by evidencing the predominance of studies published in the year 2019 (38.09%). Regarding the methodological design, the studies presented observational approach, with prevalence of the analytical cross-sectional method (76.19%), level of evidence 2C (100%). Despite not establishing cause and effect relationships, this approach is relevant for clinical practice because it has less time and low cost to perform, being constantly used to indicate prognoses, risk and protection factors for health, and to evaluate results of exposure to risks.

Chart 01. Strategy generated in the VHL from the combination of search terms

Controlled descriptor	Key-words
Renal Insufficiency	InsuficiênciadoRim; InsuficienciaRenal; Renal Insufficiency.
Quality of Life	HRQOL; QVRS; Quality of Life Health-related; Calidad de Vida; Quality of Life.
Renal Dialysis	Extracorporeal dialysis; Hemodialysis; Diálisis Renal; Renal Dialysis.
Expressãodebusca	
((mh:("Insuficiênciã Renal")) OR (tw:("Insuficiênciã Renal")) OR (tw:("Insuficiênciado Rim")) OR(tw:("InsuficienciaRenal")) OR(tw:("Renal Insufficiency")) AND ((mh:("Qualidade de Vida")) OR (tw:("Qualidade de Vida")) OR (tw:(HRQOL)) OR(tw:(QVRS))OR(tw:("Qualidade de Vida Relacionada à Saúde")) OR(tw:("Calidadde Vida"))OR(tw:("Quality of Life")) AND (mh:("Diálise Renal") OR (tw:("DiáliseRenal")) OR(tw: ("Diálise Extracorpórea"))OR(tw:("Hemodíalíse"))OR(tw:("Diálisis Renal")) OR(tw:("RenalDialysis"))))	

Chart 2 presents the distribution, characterization and synthesis of the included results (n=21) according to main author, study title, year of publication, country where the study was carried out, periodical, methodological aspects (design and level of evidence), as well as the main results, outcomes and conclusions evidenced.

Chart 2. Characterization of the studies included in the review (n=21)

E	Authors/year	Title	Country	Journal	Methodology	Main results and conclusions
E1	Merini Martínez et al., 2019	Relación entre la calidad de vida relacionada con la salud y la ansiedad/depresión en pacientes en hemodiálisis crónica	Argentina	Enferm. Nefrol	Cross-Sectional Study 2C	Dimensions affected were overall health, physical, sexual and sleep function, work situation, disease burden, anxiety and depression. Female gender, associated comorbidity and length of treatment contributed to worse QoL.
E2	Marçal et al., 2019	Quality of life of patients bearing chronic kidney disease undergoing hemodialysis	Brasil	Rev. Pesqui. Cuid. Fundam.	Descriptive 2C	Cognitive and sexual impacts, as well as on support and quality of social interaction.
E3	Pereira e Leite, 2019	Health-related quality of life of patients receiving hemodialysis therapy	Brasil	Acta Paul. Enferm.	Cross-Sectional Study 2C	Greater impairment in work capacity and physical function. Associations between gender, low socioeconomic status, the need for a companion, and length of
E4	Leyva, EC2019	Calidad de vida relacionada con la salud en la morbilidad del paciente en hemodiálisis periódica	Cuba	Medisur	Descriptive 2C	The physical and mental components presented an impact on QL, being related to the morbidity index.
E5	Zanesco et al, 2019	Evaluation of the quality of life of chronic renal patients in hemodialysis: a cross-current study	Brasil	Rev. Pesqui. Cuid. Fundam.	Cross-Sectional Study 2C	Physical limitations, emotional problems, and problems in social activities.
E6	Dipp et al, T2019	Quality of life as a predictor of hospitalization in patients with chronic kidney disease on hemodialysis: a retrospective cohort study	Brasil	Clin. Bioméd. Res	Retrospective Cohort Study 2C	The worst perception of sexual and cognitive functions.
E7	Nogueira et al, 2019	Sociodemographic and clinical aspects related to the quality of life of hemodialysis patients	Brasil	Rev. Min. Enf.	Cross-Sectional Study 2C	Impairment of functional dimensions, general health status, vitality, pain, social aspects, and mental health. Gender, income and duration of the disease influenced QoL.
E8	Gomes et al, 2019	Quality of life of men and women on hemodialysis	Brasil	Rev. Baiana Enferm	Cross-Sectional Study 2C	The results of the present study allowed to conclude that the general quality of life of men undergoing hemodialysis was better. For both sexes, the Social Relations domain presented the highest scores, while the Physical domain showed the lowest averages.
E9	Gomes et al, 2018	Quality of life of patients with chronic renal failure undergoing hemodialysis	Brasil	Rev. Enferm. Atual In Derme	Cross-Sectional Study 2C	The findings of this study allowed us to understand different dimensions and specificities in the context of the quality of life of the chronic renal patient.
E10	Barbosa et al, 2017	Quality of life and duration of hemodialysis in patients with chronic kidney disease (CKD): a cross-sectional study	Brasil	Fisioter. Mov.	Cross-Sectional Study 2C	HD treatment duration and the presence of comorbidities were not evidenced as possible factors for QoL changes in our study
E11	Silva et al, 2017	Quality of life of patients with renal failure on hemodialysis	Brasil	Rev. Enf UFPE	Cross-Sectional Study 2C	Impacts on social and cognitive function and stimulation of the dialysis team.
E12	Marinho et al, 2017	Quality of life of people with chronic kidney disease on hemodialysis	Brasil	Rev Rene	Cross-Sectional Study 2C	Greater harm in the dimensions work situation and physical function.
E13	Oliveira et al, 2016	Quality of life in hemodialysis patients and the relationship with mortality, hospitalizations and poor treatment adherence	Brasil	J. Bras. Nefrol	Descriptive and prospective study 2C	Physical, occupational, mental and social support impacts associated with hospitalization and female gender
E14	Costa et al, 2016	Quality of life of patients with chronic kidney disease undergoing hemodialysis	Brasil	Enferm. glob	Cross-Sectional Study 2C	Regular quality of life was evidenced as a result of the physical impairments.
E15	Candia et al, 2015	Evaluation of quality of life in elderly patients on hemodialysis using KDQOL questionnaire	Brasil	Rev. Soc. Bras. Clin. Méd	Cross-Sectional Study 2C	General health, sexual function, physical functioning, and effects of kidney disease contributed to worse QOL. Education was predictive of overall scores.
E16	Leyva et al, 2015	Evaluación de la calidad de vida relacionada con salud en pacientes en hemodiálisis periódica utilizando el KDQOL-SFTM	Cuba	Medisur	Cross-Sectional Study 2C	Dimensions with greater impairments were physical and emotional role, general health perception, kidney disease burden, employment status, and sexual function.
E17	Oliveira et al, 2015	Assessment of the impact of chronic renal failure in the quality of life of patients on hemodialysis	Brasil	J. Health Sci. Inst	Cross-Sectional Study 2C	Quality of life proved to be unsatisfactory, impaired in physical and emotional aspects and associated with comorbidities such as diabetes and systemic arterial hypertension
E18	Reis et al, 2014	Quality of life in patients with chronic renal failure on hemodialysis treatment	Brasil	Con Scientiae Saúde	Descriptive 2C	A reduction in quality of life with impairments in the physical aspects domain was demonstrated.
E19	Rusa et al, 2014	Quality of life/spirituality, religion and personal beliefs of adult and elderly chronic kidney patients under hemodialysis	Brasil	Rev. Latinoam. Enferm.	Cross-Sectional Study 2C	Impairments were evident in the physical domain of Quality of Life, possibly resulting from the disease and treatment.
E20	Lopes et al, 2014	Health-related quality of life of chronic renal failure patients on dialysis	Brasil	Acta Paul. Enferm	Cross-Sectional Study 2C	Greater commitment in the physical domain and work situation
E21	Sabtos et al, 2014	Quality of hemodialysis patients living in the city of Mogi das Cruzes	Brasil	Diagn. Tratamento	Cross-Sectional Study 2C	The Quality of Life showed high scores in the assessed dimensions, which may reflect that patients are able to adapt and cope with the impositions of treatment. and cope with the impositions of treatment.

In this study it was evidenced that despite the benefits from hemodialysis, patients constantly experience physical, mental and social changes that directly impact on QoL and determine the overall health status. Thus, two thematic axes were built, being focused on the presentation of the compromises in QL experienced during hemodialysis, as well as to evidence the factors that interfere in the perception of the health status.

Impacts on quality of life during hemodialysis: The assessment of Quality of Life during hemodialysis treatment evidenced negative impacts, in which the greatest compromises were concentrated in the functional domains, as a result of changes in physical and cognitive capacity experienced by patients (MARTINEZ et al., 2019; MARÇAL; RÊGO; RADOVANOVIC, 2019; ZANESCO et al., 2019; GOMES et al., 2019; COSTA et al., 2016; SANTOS et al., 2014). In this context, physical limitation prevailed as a predictor dimension for worse QoL, which can be expressed by the decreased ability to perform daily routine activities either by the presence of symptomatology or by cognitive decline that constitutes as a risk condition imposed by the chronic evolution of kidney disease, its complications and the treatment adopted (RUSA et al., 2014; MARINHO et al., 2017; LEYVA et al., 2019; GOMES, 2019; REIS et al., 2014). Among the clinical symptomatology, pain levels were identified and contributed to worse QoL deterioration, constituting as a condition of great expression and the most reported symptom by patients undergoing hemodialysis. High intensity pain can limit activities of daily living and functional capacity, representing a great challenge in relation to underdiagnosis, either by the use of ineffective strategies for assessment, difficulty or reluctance to express symptoms, patients' concern about dependence on analgesic drugs, reactions and drug interactions (NOGUEIRA et al., 2019).

Emotional impacts were also prevalent during hemodialysis, in which symptoms of anxiety and depression represent the most incident changes in this population, constituting as the major causes of emotional distress and the change in psychological well-being accompanied by psychosomatic effects, among them, insomnia (LEYVA et al., 2019; ZANESCO et al., 2019; OLIVEIRA et al., 2015). Anxiety constitutes the main adaptive response of the organism in the midst of a danger or threat signal, being expressed by physiological, behavioral and cognitive changes, and considered pathological when the level of activation or duration are disproportionate to the situation experienced. Depression can result from actual loss, in which the state of mental disturbance can be characterized by sadness, loss of interest and pleasure, feelings of guilt and low self-esteem, sleep and/or appetite disturbances, excessive fatigue, and difficulty concentrating (MARTINEZ et al., 2019; LEYVA et al., 2015).

Another expressive aspect in the included studies was the impairment of social interaction quality. The authors highlighted that social support should be strengthened by the multiprofessional team, caregivers and family members, since it represents a dynamic construct for coping with the new life condition, improving the perception of health and physical and mental capacity (MARÇAL; RÊGO; RADOVANOVIC, 2019; ZANESCO et al., 2019; GOMES et al., 2019; SILVA et al., 2017; OLIVEIRA et al., 2016). The worsening of health status and QoL was also related to reduced occupational capacity and abandonment of work functions, reflecting the difficulties to reconcile treatment with a formal job and the neoliberal context of Brazil, in which the disabilities imposed by the disease and therapeutic measures are associated with loss of productivity (PEREIRA; LEITE, 2019; BARBOSA et al., 2017; MARINHO et al., 2017; OLIVEIRA et al., 2016). Sexual decline also impacted QoL, representing a prevalent condition during hemodialysis. This domain usually assesses sexual activity in the last four weeks of treatment, in which different impairments arising from erectile dysfunction, hormonal changes, decreased energy level and interest of the individual are evidenced (LOPES et al., 2014; MARÇAL; RÊGO; RADOVANOVIC, 2019; DIPP et al., 2019; CANDIA et al., 2015; LEYVA et al., 2015).

Factors associated with poorer perception of quality of life during hemodialysis: The monitoring of sociodemographic, clinical and therapeutic parameters that may determine QL in hemodialysis were described as viable strategies to subsidize clinical practice, favoring care planning and bringing improvements in different life contexts. Different factors associated with the presence of clinical comorbidities, female gender, low socioeconomic and education level, the need for caregiver and treatment time contributed to greater vulnerability of these patients (MARTINEZ et al., 2019; MARINHO et al., 2017). The associations between female gender and greater impairments in QL were frequent and can be attributed to the predisposition to stressful situations and physical and mental attrition arising from the cultural role that women play in the family and social sphere (MARTINEZ et al., 2019; NOGUEIRA et al., 2019; OLIVEIRA et al., 2016). As for the low socioeconomic status and education, they may be reflections of the Brazilian reality in the educational segment, in which financial difficulties and access to information and deficiencies in knowledge, intensify disabilities and generate compromises in self-care, contributing to higher incidence of the disease, late diagnoses, lower adherence or adequate realization of the treatment (MARINHO et al., 2017; PEREIRA; LEITE, 2019). The therapeutic regimen was the main predictor of impairments in physical, mental and social dimensions, since in addition to the substitutive therapy to control kidney disease, other treatments were adopted to stabilize comorbidities among them hypertension and diabetes, resulting in higher drug load, water and dietary restriction, and change in lifestyle habits. It is noteworthy that poor adherence to these measures can worsen the health picture and compromise the effectiveness of treatment (MARTINEZ et al., 2019; OLIVEIRA et al., 2015). Regarding the characteristics established by hemodialysis, the prescription criteria, which include continuous therapy, usually performed three times a week, with an average duration of four hours were predictors for QoL, influencing the perception of the disease and physical and social functioning, as well as decreasing autonomy and the ability to maintain work activities (PEREIRA; LEITE, 2019; NOGUEIRA et al., 2019). It is noteworthy, that the low adherence to treatment, as well as the challenges to control comorbidities decrease the patient's vitality, and may require staying in hospital admission regimes, most often for a prolonged period, leading to social distancing, dependence on family caregiver and interference in the levels of QL referred (PEREIRA; LEITE, 2019; OLIVEIRA et al., 2016). Therefore, considering the therapeutic complexity of hemodialysis and the multidimensionality of factors that can interfere with QoL and health status, multidisciplinary care, specifically nursing care, should be based on quality elements to ensure comprehensive, effective, and safe care (SILVA et al., 2017). Thus, systematized nursing actions can contribute to the process of adaptation to the disease and minimization of limitations imposed by the treatment, improving therapeutic outcomes, reducing risks, providing patient satisfaction and directing care to their needs (MARINHO et al., 2017).

CONCLUSION

This review evidenced that patients on hemodialysis present significant impairment of quality of life, as a result of the deterioration of physical, mental, occupational, sexual and social capacity imposed by the treatment, which limited the performance of activities of daily living and impacted the perception of the general health status. Sociodemographic, clinical and therapeutic factors associated with the duration of treatment, the need for hospitalization, the socioeconomic level and level of education, as well as the presence of comorbidities were determinants for the greater degree of impairment experienced. Therefore, this study shows the need for the direction of public policies and integral lines of care that value the maintenance of quality of life in people undergoing hemodialysis, as well as the preservation of physical, psychological and social functions. It is hoped that this study will support the development of future research aimed at minimizing the limitations imposed by the disease and the treatment adopted.

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