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**Mapping the needs, challenges, and strengths of a hemodialysis sector based on the
Strength- based Nursing and HealthCare – Leadership philosophy**

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Strength- based Nursing and HealthCare – Leadership philosophy**

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DEDICATION

I dedicate this work to patients undergoing hemodialysis, whose strength, resilience, and hope in the face of daily challenges inspire care, research, and a commitment to more humane healthcare. Furthermore, I dedicate it to the nurses who care, who remain, who accompany, and who, through daily care, build more sensitive and humane healthcare practices.

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I dedicate this work, in particular, to my sister Luiza, my safe haven, a constant and silent presence, who has always been a refuge on difficult days and a celebration on days of achievement. Like the songs that speak of care and permanence, her existence has always been the place I could return to.

To my family, the foundation of my journey; to my grandfather (in memoriam), whose presence and teachings remain alive in my history; and to my long-standing friendships, which have contributed and continue to contribute to the construction of who I am today.

To Professor Dr. Laís Fumincelli, who has accompanied my journey in nursing since 2019, believing in me, guiding my steps, and teaching me far beyond research. This title is largely due to her generosity, patience, trust, and commitment to human and scientific training.

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ABSTRACT

Introduction: Chronic kidney disease (CKD) represents a significant and growing challenge in global health. The role of nursing in the continuum of care for patients with CKD is paramount and multifaceted, ranging from symptom management to emotional and educational support. Given the complex context faced by patients with this condition, a wide range of possible interventions is evident. When caring for these patients, nurses can base their clinical practice on theoretical models, most notably the Strengths-Based Nursing and Healthcare Leadership (SBNH-L) philosophy. Therefore, it is imperative to conduct a thorough mapping of these nursing interventions to prioritize and implement actions aimed at this specific population. **Objective:** To map needs, challenges, and strengths based on the SBNH-L philosophy with the nursing team in a hemodialysis unit of a hospital in the interior of São Paulo state, Brazil. **Materials and Methods:** This study used the Intervention Mapping (IM) methodology, comprising the first stage, the Logical Model of the problem, which is presented through a scoping review (Article 1) and a descriptive study with a qualitative approach (Article 2). Regarding the Scoping Review, following the JBI methodology proposed by the Joanna Briggs Institute (JBI), searches were carried out in Embase and MEDLINE via OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus, and the Nursing & Allied Health Premium database. This review assessed their alignment with the values of the Strengths-Based Nursing and Health Care Leadership (SBNH-L) philosophy. Following ethical precepts, this descriptive study included nursing professionals working in the hospital's hemodialysis setting, whether in direct patient care or in department management, who were available and interested in responding to the data collection instruments. Professionals on vacation, leave, or work leave were excluded. Data collection was conducted in person at the institution over three months. This research is expected to contribute to strengthening scientific evidence and innovations in nursing practice in a hemodialysis department. **Results:** Of 4938 articles, 174 articles were included for full-text screening and 74 articles were included for data extraction and interpretation. Studies were conducted in several countries, and nursing interventions identified are reported. Regarding the qualitative study approach, thirteen nursing professionals participated, aged 30 to 39 years (38.5%), with 53.8% being 4 to 6 years into their careers and working in a hemodialysis environment. The activities and challenges faced by nursing professionals in the hemodialysis unit included difficulties with patients and their families (69.2%), work overload (46.2%), and communication barriers within the team (46.2%). Five themes were identified: 1. Patient care challenge; 2. Institutional challenges; 3. Team coping strategies; 4. Technologies and resources needed; 5. Nursing team strengths and qualities. From the integration of data with SBNH-L, the values of Goodness-of-fit, Collaborative Partnerships, and Multiple Perspectives stand out. **Conclusion:** The scoping review highlighted that nursing interventions are predominantly focused on self-care, symptom management, emotional support, and treatment adherence, reinforcing the essential and holistic role of nurses in supporting patients with chronic kidney disease. Complementarily, the qualitative study revealed

the real-world challenges, needs, and strengths experienced by the nursing team, emphasizing issues such as workload, communication barriers, and patient-related difficulties, as well as the team's adaptive strategies and intrinsic competencies. Together, these findings demonstrate that effective nursing care in hemodialysis must be grounded in a multidimensional approach that integrates evidence-based interventions with the lived experiences and capacities of nursing professionals. The alignment with the Strengths-Based Nursing and Healthcare Leadership (SBNH-L) philosophy highlights the importance of values guiding practice. Ultimately, incorporating these principles can strengthen patient-centered care, enhance team resilience and leadership, and support the development of sustainable and innovative practices in hemodialysis units.

Descriptors: Chronic Kidney Failure; Nursing; Patient-Centered Care; Empowerment.

RESUMO

Introdução: A doença renal crônica (DRC) representa um desafio significativo e crescente na saúde global. O papel da enfermagem na continuidade do cuidado a pacientes com DRC é fundamental e multifacetado, abrangendo desde o manejo de sintomas até o suporte emocional e educacional. Dado o contexto complexo enfrentado por pacientes com essa condição, uma ampla gama de intervenções possíveis se evidencia. Ao cuidar desses pacientes, os enfermeiros podem fundamentar sua prática clínica em modelos teóricos, principalmente na filosofia Strengths-Based Nursing and Healthcare Leadership (SBNH-L). Portanto, é imprescindível realizar um mapeamento completo dessas intervenções de enfermagem para priorizar e implementar ações direcionadas a essa população específica. **Objetivo:** Mapear as necessidades, os desafios e as forças, com base na filosofia SBNH-L, junto à equipe de enfermagem de uma unidade de hemodiálise de um hospital no interior do estado de São Paulo, Brasil. **Materiais e Métodos:** Este estudo utilizou a metodologia de Mapeamento de Intervenções (MI), compreendendo a primeira etapa, o Modelo Lógico do problema, apresentado por meio de uma revisão de escopo (Artigo 1) e um estudo descritivo com abordagem qualitativa (Artigo 2). Na revisão de escopo, seguindo a metodologia JBI proposta pelo Joanna Briggs Institute (JBI), foram realizadas buscas nas bases de dados Embase e MEDLINE via OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus e na base de dados Nursing & Allied Health Premium. Esta revisão avaliou o alinhamento dessas bases de dados com os valores da filosofia de Enfermagem e Liderança em Saúde Baseadas em Forças (ELSB). Seguindo os preceitos éticos, este estudo descritivo incluiu profissionais de enfermagem atuantes no serviço de hemodiálise do hospital, tanto em assistência direta ao paciente quanto na gestão do departamento, que estivessem disponíveis e interessados em responder aos instrumentos de coleta de dados. Profissionais em férias, licença ou afastamento do trabalho foram excluídos. A coleta de dados foi realizada presencialmente na instituição ao longo de três meses. Espera-se que esta pesquisa contribua para o fortalecimento das evidências científicas e inovações na prática de enfermagem em um departamento de hemodiálise. **Resultados:** De 4938 artigos, 174 foram incluídos para leitura completa e

74 para extração e interpretação de dados. Os estudos foram conduzidos em diversos países e as intervenções de enfermagem identificadas são relatadas. Em relação à abordagem qualitativa do estudo, participaram treze profissionais de enfermagem, com idades entre 30 e 39 anos (38,5%), sendo que 53,8% estavam com 4 a 6 anos de experiência profissional e atuavam em um ambiente de hemodiálise. As atividades e os desafios enfrentados pelos profissionais de enfermagem na unidade de hemodiálise incluíram dificuldades com pacientes e seus familiares (69,2%), sobrecarga de trabalho (46,2%) e barreiras de comunicação dentro da equipe (46,2%). Cinco temas foram identificados: 1. Desafios no cuidado ao paciente; 2. Desafios institucionais; 3. Estratégias de enfrentamento da equipe; 4. Tecnologias e recursos necessários; 5. Pontos fortes e qualidades da equipe de enfermagem. A partir da integração de dados com a SBNH-L, destacam-se os valores de Adequação, Parcerias Colaborativas e Múltiplas Perspectivas. **Conclusão:** A revisão de escopo evidenciou que as intervenções de enfermagem se concentram predominantemente no autocuidado, no manejo de sintomas, no apoio emocional e na adesão ao tratamento, reforçando o papel essencial e holístico dos enfermeiros no apoio a pacientes com doença renal crônica. Complementarmente, o estudo qualitativo revelou os desafios, necessidades e pontos fortes vivenciados pela equipe de enfermagem no mundo real, enfatizando questões como carga de trabalho, barreiras de comunicação e dificuldades relacionadas ao paciente, bem como as estratégias adaptativas e as competências intrínsecas da equipe. Em conjunto, esses achados demonstram que o cuidado de enfermagem eficaz em hemodiálise deve ser fundamentado em uma abordagem multidimensional que integre intervenções baseadas em evidências com as experiências vividas e as capacidades dos profissionais de enfermagem. O alinhamento com a filosofia Strengths-Based Nursing and Healthcare Leadership (SBNH-L) ressalta a importância dos valores que orientam a prática. Em última análise, a incorporação desses princípios pode fortalecer o atendimento centrado no paciente, aumentar a resiliência e a liderança da equipe e apoiar o desenvolvimento de práticas sustentáveis e inovadoras em unidades de hemodiálise.

Descritores: Insuficiência Renal Crônica; Enfermagem; Cuidado Centrado no Paciente; Empoderamento.

LIST OF ILLUSTRATIONS

Figure 1 - Steps and Tasks of Intervention Mapping, according to Kok et al 2017. Source: adapted by the author.....	4
Article 1 - Nursing Interventions for Patients with Chronic Kidney Disease in Hemodialysis: A Scoping Review	
Figure 1- Strengths-based Nursing and Healthcare Leadership (SBNH-L) values and foundations. Source: Gottieb et al;, 2021.....	23
Figure 2 - PRISMA 2020 flow diagram (adapted for current scoping review from Page et al. 2021).....	24
Figure 3 - Distribution of included studies by country.....	35
Figure 4 - Conceptual framework of nursing interventions in hemodialysis unit. Source: authors.....	36
Article 2 - Mapping the needs, challenges, and strengths of a hemodialysis sector based on the Strength-based Nursing and HealthCare – Leadership philosophy	
Figure 1 - Development of Themes and Subthemes.....	59

TABLES LIST

Article 1 - Nursing Interventions for Patients with Chronic Kidney Disease in Hemodialysis: A Scoping Review

Table 1- Characteristics of Included Studies and main components of the nursing intervention.....25

Table 2 - Association between SBNH-L and included studies.....37

Article 2 - Mapping the needs, challenges, and strengths of a hemodialysis sector based on the Strength-based Nursing and HealthCare – Leadership philosophy

Table 1 - Descriptive characteristics of the participants regarding sociodemographic and professional aspects.....56

Table 2 - Distribution of nursing professionals' activities and challenges in the HD unit.....57

Table 3 - Analysis of interview findings, participant characteristics, and nursing professionals' activities and challenges in the hemodialysis unit based on the SBNH-L approach.....66

LIST OF ABBREVIATIONS

AVF	Arteriovenous fistula
Case rep	Case report
CKD	Chronic Kidney Disease (CKD)
CNS	National Health Council
Cross-sec	Cross-sectional
FGI	Focus Group Interview
HD	Hemodialysis
ICU	Intensive Care Unit
ID	Identification
IM	Intervention Mapping
JB	Joanna Briggs Institute
KDIGO	Kidney Disease: Improving Global Outcomes
OSF	Open Science Framework
PCC	Population, Concept, and Context
Pre-post	Pretest–posttest design
PRISMA-ScR	Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews
PubMed	US National Library of Medicine
Quasi-E	Quasi-experimental design
RCT	Randomised controlled clinical trial
RRT	Renal Replacement Therapy
SBNH-L	Strengths-Based Nursing and Healthcare Leadership
SciELO	Scientific Electronic Library Online
Scopus	Scopus bibliographic database
SR	Systematic Review
SR/MA	Systematic Review and Meta-analysis
TA	Thematic Analysis

SUMMARY

1	INTRODUCTION.....	01
2	OBJECTIVES.....	02
2.1	Overall objective.....	02
2.2	Specific objective.....	02
3	METHODS.....	03
3.1	Methodological Framework: Intervention Mapping (IM).....	03
3.1.1.	<i>STEP 1: Logic Model of the Problem.....</i>	<i>05</i>
3.2	Qualitative phase.....	06
3.2.1	<i>Description of the Study Site.....</i>	<i>07</i>
3.2.2.	<i>.Qualitative data analysis.....</i>	<i>08</i>
3.2.3.	<i>Ethical Aspects.....</i>	<i>08</i>
3.3	Scoping Review.....	08
3.3.1.	<i>Research question.....</i>	<i>08</i>
3.3.2.	<i>Search strategy.....</i>	<i>09</i>
3.3.3.	<i>Study selection.....</i>	<i>09</i>
3.3.4.	<i>Inclusion and Exclusion Criteria.....</i>	<i>10</i>
3.3.5	<i>Data analysis.....</i>	<i>10</i>
4	REFERENCES.....	11
5	RESULTS.....	15
5.1	First article - Nursing Interventions for Patients with Chronic Kidney Disease in Hemodialysis: A Scoping Review.....	15
5.2	Second article - Mapping the needs, challenges, and strengths of a hemodialysis sector based on the Strength-based Nursing and HealthCare – Leadership philosophy.....	48
6	FINAL CONSIDERATIONS.....	70
7	APPENDICES.....	72
	Appendix A - Questionnaire.....	74
	Appendix B - Ethics Approvals.....	76

1. INTRODUCTION

Chronic Kidney Disease (CKD) represents a significant and growing challenge in global health, characterized by “abnormalities in kidney structure or function lasting more than three months,” as described in the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines.⁽¹⁾ This classification is essential for understanding the progression of the disease, from early-stage kidney injury to end-stage renal disease requiring renal replacement therapies.^(2,3)

The global prevalence of CKD is alarmingly high, affecting approximately 9 to 13 percent of the world’s population. In Brazil, it is estimated that more than 10 million people live with the disease — a figure that underscores the urgent need for effective management strategies and interventions to reduce its impact.⁽¹⁻³⁾ Epidemiological data on CKD highlight not only its widespread nature but also the significant burden it places on individuals and healthcare systems worldwide.⁽⁴⁾

As the disease progresses to end-stage renal disease, Renal Replacement Therapy (RRT), particularly hemodialysis (HD), becomes necessary.⁽³⁻⁵⁾ Patients undergoing HD often face challenges related to treatment adherence, emotional and psychological management, and preparation for potential kidney transplantation — factors that directly affect their quality of life and health outcomes.⁽⁵⁻⁷⁾ In this context, the central and multifaceted role of nurses stands out, as their work extends beyond direct clinical care to include emotional, educational, and psychological support for patients and their families.⁽⁸⁾

The hemodialysis sector involves a structured and protocol-driven routine that includes machine preparation, monitoring of vascular access, and continuous assessment of patients before, during, and after sessions, aiming to prevent and manage complications.⁽¹⁻⁵⁾ Understanding this setting is essential due to the frequency and chronicity of treatment, which demands strong clinical skills and fosters close relationships between patients and healthcare professionals. Patients often experience physical limitations and emotional burden, while nurses play a crucial role in ensuring safe care, promoting treatment adherence, and providing holistic and humanized support.⁽⁸⁻¹¹⁾

The role of nursing in the continuous care of patients from CKD to kidney transplantation is fundamental. Nurses form the foundation of treatment, providing not only clinical care but also emotional and educational support to these patients and their families.^(8,9) As CKD advances to end-stage renal disease, the complexity of care increases, requiring a comprehensive approach that includes the monitoring of complications and the management of comorbid conditions.^(10,11)

Despite technical and scientific advances in the field, there remains a significant gap in

the structured implementation of evidence-based interventions — particularly those that focus on patients' and families' strengths and capabilities. The Strengths-Based Nursing and Healthcare Leadership (SBNH-L) philosophy, developed by Laurie Gottlieb, offers an innovative approach that values individual and family strengths rather than focusing solely on deficits and difficulties. However, this approach remains underexplored within the Brazilian CKD context, especially in hospital-based HD settings.⁽¹²⁻¹³⁾

In this sense, understanding healthcare professionals' perceptions through the pillars and values of the SBNH-L philosophy makes it possible to observe how this approach mobilizes nurses' clinical, relational, ethical, and leadership competencies, promoting care that is more humanized, collaborative, and strengths-centered. By recognizing and strengthening the capabilities of individuals and their families, nursing professionals play a central role in building care practices, fostering empowerment, and achieving better health outcomes.⁽¹²⁻¹³⁾ They thus become strategic agents in identifying weaknesses and proposing improvements within their work contexts, exercising leadership in care delivery.⁽¹⁴⁾

Therefore, considering the gap identified in the literature regarding nurses' roles in caring for CKD patients undergoing HD — as well as the urgent need for effective interventions to improve patient outcomes — this study is justified as a significant contribution to both nursing practice and patient care. It offers an innovative, evidence-based approach grounded in a philosophy of collaborative professional practice at the national and international levels, broadening perspectives and paving the way for future research.⁽¹²⁻¹⁵⁾

2. OBJECTIVES

2.1 Overall objective

- To map the needs, challenges, and strengths based on the SBNH-L philosophy among the nursing team in a hemodialysis unit of a hospital located in the interior of the State of São Paulo, Brazil.

2.2 Specific objectives

- To map the scientific evidence on effective nursing interventions directed at the care of patients with chronic kidney disease undergoing hemodialysis treatment based on the SBNH-L philosophy.
- To identify the needs, challenges, and strengths of the nursing team in the hemodialysis unit using a participatory approach.
- To analyze and validate the findings in collaboration with nursing professionals based

on the SBNH-L philosophy.

3. METHODS

This study was conducted through a scoping review and a qualitative approach, which followed the first stage (1. Logic Model of the Problem) of the Intervention Mapping (IM) framework.

3.1 Methodological Framework: Intervention Mapping (IM)

This study employed the Intervention Mapping (IM) method, which is based on community-based participatory research methods, to ensure that the intervention meets the needs of the priority population and the intervention contexts. In the health field, it provides guidelines and tools to ensure that a health intervention is grounded in empirical evidence and sound theories.^(14,18)

IM is a widely used approach worldwide, although it remains scarce in Brazil to date.^(14,18-19) IM adopts an ecological approach to understand health problems and to intervene at multiple levels (for example, individual, interpersonal, organizational, and community), thereby guiding the development of multilevel interventions. In addition, IM is used in the planning and development of strategies for the adoption and maintenance of a health program.^(14,16-19)

By following IM, it is possible to minimize frequent problems in clinical health practice, such as: the intervention being incompatible with local needs; ineffectual; causing iatrogenic effects; too extensive; overly complex; unfeasible; boring; and/or unsustainable. Moreover, the IM process results in guidance and documentation of decisions at each step, mapping the process from the initial recognition of a need or problem through to evaluation and dissemination.⁽²⁰⁾ Examples of IM described in the literature:

- “The Teenage Mothers Project,” a community program to improve empowerment and the psychological and social well-being of single teenage mothers in rural Uganda. This project resulted in improved coping with the stigmas of motherhood, continued health education, increased income, advocacy for the rights of single mothers, and protected sex.⁽²¹⁾
- Vonk Noordegraaf and colleagues developed an intervention to empower patients in returning to normal activities and work after gynecological surgery in the Netherlands. This intervention had favorable effects on time to fully sustainable return to work, control of

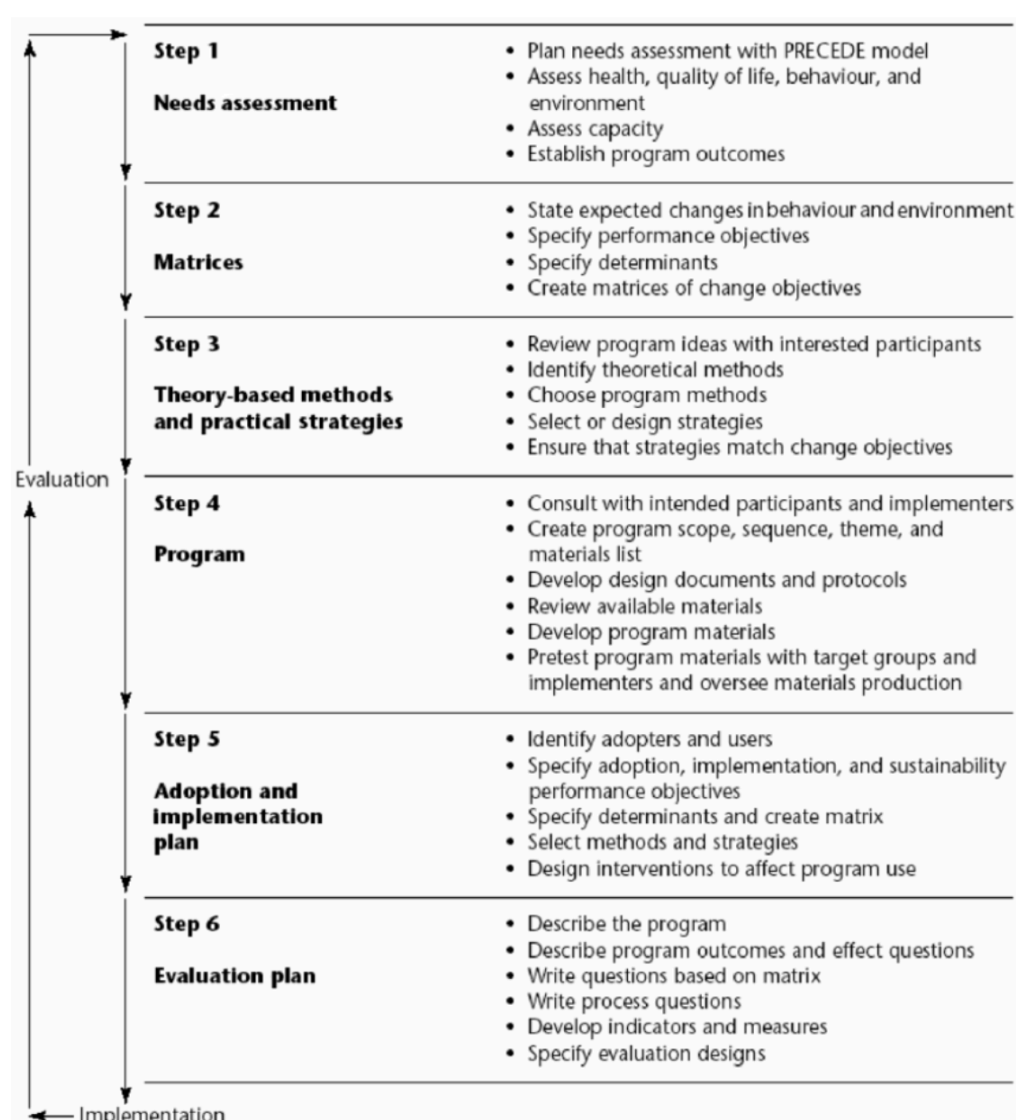
pain intensity, and quality of life.⁽²²⁾

- A recent 2024 study published in the *Journal of Cardiovascular Nursing* by Dom et al. indicates that the intervention mapping approach successfully adapted a Self-Management Strategy to Improve Adherence for patients with HIV to a similar strategy for patients with Chronic Heart Failure, demonstrating feasibility and acceptability. The study also reports that evidence from the literature, behavioural theory, and contributions from nurses and patients were essential in this process.⁽²³⁾

In this sense, IM guides the planning process of a health program/intervention in six steps, as shown in **Figure 1**. In this project, the first step of IM was carried out, as illustrated in the figure and described by Kok et al., with details provided below.

Figure 1. Steps and Tasks of Intervention Mapping, according to Kok et al 2017.

Source: adapted by the author.



3.1.1. STEP 1: Logic Model of the Problem

In this context, this study was developed according to Step 1 of the IM framework. This step aimed to form a planning group dedicated to conducting a detailed assessment of the specific needs, challenges, and strengths faced in the study setting. During this phase, the healthcare team were invited by the researchers to participate in the study as members of a *Planning Committee*.⁽¹⁴⁻¹⁸⁾

This committee was responsible for analyzing the health conditions, behaviours, and environmental factors that directly contribute to the identified health problems, needs, or risk behaviours within the hospital HD setting.⁽¹⁸⁾ To form the *Planning Committee*, contact was established with the institution where the data collection took place to define the approach method with the nursing team of the HD sector. Following prior authorization, an invitation was sent to all members of the nursing team in this unit to schedule a day/time for the formation of the Planning Committee.

Participant recruitment was conducted through convenience sampling, targeting nursing professionals in the hospital's HD sector, either in direct patient care or unit management, who were available and willing to respond to the data collection instruments. Professionals who were on vacation, leave, or work absence were excluded. All participants were duly informed about the study's objectives, procedures, risks, and benefits. Participation was conditional upon signing the Informed Consent Form, ensuring the confidentiality and anonymity of the collected information, in accordance with ethical research guidelines.

Additionally, during this stage, a scoping review of the literature was conducted to contextualize the local findings with established scientific evidence. This allowed the identification of knowledge gaps, provided a theoretical foundation for proposed interventions, and supported the formulation of hypotheses for future investigations. The review included relevant studies on care practices/interventions in HD, thereby contributing to a robust foundation for the study.

3.2 Qualitative phase

Data collection was conducted with focus group interviews, between June and July 2025.

First, participants completed a self-administered questionnaire developed by the research team (J.L., L.F.) to capture sociodemographic characteristics, professional background, and sector-related information. Subsequently, qualitative data were collected through focus group interviews (FGIs), designed to facilitate group interaction, reflection, and co-construction of a Logic Model of the Problem. In this study, focus groups were not divided by any demographic factors because, based on the pilot focus groups, it was believed that homogeneity in the group was achieved through the shared experience. In the focus groups, one researcher facilitated the discussion, while the other took notes on observations.

A semi-structured script that guided the discussion was validated by a Strengths-Based Nursing and Healthcare: Leadership (SBNH-L) leader from McGill University and included the following trigger questions: 1. Could you identify the challenges encountered in caring for patients undergoing hemodialysis? If so, could you share them with me? 2. In your opinion, are these challenges specific to the hemodialysis setting, or do they also occur in other hospital environments? Could you elaborate on your perspective? 3. Have you observed or personally attempted to implement any changes aimed at addressing these challenges in the hemodialysis setting? What do you consider to be the main barriers to implementing such changes in this context? 4. What strategies do you believe could be effective in overcoming the barriers to implementing changes in the hemodialysis setting? 5. Do you believe the hemodialysis setting could benefit from the introduction of additional equipment or technology? If so, which types of technology do you think would be most beneficial?. 6. What do you consider to be the main strength or quality of the team working in this hemodialysis setting?

In this context, three focus groups were conducted, each comprising 4 to 5 participants to ensure manageable and dynamic interaction. Sessions lasted approximately 45 minutes and were conducted in a private space/non-clinical room within the hospital to ensure confidentiality and minimize interruptions. The researchers employed active probing to obtain detailed accounts of the team members' views and experiences.⁽²⁴⁾ Due to the routine demands of the sector, the research team encountered difficulties in having all professionals released simultaneously to participate, which required flexibility in scheduling the sessions.

Given the complexity of the topics and the aim to achieve data saturation, one follow-up session was held with one group. All discussions were audio-recorded and transcribed by the research team.

3.2.1 Description of the Study Site

This study was conducted in an HD sector of a hospital in the municipality. The hospital provides care to an estimated population of 251,983 inhabitants in the municipality, as well as to five additional cities in the health microregion, totalling approximately 390,000 inhabitants. In this context, it offers both public and private care, comprising 278 beds distributed across 26 medical specialties, 20 ICU beds for adults, neonates, and children, 16 beds in the coronary care unit, emergency care for adults and children, an operating room, a central materials and sterilization unit, and an HD sector.

In this sector, patients receive specialized treatment for chronic kidney diseases, supported by a multidisciplinary team consisting of 1 psychologist, 1 nutritionist, 1 social worker, 6 nurses specialized in nephrology, 1 nurse in nephrology specialization, 1 nurse coordinator, 7 nephrologists, and 32 nursing technicians.

Regarding the nursing team, there were no nursing assistants in this unit. The unit consisted of 3 treatment rooms, each with 12 beds, totalling 36 beds, in addition to a dedicated room for patients with transmissible diseases, which has 2 beds. The unit's routine was organized in 3 daily shifts, serving 114 patients per day. Additionally, the unit had 1 emergency and urgent care room, 1 peritoneal dialysis room, 1 reuse room, and 1 room for hospitalized patients, with a total of 46 dialysis machines.

3.2.2. Qualitative data analysis

Regarding the qualitative data, the interviews and focus groups were digitally recorded, transcribed verbatim and imported into NVivo® Software Version 10 to enhance data organization and transparency throughout the process for analysis.⁽²⁸⁻³⁰⁾ Two researchers checked the process to ensure the rigour of the coding process. Transcripts and results from the data analysis were not returned to participants for feedback. The qualitative data from the focus group interviews were analyzed using Braun and Clarke's six-phase Thematic Analysis (TA) approach: 1. Familiarization with the data; 2. Generation of initial codes; 3. Searching for themes; 4. Reviewing themes; 5. Defining and naming themes; 6. Producing the report.⁽³¹⁻³²⁾

The theoretical framework of the research was supported by SBNH-L, which

structured the data collection instrument and the questions. The analysis of the results was based on this framework.^(12,13,30)

3.2.3. Ethical Aspects

This study was approved by the Federal University of São Carlos Research Ethics Committee (No: 83663324.5.0000.5504) and the Santa Casa de Misericórdia de São Carlos Institution (No: 83663324.5.3001.8148), in compliance with Resolution No. 466/2012 proposed by the National Health Council (CNS) of the Ministry of Health of Brazil.

3.3 Scoping Review

The JBI scoping review methodological approach was employed to provide an overview of the evidence, identify knowledge gaps, and inform future research. The study was conducted in five stages: 1) identification of the research question; 2) survey of relevant studies; 3) selection of studies according to pre-established criteria; 4) categorization of data; and 5) presentation of results. Instead of answering a specific, clinically meaningful question or addressing the feasibility, appropriateness, meaningfulness, or effectiveness of a particular intervention or practice, scoping reviews answer broader questions regarding the diversity of the knowledge available.⁽²⁵⁾ By mapping the available data, a scoping review can offer valuable insights into the various nursing interventions implemented in HD units for patients with CKD. It can also enable researchers to explore the scope and nature of these interventions within the selected topic.

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist was used for transparent reporting.^(25,26) Its protocol was registered in the Open Science Framework (OSF) and can be accessed through the link: <https://doi.org/10.17605/OSF.IO/M92FT>.

3.3.1. Research question

The Population, Concept, and Context (PCC) strategy was used to construct the research question. The Population (P) in this review consisted of people diagnosed with CKD, which is characterized by the end-stage of chronic renal insufficiency and by the severe irreversible kidney damage (as measured by the level of proteinuria) and the reduction in glomerular filtration rate to less than 15 ml per minute. Pediatric and adolescent patients were excluded from the sample.

The concept covered is nursing intervention with CKD patients. According to the NIC, nursing interventions are defined as: “any treatment based upon clinical judgment and knowledge that a nurse performs to enhance patient/client outcomes”.⁽²⁷⁾ Interventions were eligible only when a nurse is accountable for delivering or providing the intervention. Medical interventions or interventions carried out by other professionals were excluded. There were no restrictions on the educational level of nurses.

Regarding the Context (C), patients undergoing hemodialysis. This review considered nursing interventions provided by hemodialysis units. The hospital hemodialysis sector is a specialized area within hospitals or clinics dedicated to the treatment of patients with kidney failure. Hemodialysis aims to replace the function of damaged kidneys, helping to cleanse the blood of toxins, waste and excess fluids. This procedure is crucial for the survival and quality of life of patients with CKD or acute kidney failure.

Thus, the following main guiding question was formulated: What nursing interventions have been implemented for patients with chronic kidney disease undergoing hemodialysis?

3.3.2. Search strategy

A health sciences librarian with expertise in systematic reviews was responsible for creating the search strategy. First, an initial limited search of MEDLINE via Ovid and Scientific Electronic Library Online (SciELO) was undertaken and analyzed for text words contained in the titles, abstracts and index terms used to describe articles. That initial search informed the development of a search strategy tailored for each information source. The descriptors used in this initial search were: “Chronic Kidney Failure”, “Nursing Care” and “Hemodialysis Units”.

The search parameters were adapted and applied to the following databases: Embase and MEDLINE via OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus and Nursing & Allied Health Premium as shown in Supplementary File 2. Searches were limited to English, French, Portuguese or Spanish, the languages read by the review team, and the date was limited to 2015–2024. A full search was performed in December 2024. Duplicate sources and publications that do not directly relate to the review question were eliminated.

3.3.3. Study selection

Following the search, all identified citations were collated and uploaded into

Covidence and duplicates were removed. Titles and abstracts were then screened by two independent reviewers for assessment against the inclusion criteria. Potentially relevant sources were retrieved in full and their citation details imported into Covidence.⁽²⁶⁾ The full text of selected citations was assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria were recorded and reported in the scoping review. Disagreements that arose between the reviewers at each stage of the selection process were resolved with an additional reviewer. The results of the search and the study inclusion process were presented in a PRISMA flow diagram.⁽²⁵⁾

3.3.4. Inclusion and Exclusion Criteria

The study inclusion criteria for this review were: studies published between 2015 and 2024; qualitative, quantitative and mixed-method studies with no limitations on study design; primary or secondary studies; studies published in Spanish, Portuguese, French or English language; studies with explicit inclusion of the term ‘intervention’ or ‘interventions’ in the title or abstract; explicit mention of the term ‘nurse’, ‘nurses’ or ‘nursing’ in the title or abstract to ensure relevance to nursing and evidence of a nursing perspective.

The exclusion criteria were: laboratory-based and genetics-related studies; books of abstracts, dissertations, editorials and theses; studies for which the full text was not available; studies with a multidisciplinary or interdisciplinary team.

3.3.5 Data analysis

A data extraction plan was developed and tailored in line with the JBI manual to gather key information, including: (1) study characteristics—ID, Title, Year, Author, Journal, Country and Study design; (2) More components of the intervention; (3) Delivery type; and (4) Study's conclusions. The extracted data were compiled into tables and supplemented with narrative descriptions using Microsoft Excel®. **Article 1 - Table 1** shows the characteristics of included studies in the results section.

To classify the nursing intervention types, the researchers followed the framework presented in the book *Design, Evaluation, and Translation of Nursing Interventions* (2011, p. 19), which categorizes interventions according to the nature of their actions and the health domains they address. Interventions may therefore be physical, behavioural, psychological, cognitive, or social in nature, as further exemplified in the Nursing Intervention Classification.^(27,31,32)

For the synthesis of the studies, the researchers also examined their alignment with the

values of the Strengths-Based Nursing and Health Care Leadership (SBNH-L) philosophy. To illustrate this framework, **Article 1 - Figure 1** presents the SBNH-L tree, which visually integrates the pillars and values that guide nursing practice. Based on this structure, each included study was analyzed and associated with the value that most closely reflected its intervention focus and outcomes.

The SBNH-L's values are: 1. Systems Thinking (a holistic approach that frames the conceptualization of a system's parts interacting with the whole in an interconnected manner; systems exist at the micro, meso, and macro levels); 2. Uniqueness (acknowledges and respects the distinct qualities, experiences, and strengths of each individual); 3. Health and Healing (health is about creating wholeness, whereas healing is about restoring wholeness; health involves developing capacities, capabilities, healing involves repair, rehabilitation, recovery, renewal); 4. Multiple perspectives/Creating meanings (recognizes that individuals have different views and interpretations of situations, which should be understood to find shared meaning); 5. Self-determination (is about free will to take charge, make choices, and feel in control; decision-making—the processes involved in arriving at a plan of action and enacting that plan); 6. Goodness-of-fit (emphasizes the importance of aligning the person with their environment, ensuring opportunities for them to be at their best); 7. Learning, timing and readiness (highlights the significance of creating an environment that values learning and considers the opportune moments for growth and change); 8. Collaborative partnership (encourages teamwork and mutual support, fostering a collective approach to problem-solving and care).^(12,13,33)

This analytical approach enabled the researchers to interpret the findings not only in terms of the interventions themselves but also in relation to the theoretical and philosophical underpinnings of nursing care, thereby highlighting how nursing practice in hemodialysis can be strengthened through the lens of SBNH-L.

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5. RESULTS

The results were presented by:

- **Article 1**, entitled "Nursing Interventions for Patients with Chronic Kidney Disease in Hemodialysis: A Scoping Review" aimed to map and synthesize nursing interventions for patients with chronic kidney disease in the hemodialysis setting. This article corresponds to the sequence of phases of Stage 1 of the IM: identify knowledge gaps, provide a theoretical foundation for proposed interventions, and support the formulation of hypotheses for the next steps of IM;
- **Article 2**, entitled "Mapping the needs, challenges, and strengths of a hemodialysis sector based on the Strength-based Nursing and Healthcare – Leadership philosophy," addressed the objective of mapping the perceived needs, challenges, and strengths of the nursing team working in a public hospital HD unit, based on the SBNH-L philosophy. This article was guided by a previous scoping review (Article 1), which was conducted to contextualize the local findings with scientific evidence, whose results supported the methodological framework and conclusion of Stage 1.

5.1. Article one - submitted

Nursing Interventions for Patients with Chronic Kidney Disease in Hemodialysis: A Scoping Review

Intervenções de enfermagem para doentes com doença renal crônica em hemodiálise: uma revisão de escopo.

Abstract

Objective: To map and synthesize nursing interventions for patients with chronic kidney disease in the hemodialysis setting.

Methods: Conducted a Scoping Review following the JBI methodology proposed by the Joanna Briggs Institute (JBI). Searches were carried out in Embase and MEDLINE via OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus, and the Nursing & Allied Health Premium database. This review assessed their alignment with the values of the Strengths-Based Nursing and Health Care Leadership (SBNH-L) philosophy.

Results: Of 4938 articles, 174 articles were included for full-text screening and 74 articles were included for data extraction and interpretation. Studies were conducted in several countries, and nursing interventions identified were reported. According to the

nursing intervention, specific outcomes were identified, including decreased anxiety, depression, fatigue, sleep disorders, and negative emotions; and improved treatment adherence, self-management, well-being, self-care, clinical parameters, nutritional parameters, and quality of life. The nursing interventions identified reflect the review's foundational values and align closely with the core values of the SBNH-L philosophy.

Conclusion: Nursing interventions in hemodialysis improve physical and emotional outcomes, enhancing patient's quality of life. These interventions promote holistic, strength-based, and relational care, fostering patient autonomy, empowerment, and well-being. Nurses play a key role in integrating education, innovation, and therapeutic relationships to support patients throughout the hemodialysis experience.

KEYWORDS: Kidney Failure, Chronic; Renal Dialysis; Nursing care; Review; Nursing Theory

Resumen

Objetivo: Mapear y sintetizar las intervenciones de enfermería para pacientes con enfermedad renal crónica en hemodiálisis.

Métodos: Se realizó una revisión exploratoria siguiendo la metodología JBI propuesta por el Instituto Joanna Briggs (JBI). Se realizaron búsquedas en Embase y MEDLINE a través de OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus y la base de datos Nursing & Allied Health Premium. Esta revisión evaluó su alineamiento con los valores de la filosofía Strengths-Based Nursing and Health Care Leadership (SBNH-L).

Resultados: De 4938 artículos, se incluyeron 174 para la revisión completa y 74 para la extracción e interpretación de datos. Se realizaron estudios en varios países y se presentaron las intervenciones de enfermería identificadas. Según la intervención de enfermería, se identificaron resultados específicos, como la disminución de la ansiedad, la depresión, la fatiga, los trastornos del sueño y las emociones negativas; y la mejora de la adherencia al tratamiento, la autogestión, el bienestar, el autocuidado, los parámetros clínicos, los parámetros nutricionales y la calidad de vida. Las intervenciones de enfermería identificadas reflejan los valores fundamentales de la revisión y se alinean estrechamente con los valores fundamentales de la filosofía SBNH-L.

Conclusión: Las intervenciones de enfermería en hemodiálisis mejoran los resultados físicos y emocionales, mejorando así la calidad de vida del paciente. Estas intervenciones promueven una atención holística, basada en las fortalezas y relacional, fomentando la autonomía, el empoderamiento y el bienestar del paciente. El personal de

enfermería desempeña un papel fundamental en la integración de la educación, la innovación y las relaciones terapéuticas para apoyar a los pacientes durante toda la experiencia de hemodiálisis.

PALABRAS CLAVE: Fallo Renal Crónico; Renal Dialysis; Atención de Enfermería; Revisión, Teoría de Enfermería

Resumo

Objetivo: Mapear e sintetizar intervenções de enfermagem para doentes com doença renal crônica em hemodiálise.

Métodos: Foi realizada uma revisão de âmbito seguindo a metodologia JBI proposta pelo Joanna Briggs Institute (JBI). As pesquisas foram realizadas nas bases de dados Embase e MEDLINE via OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus e Nursing & Allied Health Premium. Esta revisão avaliou o alinhamento destas intervenções com os valores da filosofia de Enfermagem e Liderança em Saúde Baseadas nas Forças (SBNH-L).

Resultados: De 4938 artigos, 174 foram incluídos para leitura completa e 74 para extração e interpretação de dados. Os estudos foram realizados em vários países e as intervenções de enfermagem identificadas foram relatadas. De acordo com a intervenção de enfermagem, foram identificados desfechos específicos, incluindo a redução da ansiedade, depressão, fadiga, perturbações do sono e emoções negativas; e melhoria da adesão ao tratamento, autogestão, bem-estar, autocuidado, parâmetros clínicos, parâmetros nutricionais e qualidade de vida. As intervenções de enfermagem identificadas refletem os valores fundamentais da revisão e estão estreitamente alinhadas com os valores essenciais da filosofia do SBNH-L.

Conclusão: As intervenções de enfermagem em hemodiálise melhoram os resultados físicos e emocionais, aumentando a qualidade de vida do doente. Estas intervenções promovem um cuidado holístico, baseado nos pontos fortes e relacional, fomentando a autonomia, o empoderamento e o bem-estar do doente. Os enfermeiros desempenham um papel fundamental na integração da educação, da inovação e das relações terapêuticas para apoiar os doentes ao longo de toda a experiência de hemodiálise.

PALAVRAS-CHAVE: Doença Renal Crônica; Diálise Renal; Cuidados de Enfermagem; Revisão; Teoria de Enfermagem

What is known: Patients undergoing hemodialysis experience substantial challenges that negatively affect their quality of life. Nursing interventions are central to care in this setting and have been associated with improvements in symptoms, treatment adherence, self-management, and well-being.

What it contributes: This study systematically synthesizes nursing interventions implemented by nurses in hemodialysis settings, providing a comprehensive overview of nursing practices in the care of patients with chronic kidney disease.

Introduction

Chronic kidney disease (CKD) represents a significant and growing challenge in the global health domain, characterized by "abnormalities in kidney structure or function lasting more than three months", as described in the Kidney Disease: Improving Global Outcomes (KDIGO) guidelines.¹ This classification is fundamental for understanding the progression of the disease, from early-stage kidney damage to end-stage kidney disease. Further, the global prevalence of CKD is alarmingly high, affecting approximately 9 to 13 percent of the world's population.^{1,3} In Brazil, for example, it is estimated that more than 10 million people have CKD and in 2023, the costs for the Brazilian Health System to treat individuals with CKD were approximately 40 million dollars.^{4,5} This substantial financial burden underscores the urgent need for effective management and intervention strategies to mitigate the impact of this disease.²⁻⁵

As CKD progresses to the final stages in patients, hemodialysis (HD) becomes the most common form of renal replacement therapy (RRT). Preparation for HD involves creating an adequate arteriovenous fistula (AVF) and adjusting the frequency and duration of HD sessions to the patient's needs.⁴ Although patients in advanced CKD are also evaluated for kidney transplantation, HD remains the predominant treatment modality for many, often for extended periods of their lives.⁶ In this context, the nursing care in HD units is essential, not only in managing the technical aspects of treatment, but also in providing clinical, emotional, and educational support to patients and their families.^{7,8} Evidence shows that nursing interventions designed specifically for HD, such as those based on the "5A nursing model," improve patients' self-management, cognitive function, symptoms, sleep, and social support, while reducing treatment-related complications.^{9,10} Moreover, targeted interventions have proven effective in controlling interdialytic weight and vascular access complications, with

positive impacts on knowledge, adherence, and overall treatment outcomes among hemodialysis patients.¹¹⁻¹³ Moreover, targeted interventions have proven effective in controlling interdialytic weight and vascular access complications, with positive impacts on knowledge, adherence, and overall treatment outcomes among hemodialysis patients.¹¹⁻¹³

These interventions can be further understood through the lens of the Strengths-Based Nursing and Health Care Leadership (SBNH-L) philosophy. The SBNH-L is a value-driven, holistic leadership approach and framework designed to help leaders and managers in healthcare create equitable, safe, and empowering work environments by focusing on the strengths, capacities, and potential of individuals and their teams.¹⁴⁻¹⁶ Applying this philosophy to HD care highlights the importance of moving beyond deficit-based models to approaches that foster resilience, collaboration, and shared decision-making between patients and the nursing team. However, despite growing evidence of the effectiveness of nursing interventions in HD, the diversity of strategies used in practice has not yet been systematically mapped.

In this context, by mapping the available data, a scoping review can offer valuable insights into the various nursing interventions implemented in HD units for patients with chronic kidney disease. It can also enable researchers to explore the scope and nature of these interventions within the selected topic. Despite this growing body of evidence, the variety of nursing interventions in HD care has not yet been systematically mapped, guided by the SBNH-L philosophy and perspective. The present scoping review aims to map and synthesize nursing interventions for patients with chronic kidney disease in the hemodialysis setting.

Method

Design

The JBI Scoping Review methodological approach was employed to conduct this scoping review, providing an overview of the evidence, identifying knowledge gaps, and informing future research. This review was conducted in five stages: 1) identification of the research question; 2) survey of relevant studies; 3) selection of studies according to pre-established criteria; 4) categorization of data; and 5) presentation of results.¹⁷ Instead of answering a specific, clinically meaningful question or addressing the feasibility, appropriateness, meaningfulness, or effectiveness of a particular intervention or practice, scoping reviews answer broader questions regarding the diversity of the knowledge available.¹⁸

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist was used for transparent reporting.^{18,19} Its protocol was registered in the Open Science Framework (OSF).¹⁷ and can be accessed through the link: <https://doi.org/10.17605/OSF.IO/M92FT>.

Research question

The Population, Concept, and Context (PCC) strategy was used to construct the research question. Thus, the following main guiding question was formulated: What nursing interventions have been implemented for patients with CKD undergoing hemodialysis?

Inclusion criteria

Population

The Population (P) in this review consisted of people diagnosed with CKD, which is characterized by the end-stage of chronic renal insufficiency and by the severe irreversible kidney damage (as measured by the level of proteinuria) and the reduction in glomerular filtration rate to less than 15 ml per minute.²⁰ Pediatric and adolescent patients were excluded from the sample.

Concept

The Concept (C) covered is a nursing intervention with CKD patients. According to the NIC, nursing interventions are defined as: “any treatment based upon clinical judgment and knowledge that a nurse performs to enhance patient/client outcomes”.²¹ Interventions were eligible only when a nurse was accountable for delivering or providing the intervention. Medical interventions or interventions carried out by other professionals were excluded. There were no restrictions on nurses' educational levels.

Context

Regarding the Context (C), patients undergoing hemodialysis. This review considered nursing interventions provided by hemodialysis units. The hospital hemodialysis sector is a specialized area within hospitals or clinics dedicated to treating patients with kidney failure. Hemodialysis aims to replace the function of damaged kidneys, helping to cleanse the blood of toxins, waste and excess fluids. This procedure

is crucial for the survival and quality of life of patients with CKD or acute kidney failure.²⁰

Type of sources

This review considered studies published between 2015 and 2024; qualitative, quantitative and mixed-method studies with no limitations on study design; primary or secondary studies; studies published in Spanish, Portuguese, French or English language; studies with explicit inclusion of the term ‘intervention’ or ‘interventions’ in the title or abstract; explicit mention of the term ‘nurse’, ‘nurses’ or ‘nursing’ in the title or abstract to ensure relevance to nursing and evidence of a nursing perspective. The exclusion criteria were: laboratory-based and genetics-related studies; books of abstracts, dissertations, editorials and theses; studies for which the full text was not available; studies with a multidisciplinary or interdisciplinary team.

Search strategy

A health sciences librarian (I.G) with expertise in systematic reviews developed the search strategy. First, an initial limited search of MEDLINE via Ovid and the Scientific Electronic Library Online (SciELO) was undertaken and analyzed for the text words contained in the titles, abstracts, and index terms used to describe articles. That initial search informed the development of a search strategy tailored for each information source. The descriptors used in this initial search were: “Chronic Kidney Failure”, "Nursing Care" and “Hemodialysis Units”.

The search parameters were adapted and applied to the following databases: Embase and MEDLINE via OVID, CINAHL Complete, Biosis, Web of Science Core Collection, SciELO Citation Index, Scopus and Nursing & Allied Health Premium. Searches were limited to English, French, Portuguese or Spanish, the languages read by the review team, and the date was limited to 2015–2024. A full search was performed in December 2024. Duplicate sources and publications that do not directly relate to the review question were eliminated.

Study selection

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The full text of selected citations was assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria were recorded and reported in the scoping review. Disagreements that arose between the reviewers at each stage of the selection process were resolved with an additional reviewer. The results of the search and the study inclusion process were presented in a PRISMA-ScR flow diagram.¹⁹

Data extraction

A data extraction plan was developed and tailored in line with the JBI manual to gather key information, including: (1) study characteristics—ID, Title, Year, Author, Journal, Country and Study design; (2) More components of the intervention; (3) Delivery type; and (4) Study's conclusions. The extracted data were compiled into tables and supplemented with narrative descriptions using Microsoft Excel®.

Data analysis and presentation

To synthesize the included studies related to nursing interventions, the findings were analysed based on the type of nursing intervention (physical, behavioural, psychological, cognitive, or social in nature) and the type of delivery (face-to-face, virtual, or mixed).²³

Additionally, this review assessed their alignment with the values of the Strengths-Based Nursing and Health Care Leadership (SBNH-L) philosophy. This analytical approach allowed for interpreting the findings not only in terms of the interventions themselves but also in relation to the theoretical and philosophical foundations of nursing care, thereby emphasizing how nursing practice in hemodialysis can be enhanced through the perspective of SBNH-L.¹⁴⁻¹⁶

To illustrate this framework, **Figure 1** presents the SBNH-L tree, which visually integrates the pillars and values that guide nursing practice. Based on this structure, each included study was analyzed and associated with the value that most closely reflected its intervention focus and outcomes.

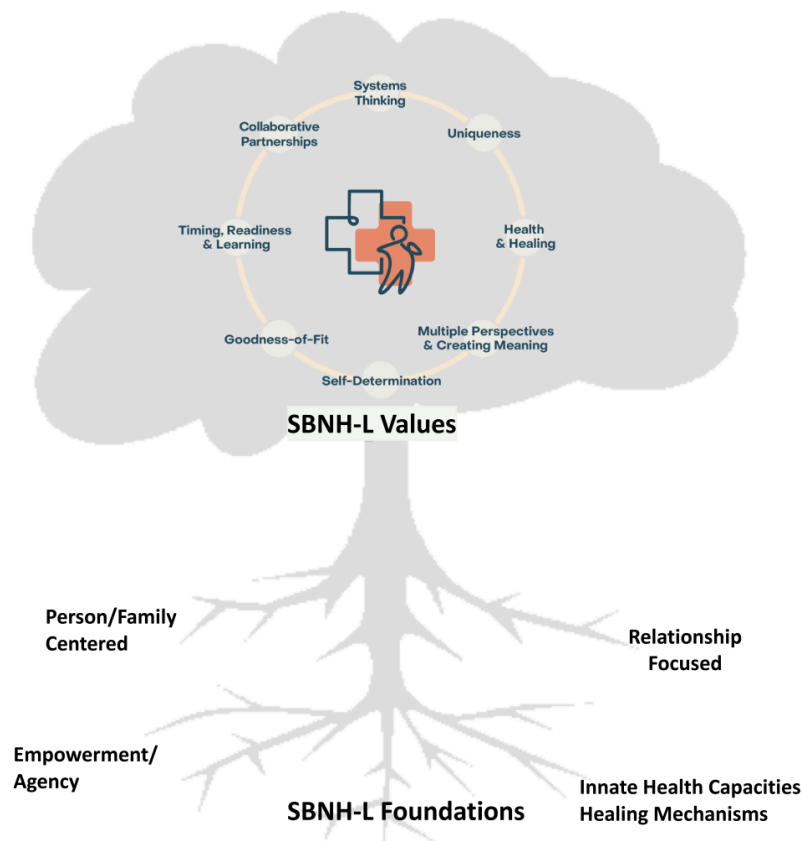
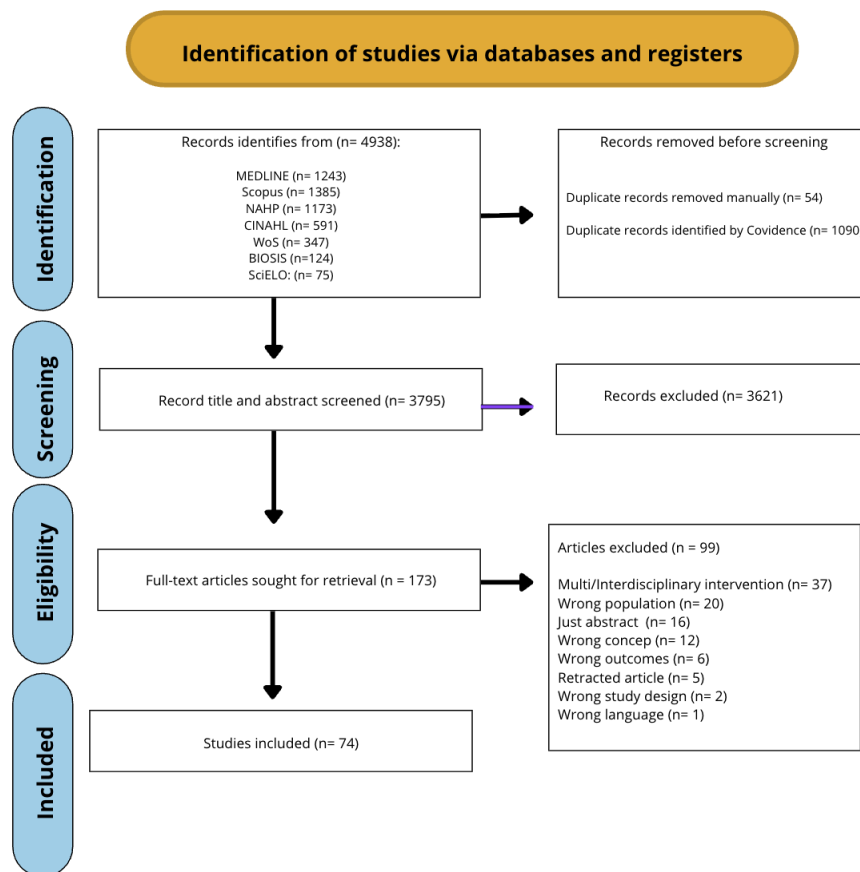


Figure 1. Strengths-based Nursing and Healthcare Leadership (SBNH-L) values and foundations. Source: Gottlieb et al., 2021¹⁵

Results

The literature search yielded 4938 articles. Following abstract and title screening, 174 articles were screened for full-text review. In total, 74 articles published between 2015 and 2024 were included. Articles were taken to full-text review where the study design was ambiguous. The most common reason for excluding articles after full-text review was the presence of multidisciplinary or interdisciplinary interventions with hemodialysis patients (Figure 2).

Figure 2. PRISMA 2020 flow diagram (adapted for current scoping review from Page et al. 2021).



Studies were conducted in several countries (**Table 1 and Figure 3**), with most undertaken in China (n= 20), followed by Iran (n=15). Across the 74 research articles, study characteristics and nursing interventions identified are reported in Table 1.

Table 1. Characteristics of Included Studies and main components of the nursing intervention

ID	Title	Year	Study design	Main components of the nursing intervention
#1	The effects of guided imagery on state and trait anxiety and sleep quality among patients receiving hemodialysis: A randomized controlled trial. ²⁴	2018	RCT	Guided imagery sessions with diaphragmatic breathing, relaxation, and visualization (listening to a validated CD with natural scenarios for relaxing).
#2	Mindfulness-based intervention as a symptom management strategy in patients with end-stage renal disease: A controlled clinical trial. ²⁵	2024	RCT	Mindfulness-based intervention (MBI) according to Smith's protocol: mindfulness segments (breath, body, thoughts, sounds, walking imagery, full meditation).
#3	The impact of mindfulness meditation on pro-inflammatory biomarkers in patients with end-stage renal disease: A randomized trial. ²⁶	2024	RCT	MBI according to Smith's protocol: mindfulness segments (breath, body, thoughts, sounds, walking imagery, full meditation).
#4	Do the patient education program and nurse-led telephone follow-up improve treatment adherence in hemodialysis patients? A randomized controlled trial. ²⁷	2021	RCT	Patient education booklet on the diet, medication use, and fluid restrictions. Nurse-led telephone follow-up plus daily SMS for reinforcements.
#5	The effect of super brain yoga on the cognitive function of hemodialysis patients. ²⁸	2024	RCT	Daily super brain yoga practice: inhalation/exhalation with specific postures and movements.
#6	Optimal Time of Thermotherapy for Reducing Pain, Anxiety, and Side Effects in Arteriovenous Fistula Puncture Patients: A Randomized Controlled Trial. ²⁹	2020	RCT	Thermotherapy with application of a hot pack device containing a silicate gel heated in the microwave at the AVF puncture site for either 10 min or 20 min before needle insertion.
#7	IMPACT of nurses' solution-focused communication on the fluid adherence of adult patients on haemodialysis. ³⁰	2018	Pre-post	Nurses' solution-focused therapy to reinforce positive behaviours related to fluid adherence and to address difficulties with interdialytic weight gain (IDWG) with empathy and curiosity.
#8	Literacy Enhancement Program among Older People Receiving Hemodialysis: Feasibility and Acceptability. ³¹	2022	Quasi-E	Literacy enhancement program based on the Model of Health Literacy, comprising four sessions about health information, communication, critical appraisal training, and decision-making exercises.

#9	The effect of hand and foot massage on fatigue in hemodialysis patients: A randomized controlled trial. ³²	2021	RCT	Hand and foot massages performed during HD using vaseline. In the handgroup, patients received an 8-minute massage on the fistula-free hand. In the foot group, repeated movements were applied throughout the session.
#10	Effects of systematic nursing instruction on a low-phosphorus diet, serum phosphorus level and pruritus of patients on haemodialysis. ³³	2016	Quasi-E	Systematic nursing instruction with individual health education through a pamphlet (with instructions on a low-phosphorus diet and use of phosphorus binders) and a reminder card (for taking calcium tablets).
#11	The risk factors of autogenous arteriovenous fistula dysfunction in maintenance hemodialysis patients and the curative effect of personalized nursing. ³⁴	2021	Quasi-E	Personalized nursing intervention focused on education, medication guidance, AVF care, and infection prevention to improve patients' knowledge, adherence, and treatment outcomes.
#12	Effect of self-care intervention for controlling interdialytic weight gain among patients on haemodialysis: A systematic review and meta-analysis. ³⁵	2021	SR/MA	Self-care intervention contained patient education, self-monitoring, fluid management, dietary adherence, auricular acupressure, motivational strategies, etc (varied across studies).
#13	Effects of self-management education on COVID-19 prevention in patients undergoing hemodialysis. ³⁶	2023	Quasi-E	Self-management intervention with combining lectures and handwashing training. Theoretical education covered infection prevention, home management, medication, diet, and dialysis tube care. Handwashing practice followed guidelines, using a video, demonstrations, and instruction to ensure proper technique.
#14	Alternatives to mechanical restraint in a patient with advanced vascular dementia in hemodialysis treatment. ³⁷	2020	Case rep	Nursing interventions to avoid unnecessary physical restraint utilized music therapy, emotional support, active listening, multisensory stimulation, audiovisual distraction, environmental modifications , and brief physical restraint only when unavoidable.
#15	Educational interventions for improved diet and fluid management in haemodialysis patients: An interventional study. ³⁸	2018	Quasi-E	Nurse-led educational sessions covering nutrition in HD, the importance of a protein-phosphorus-salt-fluid restricted diet along with educational materials.
#16	Educational support and pattern-of-life in the patient treated with hemodialysis. ³⁹	2017	Pre-post	Nurse-led individual sessions with an educational program on health responsibility, hygiene, and diet.
#17	The Effects of Telephone-Based Telenursing on Perceived Stressors among Older Adults	2020	Quasi-E	Telenursing intervention included educational sessions on end-stage renal disease (ESRD) characterization(risk

	Receiving Hemodialysis. ⁴⁰			factors, clinical manifestations, diagnostics, treatments, hemodialysis, vascular access and related complications, nurse care) and hemodialysis complications (dietary regimen, stress management, side effects, etc).
#18	The Application Of Art Therapy To Reduce The Level Of Depression In Patients With Hemodialysis. ⁴¹	2018	Quasi-E	Art therapy sessions with blank paper and colouring tools, allowing patients to engage in free drawing to express their emotions. Each session had 4 phases (unfreezing, doing, dialoguing, ending/integration).
#19	Assessment of nutritional status and food intake of patients in renal replacement therapy with hemodialysis. ⁴²	2015	Cross-sec	A program for positive reinforcement of correct nutritional habits and health education to change incorrect nutritional habits in each of the patients in HD.
#20	Clinical effect of individualized nursing care in diabetic nephropathy patients undergoing hemodialysis. ⁴³	2020	Prospective	Individualized nursing intervention with risk assessment, psychological intervention,, regular communication and rehabilitation guide.
#21	The combined diabetes and renal control trial (C-DIRECT) - a feasibility randomised controlled trial to evaluate outcomes in multi-morbid patients with diabetes and on dialysis using a mixed methods approach. ⁴⁴	2019	RCT	The theoretical framework “Combined Diabetes and Renal Control Trial” was based on Social Cognition Theory and Motivational Interviewing (MI), aimed to empower patients to problem solve, set goals and stimulate behavioural change. The training consisted of self-management principles and motivational interviewing.
#22	Effects of Auricular Acupressure in Patients on Hemodialysis. ⁴⁵	2020	RCT	Auricular Acupressure with application of skin tape (<i>semen vaccariae</i> seed) on the five auricular acupoints, including the large intestine, San Jiao , middle triangular fossa, spleen , and upper tragus.
#23	The Effect of Roy Adaptation-Based Nursing Intervention on Stress, Psychosocial Adjustment and Self-Care Power in Hemodialysis Patients: A Randomized Controlled Experimental Study. ⁴⁶	2024	RCT	Nursing education and intervention using Roy Adaptation-Based Nursing Intervention focuses on self-care power and psychosocial adaptation in HD (holistic approach).
#24	The Effect of Aromatherapy on Fatigue and Anxiety in Patients Undergoing Hemodialysis Treatment: A Randomized Controlled Study. ⁴⁷	2019	RCT	Lavender Aromatherapy intervention with inhalation of lavender oil during HD. Two drops of lavender oil were applied to a gauze dressing, placed on the chest area of the patient's clothes. ⁴⁷
#25	Effect of Nurse-Led Telephone Follow ups	2016	RCT	Nurse-Led telephone follow up intervention contained the following key subjects: communication,

	(Tele-Nursing) on Depression, Anxiety and Stress in Hemodialysis Patients. ⁴⁸			cognition/development, breathing/circulation, nutrition, elimination, sleep, pain/perception, skin/tissue, sexuality/reproduction, activity and psychosocial/spirituality/culture.
#26	Role of self-management program based on 5A nursing model in quality of life among patients undergoing hemodialysis: a Randomized Clinical Trial. ⁹	2023	RCT	The 5A self-management nursing intervention included risk assessment, advice on health risks/benefits of change, agreement on individualized behavioral goals, assistance through education on fluid control, AVF care, physical activity, diet, prescriptions, daily exercises and optional training, arrangement of follow-up with phone reminders and face-to-face sessions to monitor and adjust goals.
#27	The effect of Benson's relaxation method on hemodialysis patients' anxiety. ⁴⁹	2017	RCT	Relaxation intervention in which patients received Benson's relaxation training in a separate room, with explanations, demonstrations, an audio file, and a pamphlet for home use. They were asked to practice twice daily.
#28	The effect of using vapocoolant spray for pain reduction in arteriovenous fistula cannulation among patients undergoing hemodialysis: A randomized control trial. ⁵⁰	2023	RCT	The intervention consisted in patients receiving vapocoolant spray before AVF puncture, which was performed within 20 seconds of application to pain reduction.
#29	The Effectiveness of Preventive Nursing Interventions in Patients on Hemodialysis with Arteriovenous Fistulas and Their Value in Preventing Complications. ⁵¹	2024	RCT	Preventive nursing interventions included psychological support, AVF monitoring and aseptic care, dietary and skin care guidance, and exercise instruction. Nurses also provided continuous monitoring to ensure adherence and address complications.
#30	Effect of comprehensive nursing intervention on negative emotion, quality of life and renal function of hemodialysis patients. ⁵²	2020	RCT	Comprehensive nursing intervention included regular health education, cognitive behavioral interventions to address irrational beliefs and negative emotions, progressive relaxation to reduce anxiety, depression, and extended care, providing guidance on self-management, nutrition, and relaxation.
#31	Analysis of the application effect of the Clark comfortable nursing approach in hemodialysis patients with end stage renal failure. ⁵³	2024	Quasi-E	Clark's comfortable nursing intervention included psychological assessment and support, personalized health education, tailored self-care plans covering diet, exercise, medication adherence, psychological regulation, and AVF care.
#32	Individual nursing improves self-management	2020	Quasi-E	Individualized nursing intervention for self-management included psychological support tailored to patients'

	ability of renal failure hemodialysis patients. ⁵⁴			backgrounds, dietary planning with healthy and nutrient-rich foods, and AVF care to prevent complications. Health education was provided to correct misconceptions, explain treatment and complications, and build confidence.
#33	Application of intelligent nursing system based on big data in maintenance hemodialysis patients. ⁵⁵	2024	RCT	Intelligent nursing systems with establishing a trusting nurse–patient relationship through patient-centered, intelligent nursing plans and supportive communication. The system was also used for dynamic blood pressure monitoring, music therapy and psychological counselling.
#34	Effect Of Nursing Intervention On Uremic Pruritus Of Elderly Patients Undergoing Hemodialysis. ⁵⁶	2022	Quasi-E	Nursing intervention on uremic pruritus followed the phases of assessment, planning, implementation, and evaluation. An eight-session program was developed covering CKD, HD, uremic pruritus, baby oil application, exercise, diet, and non-pharmacological therapies.
#35	Evaluation of a nursing intervention to prevent clotting of the extracorporeal circuit in hemodialysis. ⁵⁷	2015	Quasi-E	Intervention plan aimed to prevent clotting in the HD circuit through access inspection, flow regulation, saline flushing, weight-based heparin dosing, and immediate management of coagulation signs. ⁵⁸
#36	Musical intervention on anxiety and vital parameters of chronic renal patients: a randomized clinical trial. ⁵⁸	2018	RCT	Musical intervention to promote relaxation and reduce anxiety, with patients placed in a comfortable position and external stimuli-minimized. Music was delivered through headphones during HD. Participants controlled the volume, and no interaction with staff was allowed during the session.
#37	Nursing Guidelines To Improve Sexual Function And Quality Of Life Among Women Undergoing Hemodialysis. ⁵⁹	2020	Quasi-E	Nursing guidelines intervention to improve sexual function involved teaching pelvic floor (Kegel) and walking exercises, supported by multimedia and take-home guidelines, with gradual progression based on ability.
#38	The Effect of Aromatherapy Massage With Lavender and Citrus Aurantium Essential Oil on Quality of Life of Patients on Chronic Hemodialysis: A Parallel Randomized Clinical Trial Study. ⁶⁰	2021	RCT	Aromatherapy intervention included massage with Lavender or Citrus Aurantium essential oil. Nurses performed effleurage massage after HD began, focusing on the feet and legs for 20 minutes per session.
#39	Effectiveness of an educational intervention and physical exercise on the functional capacity of patients on haemodialysis. ⁶¹	2017	Quasi-E	Physical exercise intervention with extremity and respiratory exercises were performed in bed during HD. Patients were also advised to continue the exercises and recommendations at home.

#40	Effect of humor intervention on well-being, depression, and sense of humor in hemodialysis patients. ⁶²	2019	Pre-post	Humor intervention involved watching humorous movies during HD on personal monitors with headphones. Movies were selected from a predefined portfolio based on patient preference.
#41	Nursing consultation and therapeutic adherence of the hemodialysis patient. ⁶³	2017	Cohort	Nursing consultation intervention established a structured HD nursing consultation in a dedicated room, scheduled after monthly lab results. Each one-hour session involved the patient, their primary caregiver, and prescribed medications.
#42	Educational Interventions for Haemodialysis Patients in the Transplant Process: A Systematic Review. ⁶⁴	2024	SR	Different educational interventions through various means (individual and personalized, group, an educational brochure, telephone and websites).
#43	The Effect of Continuous Care Model on the Sleep Quality of Hemodialysis Patients. ⁶⁵	2016	Quasi-E	Continuous Care Model (CCM) intervention on the sleep quality of HD patients consisted of familiarization and sensitization sessions, followed by monitoring, control, and evaluation. Patients and families participated in small group or individual sessions covering kidney disease, diet, physical activity, sleep hygiene, and sleep disorders.
#44	Nursing Care In The Emotional Management Of Hemodialysis Patients. ⁶⁶	2020	Case rep	Nursing care intervention focused on enhancing self-worth and emotional well-being through support, self-esteem boosting, counseling, mood management, social skills training, and group therapy.
#45	Effects of a nurse-led structured home visiting program on quality of life and adherence to treatment in hemodialysis patients. ⁶⁷	2023	Quasi-E	Nurse-led structured home visiting intervention involved reviewing clinical records on HD parameters, vascular access, medications, complications, and patient cooperation, with appointments scheduled. The at-home stage contained education on disease physiology, dialysis care, diet, fluid intake, medications, activity, and common complications.
#46	Effectiveness of Self-Care Education on the Enhancement of the Self-Esteem of Patients Undergoing Hemodialysis. ⁶⁸	2016	Quasi-E	Self-care education intervention with five consecutive sessions on disease process, HD, diet, fluid restriction, weight control, physical activity, vital signs, smoking cessation, stress management, and muscular relaxation.
#47	The effect of the eye movement desensitization and reprocessing intervention on anxiety and depression among patients undergoing hemodialysis: A randomized	2019	RCT	Eye movement desensitization and reprocessing intervention during HD consisted in patients identifying traumatic HD-related scenes, which were targeted for desensitization following Shapiro's protocol. The procedure involved recalling the traumatic event, rehearsing positive

	controlled trial. ⁶⁹			recognition, following guided finger movements, thought-stopping, and deep breathing.
#48	Effectiveness of nurse-led clinical interventions on knowledge, physiological and psychological outcomes, and symptom burden among patients undergoing hemodialysis - Part 1 pilot study. ⁷⁰	2023	Pre-post	Clinical intervention with educational video on HD, diet, fluid restriction, sleep hygiene, meditation, and yoga. This was followed by group practice sessions, individualized teaching, and a counseling session to address patient challenges.
#49	Effects of sweet orange aromatherapy on pain and anxiety during needle insertion among patients undergoing hemodialysis: A quasi-experimental study. ⁷¹	2020	Quasi-E	Sweet orange aromatherapy intervention, where patients inhaled the essence before fistula needle insertion during HD.
#50	Effect of Lavender Aromatherapy On Arteriovenous Fistula Puncture Pain and the Level of State and Trait Anxiety in Hemodialysis Patients: A Randomized Controlled Trial. ⁷²	2021	RCT	Lavender aromatherapy intervention in which patients inhaled lavender oil prepared. They sat about 30 cm from the bowl, covered with a cloth, and inhaled deeply with eyes closed.
#51	The effect of individualized education on learning needs of patients undergoing hemodialysis: a randomized controlled clinical trial. ⁷³	2024	RCT	Individualized education intervention started with a baseline assessment where patients set personal goals for diet, activity, medication, and complication management. Subsequent sessions were tailored to each patient's needs, covering disease understanding, nutrition, medications, and self-care.
#52	The effect of virtual reality glasses on pain and patient satisfaction in arteriovenous fistula cannulation procedure. ⁷⁴	2024	RCT	Virtual reality glasses intervention during AVF cannulation. Pain and hemodynamic variables were reassessed 10 minutes later. A screen separated groups to prevent interaction.
#53	The Effect of Lavender Oil Application via Inhalation Pathway on Hemodialysis Patients' Anxiety Level and Sleep Quality. ⁷⁵	2018	RCT	Lavender oil intervention in which patients were trained to drip drops of lavender oil onto the cotton before going to bed and to place it at a distance of 15 cm from their pillow. The patients were instructed that they were to use lavender oil for 1 week, during which time they were to drip lavender oil on a new piece of cotton every night.
#54	The effect of the emotional intelligence education programme on quality of life in haemodialysis patients. ⁷⁶	2018	Quasi-E	Emotional Intelligence (EI) program in small groups sessions covered self-awareness, self-management, empathy, relationship management, and emotion control

				through discussions, exercises, booklets, and homework.
#55	Educational nursing intervention to reduce the hyperphosphatemia in patients on hemodialysis. ⁷⁷	2016	Quasi-E	Educational nursing intervention used a validated manual and checklist on hyperphosphatemia, covering CKD, symptoms, treatment, phosphate binders, diet, and quality of life. Patients received individualized guidance, completed daily care records, and tracked itching intensity, adherence, and attitudes.
#56	Effect Of Educational Intervention On The Quality Of Life Of Hyperphosphathemic Chronic Renal Patients On Hemodialysis. ⁷⁸	2019	Quasi-E	The Nursing educational intervention provided individual guidance sessions during HD, using a validated illustrated manual. Content covered CKD, hyperphosphatemia, phosphorus chelators, nutrition, and quality of life strategies. Patients received the manual and were actively engaged by asking questions and reporting behaviours.
#57	The Effectiveness Of Psychoeducation To Reduce Anxiety And Insomnia Among Patients With Chronic Kidney Failure In Hemodialysis Unit. ⁷⁹	2023	Quasi-E	Psychoeducation intervention on anxiety and insomnia. Patients attended structured sessions addressing problems, knowledge management, anxiety and insomnia, and family empowerment.
#58	IMB-Guided Rehabilitation Nursing in Patients with Diabetic Nephropathy Undergoing Maintenance Hemodialysis. ⁸⁰	2024	Quasi-E	The IMB-guided rehabilitation nursing intervention included communication and understanding of patient background, health education, psychological counseling, behavior skill guidance, and personalized nutritional planning, family education, support, and coping strategies for long-term treatment.
#59	Phased therapeutic intervention improves long-term prognosis of new hemodialysis patients. ⁸¹	2024	Retrospective	Phased therapeutic intervention included education addressed anxiety, set rehabilitation goals, supported family issues, diet guidance, self-management, disease knowledge, adherence and interpersonal skills.
#60	Sleep quality in middle-aged and elderly hemodialysis patients: Impact of a structured nursing intervention program. ⁸²	2024	Cross-sec	Nursing intervention program with sleep hygiene education, relaxation training (sessions with breathing, muscle relaxation, and guided imagery), and individualized counseling. Educational materials and audio recordings supported daily home practice.
#61	A nurse-led case management program on home exercise training for hemodialysis patients: A randomized controlled trial. ⁸³	2015	RCT	Home exercise program combined brief in-center group exercise and nurse case management for home exercise, including flexibility and strength training. Nurse management involved nine clinical interviews to address barriers, set goals, monitor safety, and support gradual

				adoption of flexibility, strength, and aerobic exercise at home.
#62	The Efficacy of a Nurse-Led Breathing Training Program in Reducing Depressive Symptoms in Patients on Hemodialysis: A Randomized Controlled Trial. ⁸⁴	2015	RCT	Nurse-Led breathing training with audio devices—guided breathing included supervised sessions: coaching plus guided practice, while subsequent sessions involved supervised abdominal breathing with prerecorded instructions and music. The nurse monitored performance to ensure correct technique and prevent patients from falling asleep, with no home practice required.
#63	Effect of predictive nursing on the comfort, illness perception, metabolism of calcium and phosphorus, and complications in hemodialysis patients. ⁸⁵	2021	Quasi-E	Predictive nursing interventions focused on infection prevention, environmental disinfection, catheter care, health education via multiple media, psychological support, and dietary guidance. These strategies aimed to reduce risks such as infection, hemorrhage, electrolyte disorders, and hypotension while improving patient self-care and treatment compliance.
#64	Study on Ultrasonic Imaging of Nursing Care for Preventing and Treating Clinical Infection of Hemodialysis Patients Based on Smart Medical Big Data. ⁸⁶	2021	RCT	Nursing care intervention for preventing and treating clinical infection. Patients received strengthened infection control management, including daily disinfection, ventilation, strict waste classification, and proper handling of dialysis materials.
#65	Integrated Dialysis Nursing Intervention for Ameliorating Fatigue in Hemodialysis Patients. ⁸⁷	2024	Quasi-E	Aerobic exercises during the first two hours of each HD session for eight weeks.
#66	Clinical effect of nursing methods integrating health belief models on self-care of maintenance hemodialysis patients. ⁸⁸	2024	Quasi-E	Based on the Integrated Health Belief Model, the intervention included personal education, group lectures, manuals, WeChat, and follow-up. Content focused on disease knowledge, complications, diet, fluid and medication management, exercise, vascular access protection, family involvement, self-efficacy building, and psychological support.
#67	The effect of refined nursing intervention on patients undergoing maintenance hemodialysis in the hemodialysis center during the COVID-19 epidemic. ⁸⁹	2021	Cohort	Health education intervention regarding COVID-19 and dialysis safety included psychological counseling, emotional support, guidance on diet, exercise, daily routines, digital tools for education and communication, cultural and spiritual enrichment and home self-management support.

#68	Impact of Pre-Transplantation Psychological Counseling in Improving the Mental Well-Being of Patients on Hemodialysis. ⁹⁰	2021	Quasi-E	Psychological counseling provided by nurses, focusing on anxiety, depression, anger, and loneliness based on the Mental Status Scale in Non-Psychiatric Settings results. Counseling was personalized, included weekly sessions, companionship, communication, and involvement of family members.
#69	Effect of Educational Nursing Guidelines on Self-management and Health-Related Quality of Life for Hemodialysis Patients. ⁹¹	2024	Quasi-E	Educational nursing guidelines with content covered renal failure basics, symptom and fistula care, diet and fluid control, sleep and daily activities, and communication and stress management supported by handouts, presentations, and audiovisual materials.
#70	Effect of instrumental music on anxiety and depression among hemodialysis patients: A randomized controlled trial. ⁹²	2021	RCT	Music Therapy intervention in which patients listened to Mozart's Piano Sonata, three times per week, over 3 weeks.
#71	Randomised controlled trial of a smartphone application-based dietary self-management program on haemodialysis patients. ⁹³	2020	RCT	Self-management program intervention included dietary self-management, app use, practice with nurses, real-time feedback, continued support and evaluation. Regular encouragement and monitoring reinforced adherence throughout.
#72	Integrated self-management program effects on hemodialysis patients: A quasi-experimental study. ⁹⁴	2019	Quasi-E	The integrated self-management program for HD patients was based on the model of empowered caring and Orem's self-care theory, emphasizing self-awareness, active participation, and skill development to improve confidence, relationships, and health behaviors. The program included covering diet, medication, exercise, and self-care strategies.
#73	Clinical Value of Progressive Nutritional Support Nursing in Uremic Patients Undergoing Hemodialysis. ⁹⁵	2023	Quasi-E	Nutritional support intervention included nutrition plans emphasizing appropriate calories, protein, and micronutrient balance. Interventions were adjusted as patients' nutritional status improved.
#74	The effects of a nurse-supervised home exercise programme on improving patients' perceptions of the benefits and barriers to exercise: A randomised controlled trial. ⁹⁶	2017	RCT	The home program included flexibility, strength, and aerobic training, with gradual progression and safety monitoring. Nurses provided ongoing counseling, goal setting, exercise log reviews, and encouragement during HD sessions.

Abbreviations: Case rep: Case report; Cross-sec: Cross-sectional; Pre-post: pretest–posttest design; Quasi-E, Quasi-experimental design; RCT, Randomised controlled clinical trial; SR: Systematic Review; SR/MA: Systematic Review and Meta-analysis;

Figure 3. Distribution of included studies by country.

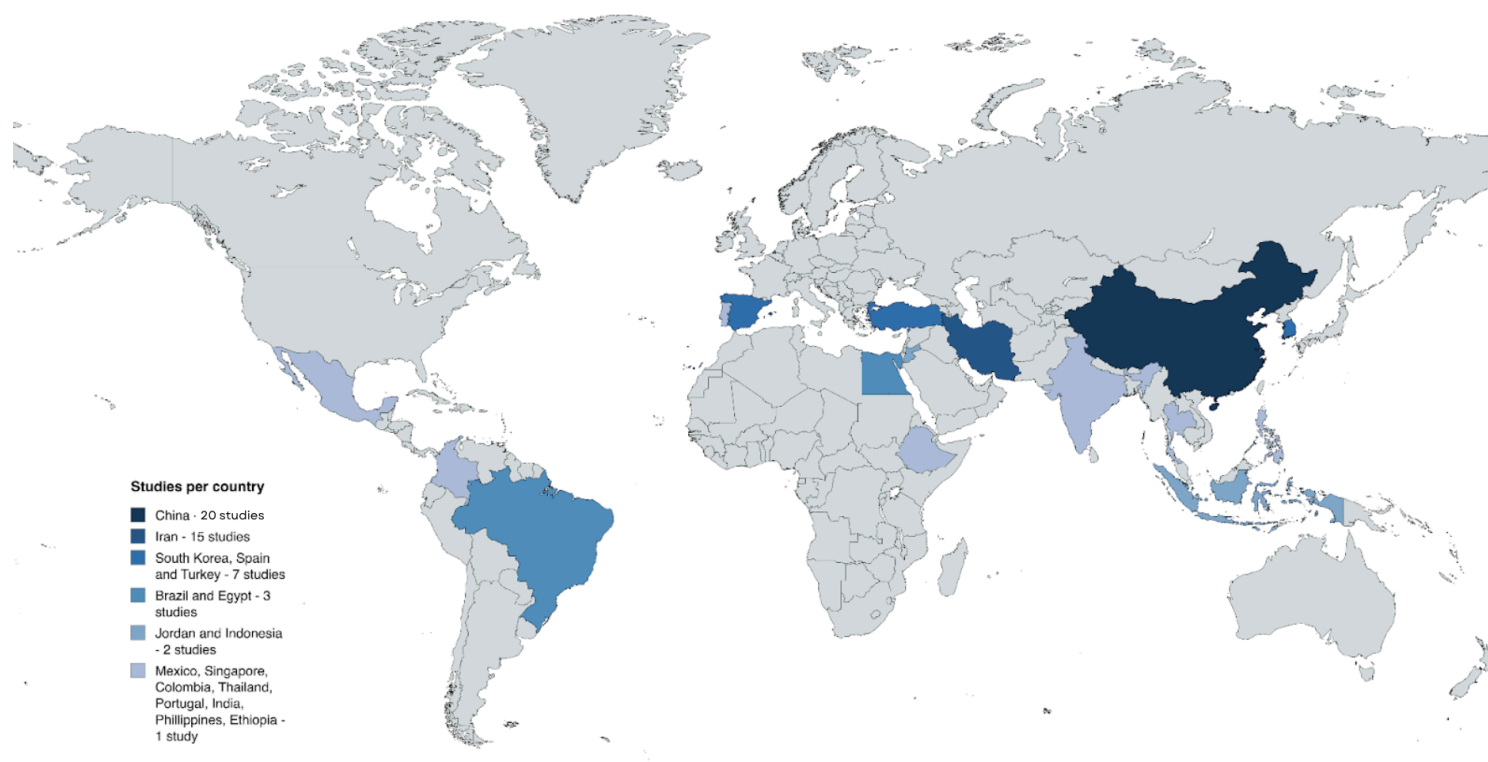


Figure 4 summarizes the type of nursing intervention (physical, behavioural, psychological, cognitive, or social in nature), its main components, type of delivery (face-to-face, virtual or mixed), and conclusion. This organization allows for a comprehensive comparison across studies, highlighting the interventions applied to patients undergoing hemodialysis.

Figure 4. Conceptual framework of nursing interventions in hemodialysis unit. Source: authors.

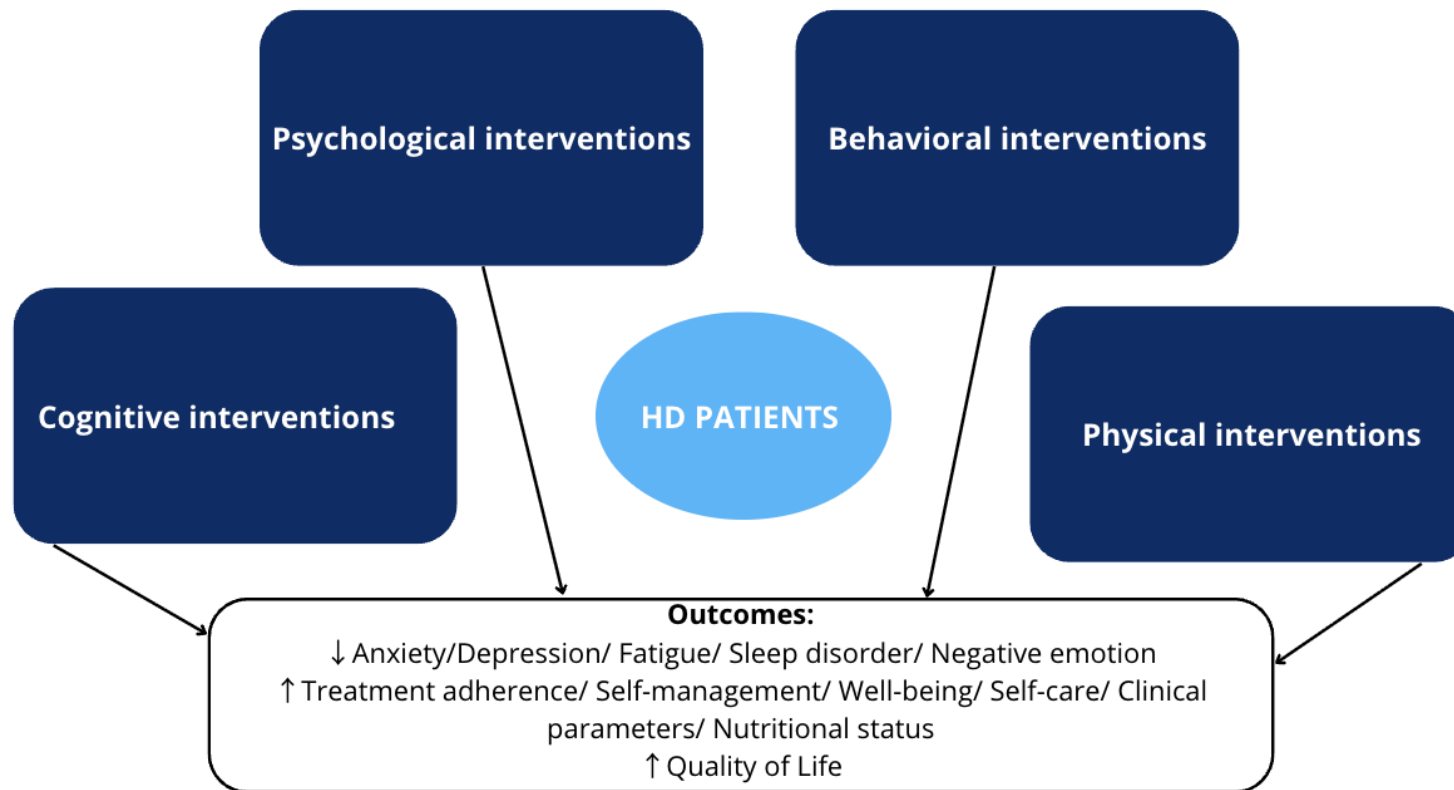


Table 2. Association between SBNH-L and included studies.

SBNH-L Value	No. of studies	Example interventions
Health & Healing	1, 2, 5, 6, 9, 22, 24, 27, 28, 29, 34, 36, 38, 47, 49, 50, 53, 62, 65, 68, 70	Interventions associated with <i>Health & Healing</i> included strategies to reduce anxiety, depression, fatigue, and pain (including pain from needle insertion), as well as to improve sleep quality and overall quality of life. Other approaches alleviated xerostomia, reduced AVF complications while improving blood flow, relieved uremic pruritus, and enhanced both physical and mental health.
Learning, Readiness & Timing	4, 8, 10, 13, 15, 16, 19, 39, 42, 46, 48, 51, 54, 55, 56, 57, 59, 60, 69	Interventions associated with <i>Learning, Readiness & Timing</i> included education programs to improve health literacy, correct dietary habits, and support fluid and diet management. Super brain yoga, and psychoeducation addressed symptoms and mental health. Nurse-led and individualized education targeted self-care, emotional intelligence, and transplant-related learning needs, improving knowledge, functional capacity, and quality of life.
Self-Determination	12, 21, 26, 58, 61, 64, 66, 71, 72, 73, 74	Interventions associated with <i>Self-Determination</i> emphasized autonomy and self-management. These included patient education with nurse-led follow-up to improve adherence, self-care strategies to control symptoms and biochemical outcomes, and motivational interviewing to support glycemic and psychosocial health. Nursing models such as the 5A framework and dietary self-management programs further promoted self-efficacy and quality of life.
Goodness-of-Fit	14, 31, 52	Interventions associated with <i>Goodness-of-Fit</i> focused on balancing patient capacities with treatment demands. Examples included infection-prevention education to strengthen handwashing practices, personalized care plans with non-pharmacological strategies to reduce agitation in dementia, and the Clark comfortable nursing approach to enhance self-care, adherence, and quality of life while reducing complications.
Collaborative Partnership	7, 17, 25, 41, 44, 45	Interventions associated with <i>Collaborative Partnership</i> emphasized reciprocal nurse–patient relationships to improve adherence, communication, and support. These included solution-focused communication to strengthen fluid restriction adherence, nurse-led telephone follow-ups (telenursing) to reduce stress, depression, and anxiety, and individualized nursing consultations to enhance therapeutic compliance and patient engagement. Structured home visiting programs further supported adherence and improved quality of life, highlighting the value of ongoing collaboration between patients and nurses.

Systems Thinking	3, 23, 30, 33, 35, 43, 63, 67	Interventions associated with <i>Systems Thinking</i> applied holistic frameworks that addressed interconnected physical, psychological, and social outcomes. Examples included mindfulness meditation to reduce pro-inflammatory biomarkers, Roy Adaptation Model-based nursing to improve stress, psychosocial adjustment, and self-care, and comprehensive nursing interventions to enhance quality of life and renal function.
Uniqueness	11, 20, 32, 37	Interventions associated with <i>Uniqueness</i> emphasized individualized care that recognized patients' specific capacities and potentials. Examples included personalized nursing to prevent AVF dysfunction, tailored care for patients with diabetic nephropathy, and individualized approaches to strengthen self-management in renal failure. Nursing guidelines also addressed unique needs such as improving sexual function and quality of life among women on hemodialysis, highlighting the value of care that builds on patients' strengths and personal circumstances.
Multiple perspectives & Creating Meaning	18, 40	Interventions associated with <i>Multiple Perspectives & Creating Meaning</i> addressed patients' beliefs, emotions, and interpretations of their illness experiences. Art therapy provided a means for expression and adaptive coping, lowering depressive symptoms. Humor-based interventions, such as watching comedy films during dialysis, increased well-being and sense of humor while reducing stress and depression.

DISCUSSION

The findings of this scoping review confirm that nursing interventions for adults on maintenance hemodialysis primarily address the complex symptom burden and long-term demands associated with end-stage renal disease. Nursing interventions with HD patients provide consistent benefits across psychological, cognitive, behavioral, and physical areas, including reductions in anxiety, depression, fatigue, and pain, as well as improvements in well-being, self-esteem, self-management, and overall quality of life.^{34,38,42,53}

According to the included studies, despite contextual differences, common goals were observed across countries, including improving quality of life, enhancing self-management, reducing complications, and supporting psychosocial adaptation. This convergence indicates that, regardless of setting, nursing interventions in hemodialysis share core priorities.^{23,56,67}

Psychological interventions applied to hemodialysis patients encompass a broad and diverse field, in which non-pharmacological techniques have shown positive effects on mental health, well-being, and even clinical parameters (studies 1, 14, 18, 24, 27, 36, 49, 50, 53, 62, 70). The effectiveness of non-pharmacological interventions in reducing anxiety and depression has been widely demonstrated by recent studies across different healthcare settings. A systematic review with meta-analysis showed that non-pharmacological interventions reduced anxiety and depression among pregnant women, and similar practices have been deemed promising for treating depression and anxiety in patients with Parkinson's disease. Strategies such as guided relaxation, breathing exercises, aromatherapy, and music therapy stood out for reducing anxiety, depression, pain, and sleep disturbances, bringing immediate and sustained benefits (1, 14, 24, 27, 36, 49, 50, 53, 60, 62, 70). The incorporation of innovative resources, such as virtual-reality headsets and art-based interventions, underscores nursing's creative and adaptive potential in addressing the emotional needs of patients undergoing HD (18, 40, 52).

Beyond psychological aspects, cognitive interventions have proven essential for expanding knowledge, self-care, and decision-making capacity among HD patients (studies 8, 10, 11, 13, 15, 16, 19, 23, 33, 42, 46, 48, 51, 55, 69). Health education programs, instructional guides, and theoretical models (such as the Roy Adaptation Model, the IMB-framework, and the Health Belief Model) have reinforced nursing's role in promoting self-management skills, improving clinical parameters (e.g., serum phosphorus and albumin levels), and reducing AVF and infection-related complications (23, 58, 64, 66). Innovative

strategies, such as literacy enhancement, educational videos and emotional intelligence training, complement traditional teaching and have stood out in addressing nutrition status, quality of life, self-esteem and well-being of HD' patients (8, 15, 46, 54, 58, 69). Overall, this emphasis on cognition aligns with the literature indicating that tailored health education interventions enhance patients' understanding and engagement in their care, strengthening autonomy and improvements in patients' life (48, 51).

In addition to **cognitive strategies**, behavioral interventions had a direct impact on treatment adherence and compliance, particularly regarding medication use, diet, and fluid restriction (4, 12, 26, 32, 41, 45, 59, 72). Strategies such as telephone calls, structured consultations, home visits, and self-management programs (including technological resources such as apps) proved effective in reducing clinical complications and optimizing quality of life (4, 41, 45, 71). In addition, models such as the 5A self-management and Orem's theory reinforced the patient's active role in care, contributing to habit changes and greater therapeutic engagement (26, 72). These approaches indicate that continuous and individualized support, when integrated into nursing care, promotes more self managing patients, with clinical and emotional outcomes.

From a **physical perspective**, interventions ranged from complementary practices, such as yoga and massage to aerobic exercises and home programs supervised by nurses (5, 9, 39, 61, 74). All proved relevant in reducing common HD symptoms such as pain, pruritus, and fatigue, as well as improving physical function, self-perception of health, and even sexual quality of life (9, 34, 35, 37, 39, 65, 73). Specific techniques, such as vapocoolant spray and thermotherapy, were also effective in controlling pain during AVF puncture (6, 28). These findings reinforce that incorporating physical resources into the nursing care plan contributes to the patients' overall well-being.

Taken together, the analysis of nursing interventions through the lens of the SBNH-L highlights that nursing practice in hemodialysis goes beyond clinical management to embrace a holistic and humanized approach.¹⁴⁻¹⁶ The nursing interventions identified in this review reflect the review's foundational values and align closely with the core values of the SBNH-L philosophy.

Interventions reflecting Health & Healing focused on symptom relief, comfort, and emotional well-being, while Learning, Readiness & Timing emphasized education, health literacy, and preparedness for self-care. Self-Determination was evident in self-management and empowerment strategies that promoted autonomy and adherence. Goodness-of-Fit was expressed through individualized and adaptive care approaches that balanced patients'

capacities with the demands of hemodialysis. Collaborative Partnership highlighted the relational and communicative role of nurses in supporting engagement and continuity of care, whereas Systems Thinking underscored holistic interventions addressing interconnected physical, psychological, and social needs. Finally, Uniqueness and Multiple Perspectives & Creating Meaning acknowledged individual differences and subjective illness experiences, reinforcing nursing care as person-centred and responsive to the complexity of living with chronic kidney failure.

Overall, these findings underscore the capacity of the SBNH-L to guide nursing practice toward interventions that are both patient-centered and adaptive to complex healthcare needs. By emphasizing patient empowerment, autonomy, and active participation, these interventions foster self-management, strengthen coping strategies, and support individualized care. The framework encourages nurses to integrate educational, relational, and technological strategies in a timely and context-sensitive manner, creating environments that promote well-being, dignity, and sustained quality of life.

5, Conclusion

Across the included studies, patients experienced multifaceted challenges such as anxiety, depression, fatigue, pain related to vascular access, sleep disturbances, dietary and fluid management difficulties, and impaired quality of life. The predominance of interventions focused on self-care, symptom management, emotional regulation, and treatment adherence reflects the central role of nursing in supporting patients' daily adaptation to treatment. This review also demonstrates that nursing interventions extend beyond technical and procedural care, encompassing holistic, person-centred strategies.

In addition, the application of nursing interventions through the SBNH-L values highlights a humanized approach emphasizing the importance of patient strengths, therapeutic relationships, and holistic care in promoting health and well-being. These interventions not only support clinical outcomes but also foster patients' autonomy, active participation, and empowerment in their care. Nurses play a central role in the HD setting, integrating innovative strategies, tailored education, and relational care to enhance both the physical and emotional health of patients, ultimately contributing to sustained quality of life throughout the hemodialysis experience.

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5.2 Article two - to be submitted

Mapping the needs, challenges, and strengths of a hemodialysis sector based on the Strength-based Nursing and HealthCare – Leadership philosophy

Mapeamento das necessidades, desafios e pontos fortes do setor da hemodiálise com base na filosofia de Liderança em Enfermagem e Saúde Baseada nos Pontos Fortes.

Abstract

Introduction: Hemodialysis (HD) is a complex and demanding care setting that requires advanced technical skills, continuous monitoring, and strong clinical judgment. Nursing professionals play a central role in this context, addressing not only patients’ clinical needs but also their emotional and psychosocial challenges. Despite existing evidence on difficulties in this settings, most approaches remain deficit-oriented. The Strengths-Based Nursing and Healthcare Leadership (SBNH-L) philosophy offers an alternative by focusing on strengths, resilience, and collaborative care. **Objective:** To map the perceived needs, challenges, and strengths of a nursing team working in a hemodialysis unit, guided by the SBNH-L philosophy. **Methods:** This qualitative study followed Stage 1 of the Intervention Mapping approach, focused on developing a Logic Model of the Problem. The study was conducted in a public hospital HD unit in southeastern Brazil and involved 13 nursing professionals. Data were collected between June and July 2025 through self-administered questionnaires and focus group interviews. Qualitative data were analyzed using Braun and

Clarke's thematic analysis, supported by NVivo® software, while descriptive statistics were used to characterize participants. The study followed COREQ and STROBE guidelines and was grounded in the SBNH-L theoretical framework. **Results:** Five main themes emerged: (1) Patient care challenges; (2) Institutional challenges; (3) Team coping strategies; (4) Technologies and resources needed; (5) Nursing team strengths and qualities. While participants reported significant emotional and organizational burdens, they also demonstrated adaptive strategies and strong professional commitment. **Conclusion:** Mapping the HD context through a strengths-based perspective revealed both critical challenges and valuable team capacities. The findings highlight the importance of multilevel, context-sensitive interventions that integrate SBNH-L principles, promoting patient-centered care, professional empowerment, and sustainable improvements in this settings.

Keywords: Hemodialysis; Nursing; Leadership; Qualitative Research; Patient-Centered Care; Empowerment.

Resumo

Introdução: A hemodiálise (HD) é um ambiente de cuidados complexo e exigente que requer competências técnicas avançadas, monitorização contínua e um forte julgamento clínico. Os profissionais de enfermagem desempenham um papel central neste contexto, abordando não só as necessidades clínicas dos doentes, mas também os seus desafios emocionais e psicossociais. Apesar das evidências existentes sobre as dificuldades neste ambiente, a maioria das abordagens continua orientada para as deficiências. A filosofia Strengths-Based Nursing and Healthcare Leadership (SBNH-L) oferece uma alternativa, focando-se nas forças, resiliência e cuidados colaborativos. **Objetivo:** Mapear as necessidades, os desafios e as forças percebidas por uma equipa de enfermagem que trabalha numa unidade de hemodiálise, orientada pela filosofia SBNH-L. **Métodos:** Este estudo qualitativo seguiu a Etapa 1 da abordagem de Mapeamento de Intervenções, com foco no desenvolvimento de um Modelo Lógico do Problema. O estudo foi realizado numa unidade de HD de um hospital público do sudeste do Brasil e envolveu 13 profissionais de enfermagem. Os dados foram recolhidos entre junho e julho de 2025 através de questionários autoaplicáveis e entrevistas de grupo focal. Os dados qualitativos foram analisados utilizando a análise temática de Braun e Clarke, com o auxílio do software NVivo®, enquanto as estatísticas descritivas foram utilizadas para caracterizar os participantes. O estudo seguiu as diretrizes COREQ e STROBE e foi fundamentado na estrutura teórica SBNH-L. **Resultados:**

Emergiram cinco temas principais: (1) Desafios no cuidado ao doente; (2) Desafios institucionais; (3) Estratégias de coping da equipa; (4) Tecnologias e recursos necessários; (5) Pontos fortes e qualidades da equipa de enfermagem. Embora os participantes tenham relatado sobrecargas emocionais e organizacionais significativas, também demonstraram estratégias adaptativas e um forte compromisso profissional. **Conclusão:** O mapeamento do contexto da hemodiálise através de uma perspetiva baseada nos pontos fortes revelou tanto desafios críticos como capacidades valiosas da equipa. Os resultados destacam a importância de intervenções multiníveis e sensíveis ao contexto que integrem os princípios SBNH-L, promovendo cuidados centrados no doente, empoderamento profissional e melhorias sustentáveis nestes ambientes.

Palavras-chave: Hemodiálise; Enfermagem; Liderança; Investigação Qualitativa; Cuidado Centrado no Paciente; Empoderamento.

INTRODUCTION

Chronic kidney disease (CKD) is a major global public health concern, affecting an estimated 9–13% of the world's population.^(1,2) As the disease progresses, many individuals reach end-stage kidney disease (ESKD), requiring renal replacement therapies such as dialysis or kidney transplantation to survive.⁽¹⁻³⁾ Hemodialysis (HD) remains the most common treatment modality, sustaining millions of patients worldwide. It is a complex, technology-dependent therapy that requires sophisticated machines, specialized vascular access, and continuous monitoring to ensure treatment safety and efficacy.⁽³⁻⁵⁾

Within this context, nurses are pivotal in delivering HD care. Their responsibilities are extended beyond the technical aspects of HD treatment, such as vascular access management, to supporting patients and families as they cope with the physical and psychological challenges of the CKD.^(6,7) The HD setting is complex and demanding, requiring constant clinical judgment, critical thinking and implementation of targeted interventions.⁽³⁻⁵⁾ Beyond technical competence, the nursing team are called to exercise leadership, foster therapeutic relationships, and promote holistic patient-centred care that acknowledges patient vulnerabilities and fosters their strengths.⁽³⁻⁶⁾

However, many studies have addressed the challenges of nursing working in HD, such as managing complex patient conditions, dealing with advanced technology, and coping

with suffering and death, which can contribute to burnout, stress, and other mental health complications.⁽⁸⁻¹⁰⁾ Although numerous evidence-based practices have been developed to mitigate the challenges in HD settings, most of those health interventions remain deficit-oriented, emphasizing risks, complications, and limitations.^(8,9) This gap underscores the need for structured approaches and interventions that move beyond a focus on deficits and instead build on patient and family strengths.^(11,12)

In this way, the Strengths-Based Nursing and Healthcare-Leadership (SBNH-L) philosophy, developed by Laurie Gottlieb, offers a perspective that highlights capabilities, resilience, and potential rather than limitations. The philosophy emphasizes identifying and mobilizing strengths at the individual, family, and system levels; fostering collaborative, person-centred partnerships; and promoting empowerment, self-determination, and adaptive capacity within healthcare contexts. However, its application remains underexplored in the Brazilian context, particularly within hospital-based HD.^(10,11) In this sense, by understanding the perception of healthcare professionals through the pillars and values of the SBNH-L philosophy, it becomes possible to observe how this approach mobilizes the clinical, relational, ethical, and leadership competencies of nurses, promoting more humanized, collaborative, and strength-centred care to patients.

By recognizing and strengthening the potential of individuals and their families, nursing professionals play a central role in shaping care, empowering them, and achieving better health outcomes.^(10,12) Thus, nurses become strategic agents in identifying weaknesses, strengths and proposing improvements in the contexts in which they work, exercising their leadership in care. Considering the need for effective interventions to improve patient outcomes, this study is justified as a significant contribution to the clinical practice of nurses and the well-being of patients. Mapping the perceived needs, challenges, and strengths of the nursing team from the perspective of the SBNH-L philosophy provides a foundation for the development of context-sensitive, strength-based further interventions. Therefore, this study aimed to map the perceived needs, challenges, and strengths of the nursing team working in a public hospital HD unit, based on the SBNH-L philosophy.

METHODS

Design

This is a qualitative study that followed Stage 1 of the Intervention Mapping (IM) approach. The IM is based on community-based participatory research methods to ensure that

the intervention meets the needs of the priority population and the contexts of the further intervention. In the health field, it provides guidelines and tools to ensure that the health intervention is grounded in empirical evidence and solid theories.⁽¹³⁻¹⁵⁾

It is a widely used approach worldwide and IM adopts an ecological approach to understanding health problems and intervening at multiple levels (e.g., individual, interpersonal, organizational, and community), thus guiding the development of multilevel interventions^(13,16,17). In addition, IM is used in the planning and development of implementation strategies for the adoption, implementation, and maintenance of a health program.⁽¹³⁻¹⁷⁾ Following IM, it is possible to minimize common problems in clinical health practice, such as the intervention being incompatible with local needs, ineffective, causing iatrogenic effects, overly extensive, complex, unfeasible, tedious, and/or unsustainable. Furthermore, the IM process results in guidance and documentation of decisions at each stage, mapping the process from the first steps of recognizing a need or problem to evaluation and dissemination.⁽⁹⁾ The IM guides the process of planning a health program/intervention in six steps.

In this study, the researchers completed the Step 1- Logic Model of the Problem, which involved forming a planning group, systematically identifying the needs, challenges, and contextual conditions that influence the target setting, describing the context for further intervention and stating the program goal.^(13,14) This study was conducted in the HD unit of a public hospital in the southeast of Brazil and involved the creation of a Planning Committee composed of local nursing staff with experience in nephrology care. The inclusion criteria were: registered with the Brazilian Nursing Council; working in the HD unit as part of the nursing staff; and not on leave.

In collaboration with the research team, the Planning Committee identified the principal problems and strengths of the HD unit, along with their underlying determinants, contributing factors, and the team's strengths and qualities. This collaborative process can be used later to support the development and identification of evidence-informed, context-sensitive interventions, as well as their potential outcomes.⁽¹³⁻¹⁵⁾

Data collection was conducted using an instrument specifically developed by the researchers (J.L., L.F.).⁽¹⁸⁾ To guide the reporting of methods for the corresponding parts of this study, the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) was used.

A focus group study design was chosen to explore the perspectives of nursing professionals regarding the needs, challenges, and strengths of their work context. Focus

groups are widely used in qualitative research for their ability to promote interaction, foster group reflection, and trigger memories or insights through shared dialogue and comparison of experiences.^(19,20) This technique enables participants to articulate not only their explicit perceptions but also their less consciously held beliefs and ideas.⁽²¹⁾ In this study, focus groups served as a strategic tool to stimulate collective thinking around key issues in the hemodialysis setting and to co-construct the Logic Model of the Problem as Stage 1 of the IM approach. The focus group interviews followed the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist, ensuring methodological rigour.⁽²²⁾ Participation was voluntary, written informed consent was obtained from all participants, and no financial incentives were provided.

Data collection

Data collection was conducted between June and July 2025. First, participants completed a self-administered questionnaire developed by the research team (J.L., L.F.) to characterize them. Subsequently, qualitative data were collected through focus group interviews (FGIs), designed to facilitate group interaction, reflection, and co-construction of a Logic Model of the Problem. In this study, focus groups were not divided by any demographic factors because, based on the pilot focus groups, it was believed that homogeneity in the group was achieved through the shared experience. In the focus groups, one researcher facilitated the discussion, while the other took notes on observations (J.L., L.F.).

A semi-structured script that guided the discussion was validated by a Strengths-Based Nursing and Healthcare: Leadership (SBNH-L) leader from McGill University (L.S) and included the following trigger questions: 1. Could you identify the challenges encountered in caring for patients undergoing hemodialysis? If so, could you share them with me? 2. In your opinion, are these challenges specific to the hemodialysis setting, or do they also occur in other hospital environments? Could you elaborate on your perspective? 3. Have you observed or personally attempted to implement any changes aimed at addressing these challenges in the hemodialysis setting? What do you consider to be the main barriers to implementing such changes in this context? 4. What strategies do you believe could be effective in overcoming the barriers to implementing changes in the hemodialysis setting? 5. Do you believe the hemodialysis setting could benefit from the introduction of additional equipment or technology? If so, which types of technology do you think would be most

beneficial?. 6. What do you consider to be the main strength or quality of the team working in this hemodialysis setting?

Three focus groups were conducted, each comprising 4 to 5 participants to ensure manageable and dynamic interaction. Sessions lasted approximately 45 minutes and were identified with the letter “E,” followed by a number according to the sequence in which they were conducted (E1, E2, E3). All sessions took place in a private, non-clinical room within the hospital to ensure confidentiality and minimize interruptions. The researchers employed active probing to obtain detailed accounts of the team members’ views and experiences.⁽²³⁾ Due to the routine demands of the sector, the research team encountered difficulties in releasing all professionals simultaneously, which required flexibility in scheduling. Given the complexity of the topics and the aim to achieve data saturation, one follow-up session was held with one of the groups. All discussions were audio-recorded and transcribed by the research team.

Data analysis

The participants’ characteristics were analyzed using descriptive statistics. Categorical variables (such as gender, age, and workload) were presented as absolute and relative frequencies (n, %). This approach allowed the sample to be characterized in a clear and objective manner, providing an overview of the participants’ profile prior to conducting subsequent analyses.⁽²³⁾

The interviews and focus groups were digitally recorded, transcribed verbatim and imported into NVivo® Software Version 10 to enhance data organization and transparency throughout the process for analysis.⁽⁶⁵⁾ Two researchers checked the process to ensure rigour of the coding process. Transcripts and analysis results were not returned to participants for feedback. The qualitative data from the focus group interviews were analyzed using Braun and Clarke’s six-phase thematic analysis (TA) approach: 1. Familiarization with the data; 2. Generation of initial codes; 3. Searching for themes; 4. Reviewing themes; 5. Defining and naming themes; 6. Producing the report.⁽²⁵⁻²⁷⁾

Data was performed to contextualize the participants' characterization and perspectives on their experiences and backgrounds. Data analysis and integration occurred in three phases: first, analysis of the qualitative database, coding the data and dividing the codes into broad themes, based on Braun and Clarke's (2006) reflective Thematic Analysis (TA);

second, analysis of the quantitative database in terms of results with described statistical analyses; third, analysis of the mixed methods data, which is data integration.⁽²⁴⁻²⁷⁾

The theoretical framework of the research was supported by SBNH-L, which structured the data collection instrument and the questions. The analysis of the results was based on this framework.^(10,11,27)

Ethical Aspects

This study was approved by the Federal University of São Carlos Research Ethics Committee (No: 83663324.5.0000.5504) and the Santa Casa de Misericórdia de São Carlos Institution (No: 83663324.5.3001.8148), in compliance with Resolution No. 466/2012 proposed by the National Health Council (CNS) of the Ministry of Health of Brazil.

Results

In this study, 13 nursing professionals participated. **Table 1** presents the descriptive characteristics of the participants regarding sociodemographic and professional aspects. The data are displayed in both absolute (n) and relative (%) frequencies, allowing a comprehensive overview of the distribution of the sample across different categories.

Table 1. Descriptive characteristics of the participants regarding sociodemographic and professional aspects.

Variable	Category	n	%
Age (years)	20-29 years	3	23.1
	30-39 years	5	38.5
	40-49 years	4	30.8
	>50 years	1	7.7
Gender	Female	11	84.6
	Male	2	15.4

Position	Nursing Technician	9	69.2
	Nurse	4	30.8
Years working in a hemodialysis setting	< 1 ano	1	7.7
	1 a 3 anos	3	23.1
	4 a 6 anos	7	53.8
	7 a 10 anos	1	7.7
	> 10 anos	1	7.7
Weekly workload	> 40 horas	13	100.0

Table 2 below presents the distribution of nursing professionals' activities and challenges in the HD unit. The results are expressed in absolute (n) and relative (%) frequencies. As multiple answers were allowed, the total number of responses exceeds the number of participants.

Table 2. Distribution of nursing professionals' activities and challenges in the HD unit.

Variable	Category	n	%
Main activities performed*	Monitoring vital signs	13	100.0
	Medication preparation/administration	11	84.6
	Patient monitoring during dialysis	13	100
	Emergency/urgent care	7	53.8
	Nursing care (dressings, catheter, etc.)	11	84.6%

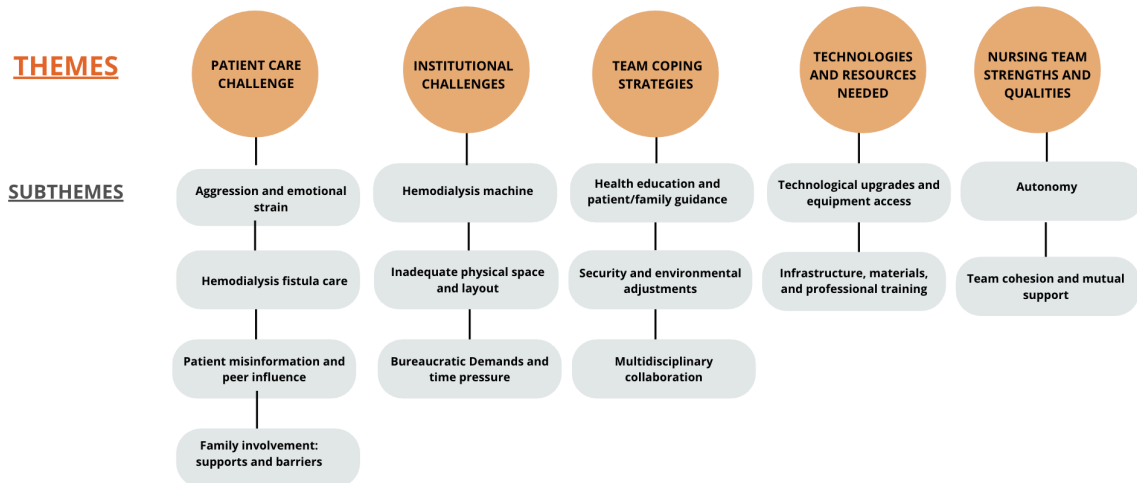
	Documentation/nursing records	12	92.3
Do you consider your activities to meet the needs of CKD patients?	Yes	12	92.3
	No	1	7.7
Main challenges faced*	Difficulties with patients/families	9	69.2
	Work overload	6	46.2
	Communication barriers within the team	6	46.2
	Lack of continuous training	3	23.1

Thematic analysis of the focus group interviews generated five overarching themes that capture the article's aim. These themes were: 1. Patient Care Challenges; 2. Institutional Challenges; 3. Team coping strategies to improve the hemodialysis setting; 4. Technologies and resources needed; 5. Nursing team strengths and qualities.

Nurses emphasized the challenges involved in patient care, particularly in managing the complex clinical conditions and emotional needs of individuals undergoing dialysis. They also highlighted institutional challenges, including limited staffing, heavy workloads, and insufficient organizational support, which often compromise the delivery of care. At the same time, participants described coping strategies developed within the team to deal with these challenges, highlighting the importance of collaboration, mutual support, and adaptive approaches to daily practice. Another theme concerned the need for technologies and resources, where nurses identified gaps in equipment, training, and technological tools, while also suggesting potential innovations to enhance care. Finally, the analysis underscored the nursing team's strengths, including resilience, empathy, and professional commitment.

Each theme encompassed subthemes that provided greater depth and nuance. The themes and subthemes are summarized in **Figure 1**.

Figure 1- Development of Themes and Subthemes.



THEME 1 - Patient Care Challenge

This theme encompassed issues related to the complexity of providing care in the hemodialysis setting. The subthemes identified were four: Aggression and emotional strain; Hemodialysis fistula care; Patient misinformation and peer influence; and Family involvement: supports and barriers.

Aggression and emotional strain

Participants reported facing verbal abuse, threats, harassment and, in some cases, physical aggression from patients. Such behaviour was perceived as linked to long-term treatment frustration, psychological distress, or substance use, as described by participants: *‘Sometimes there are patients who are aggressive [...] they come in under the influence of drugs [...] banging on things, cursing at us, trying to attack us’* (P8), *‘In the same week that I filed a police report, two other cases occurred in other sectors here at the hospital regarding threats’* (P12) and *‘Harassment also ends up causing discomfort for professionals’* (P3).

The repetitive exposure to the same patients and complaints was described as mentally exhausting: *‘We see them three times a week. So, it's a bit tiring. Because it's always the same complaints. It's always the same things, and that ends up being a bit exhausting’* (P10).

The cumulative effect of aggression and harassment had a significant emotional toll, including feelings of sadness, demotivation, and even crying at work: *‘The interaction has already affected me psychologically. I just cried. There was a day when I just cried and cried’*

(P4) and *'I wouldn't leave my son or my husband at home to come here and be threatened... I came here to do my job... I felt very sad and disappointed'* (P12)

Participants also highlighted the emotional conflict between empathizing with patients' struggles and protecting their own mental health: *'There are patients who are complicated. Because we know their lives aren't easy. And sometimes they arrive stressed. Then they end up getting rude to us [...] Because we understand their side, right? But we also don't want them to take any nonsense, right?'* (P13)

Finally, some professionals reported restraining their behaviour to maintain professional boundaries, noting that harassment and disrespectful attitudes sometimes forced them to withdraw, which could be misinterpreted as a lack of humanization: *'We often restrain ourselves to avoid jokes... but then patients think we're not being humane'* (P3).

Hemodialysis fistula care

A recurring difficulty reported by nurses was patients' limited adherence to care instructions regarding catheter access and dressings. While some patients followed recommendations, others disregarded them, leading to infection risks and complications: *'Some patients are super adherent... others do everything the other way around. It causes bloodstream infections... it's harmful for them. Because care is fifty-fifty, our care here and their care at home'* (P8) and *'They come back with the dressing wet... one even said he takes it off, dries it, and puts it back in place. We always advise, but at home it's up to them'* (P12).

Nurses described frustration when patients ignored recommendations, such as swimming or changing dressings at home, despite repeated education: *'They go to the pool, get wet in the shower... then come down with fever or need a catheter change... but they don't stop'* (P8).

Misinformation and peer influence.

Another challenge was the spread of misinformation among patients themselves. Participants explained that patients often rely on peer advice rather than professional guidance, with long-term patients exerting strong influence on others: *'They try to resolve their doubts among themselves... There are like 'fake-doctors' among them. If one gives the wrong information, everyone accepts it'* (P10) and *'One patient starts advising the other... like telling them to drink olive water. They get things from the internet or personal experience and apply it to everyone'* (P3).

Family involvement

The role of families was described as inconsistent and, at times, unpredictable. While some relatives were recognized as important allies who facilitated patient adherence and supported communication with the health team, others were perceived as absent or disengaged, limiting the continuity of care. In certain cases, family members failed to participate in discussions with nurses, preventing the team from providing appropriate guidance: *'One challenge is often dealing with relatives... sometimes the family member doesn't come to talk to us, so we can't instruct them'* (P8). Conversely, some relatives were described as overly challenging nursing instructions or even obstructing care, which occasionally required involvement of social services or legal authorities: *'Some families help a lot, and some families are a hindrance... sometimes we even need social services or the public prosecutor's office'* (P4). These contrasting experiences reinforced the idea that family engagement can be either a facilitator or a barrier, depending on the level of collaboration and responsibility assumed by relatives: *'It depends on the patient. Some families are very involved, while others are quite absent'* (P7).

THEME 2 - Institutional challenges

This theme reflected structural and organizational barriers within the hemodialysis unit. The subthemes identified were three: 1. Hemodialysis machine; 2. Inadequate physical space and layout; 3. Bureaucratic Demands and time pressure.

Hemodialysis machine

Participants described the hemodialysis machines as outdated, heavy, and unsafe to move, creating both risks and exhaustion. As one nurse explained, *'The machines' wheels are all stuck... we have to drag a machine to the ICU, and the machine screams from here to there'* (P2). Another added, *'There have been risks of accidents... machines have even fallen off professionals. The machine is heavy. The wheels are rusted and don't move. So, it's pretty discouraging'* (P4). In addition, one participant highlighted the sheer effort required when caring for multiple patients in critical care: *'You can imagine, the machine is bigger than me. And when there are two patients in the ICU, I have to go out, carry a heavy machine, come back, get the other one, and then do it all over again to return with the machines per sector. And it's tiring. Because it's heavy'* (P7).

Physical space and layout

The unit's fragmented structure and lack of adequate space were seen as barriers to patient care and safety. One participant described, *'Our structure here is very fragmented. So, there's one here, there's another there, there's another there. And, like, these rooms, they have multiple entrances. Room A has two entrances. Room B has two entrances. We can't control the flow of patients or even non-nursing staff'* (P9). The impact on patients was also noted: *the patient does not have space to move properly, and the team also runs out of space, our structure is old, so we have these problems'* (P10).

Bureaucracy demands and time pressures

Participants described how excessive bureaucracy and rigid scheduling requirements created constant pressure, undermining individualized and humanized care. As one nurse explained, *"With too much bureaucracy, we lose a bit of the humanization of the patient... we are working too much with production, because hemodialysis is money"* (P4). The strict time slots for dialysis were also a source of stress: *"Here, the chair has a time slot for each patient... if you're late, that patient will delay the other patient. What was supposed to be four hours becomes five, then six hours"* (P7). Another participant emphasized the intensity of time-related demands, saying, *"We already have a different clock here. There's time for this, there's time for that. When it's time to turn it on and off, it's a race"* (P12).

THEME 3 - Team coping strategies

Participants described several coping strategies adopted by the nursing team to overcome daily challenges and enhance the quality of care in the hemodialysis unit. These strategies encompassed: 1. Health education and patient/family guidance; 2. Security and environmental adjustments; and 3. Multidisciplinary collaboration.

Health education

One of the main strategies adopted by the team was health education, aimed at reinforcing adherence and promoting safer practices. Nurses described providing regular lectures on diet, fistula access care, and treatment adherence, often supported by nutritionists

and infection control staff: *'Every month, we nurses visit the room, talking about health status, providing dietary guidance... the nutritionist also comes by... I remember they came to give lectures on access care too'* (P9) Practical demonstrations were also used, such as measuring cups to monitor fluid intake or visual aids showing allowed versus restricted foods: *'There's also an employee who made some little cups to see how much water they drank per day... some adhere to the initiative, while others don't'* (P2) Despite these efforts, participants acknowledged that patient compliance remained inconsistent: *'These things we do in lectures or meetings are a way of trying to bring change. Some patients accept it, others don't even want to hear it'* (P1)

Security

To address repeated episodes of violence and unauthorized access, structural measures were introduced, such as security turnstiles with facial recognition. Nurses perceived these changes as essential to creating a safer work environment: *'There was an improvement in the issue of violence... today, they're installing turnstiles with facial entry... before, we had to close the doors at 6 p.m. because everything was open and anyone could come in'* (P4)

Multidisciplinary team

Participants emphasized the importance of working with other professionals, particularly psychologists and nutritionists, to share responsibility for patient care and provide broader support: *'Psychology is very important... often we have to acknowledge the problem and bring it in. If we have support, the multidisciplinary team can help'* (P4)

Nurses also described stopping dialysis sessions to provide group discussions about treatment and access care, noting that these efforts were sometimes effective depending on patient engagement: *'I've even stopped everyone in the room to discuss topics such as the disease itself, the treatment, fistula and catheter care... some were interested and understood, others didn't care'* (P4).

THEME 4 - Technologies and resources

Participants emphasized the importance of technological and material resources in the HD unit to support safe and efficient care. Two subthemes were identified: 1. Technological upgrades and equipment access; and 2. Infrastructure, materials, and professional training.

Technological upgrades and equipment access

Participants emphasized the need for automation and advanced technology to improve care processes, such as automatic recording systems and tablets for real-time documentation: *‘There are places that weigh patients and send the weight directly to the computer... that would be good, because patients sometimes try to trick us’* (P1); *‘If every employee had a tablet... when they took blood pressure, if it was all automatic, I think it would be completely different’* (P2). They also highlighted the importance of upgrading dialysis machines and securing specialized devices, like a dedicated ultrasound for hemodialysis: *‘A more technological machine... a little more advanced technology than what we have here’* (P2); *‘We need an ultrasound machine specifically for hemodialysis. We borrow it... sometimes we experience rudeness for borrowing it’* (P4).

Infrastructure, materials, and professional training

Deficiencies in infrastructure, delays in replacing essential furniture and equipment, and limited patient space were described as barriers to care: *‘If something breaks—a bed, a chair—the patients don’t like it, and they curse us out. Appeals take a long time because they have to go through the financial department’* (P3); *‘From my point of view, it would need renovation... a space for the patient to move around... it really affects us’* (P10). Beyond resources, participants stressed the importance of ongoing professional training, particularly hands-on preparation for emergencies: *‘We need to be well prepared... not just continuing education slides. We’ll do training very similar to what you do... so when something happens, I have a prepared team’* (P10).

THEME 5 - Nursing team strengths and qualities

Participants highlighted important strengths that sustain the work of the nursing team in the hemodialysis unit. Two subthemes were identified: 1. Autonomy; and 2. Team cohesion and mutual support.

Autonomy

Autonomy was perceived as a consistent strength, enabling professionals to carry out their duties independently while seeking support when necessary. As one coordinator explained, *“We are a sector that has a lot of autonomy [...] as long as the technician does not*

call me to help, I don't get involved. [...] this matter of autonomy, we have a lot of that here as well" (P10).

Team cohesion and mutual support

Collaboration, union, and solidarity among colleagues were repeatedly emphasized as essential strengths of the team. Participants highlighted their ability to maintain effective functioning despite staff shortages and complications: *"We had two or three shifts recently that were with shortage of nursing staff, and we still managed to get the work done. That was because everyone was helping each other [...] everyone was helping"* (P3); *"If there's a complication [...] regardless of everything, we are a united team and we help each other"* (P9). The spirit of unity was also recognized as a core value: *"Regardless of anything, our team is very united [...] everyone helps. Everyone"* (P1). In addition, the team was seen as technically competent and committed to fostering positive relationships: *"For me, it's a very well-prepared team, [...] everyone is always sharing so we can help each other. I think this affection and this relationship within the nursing team is very good"* (P4).

In addition, regarding the results, Table 3 presents the convergent responses side by side, based on the analysis conducted using the SBNH-L.

Table 3. Analysis of interview findings, participant characteristics, and nursing professionals' activities and challenges in the hemodialysis unit based on the SBNH-L approach.

Main challenges faced	n (%)	Main Themes	Illustrative quotes	Values SBNH-L
Difficulties with patients/families	9 (69.2%)	Patient Care Challenges	<i>'One challenge is often dealing with relatives... sometimes the family member doesn't come to talk to us, so we can't instruct them' (P8)</i>	<i>Goodness-of-fit:</i> is about the “match” between the demands of the environment and the capabilities/capacities of the individual. Individuals shape and are shaped by their many life-worlds. Environments include the physical aspects (eg, space, lighting, noise) and social (eg, relational, emotional tone and culture). Individuals grow and thrive in environments where there is a goodness-of-fit, and they experience difficulties and are distressed in “poorness-of-fit” environments.
Work overload	6 (46.2%)	Institutional Challenges	<i>'There have been risks of accidents... machines have even fallen off professionals. The machine is heavy. The wheels are rusted and don't</i>	Collaborative Partnerships: recognize that relationships are reciprocal - each person brings something to the relationship or interaction from which the other can learn. Collaboration is the art of working together in trusting, supportive ways to achieve a purpose. Partnership requires a willingness to share power rather than exert power in order to control. A collaborative partnership is working together on mutually agreed-upon goals, recognizing the expertise and experience of the other.

			<i>move. So, it's pretty discouraging'</i> (P4)	
Lack of continuous training	3 (23.1%)	Technologies and Resources Needed	<i>'We need to be well prepared... not just continuing education slides. We'll do training very similar to what you do... so when something happens, I have a prepared team'</i> (P10).	<i>Multiple perspectives:</i> Individuals have different beliefs, understandings, and interpretations that affect their way of being and their responses. <i>Creating meaning:</i> refers to the processes by which a person makes sense of an experience, to arrive at an understanding.

Discussion

This study explored the perceived needs, challenges, coping strategies, resources, and strengths of a nursing team working in a hemodialysis (HD) unit, grounded in the SBNH-L philosophy. The findings reinforce that HD is a highly complex care environment, marked by technological dependence, emotional demands, and organizational constraints, while also revealing important professional strengths that sustain care delivery.^(28,29)

The results confirm that HD nursing extends far beyond technical competence, involving intense emotional labor and sustained exposure to patients' suffering, frustration, and psychological distress.^(30,31) Participants reported frequent experiences of verbal aggression, harassment, and emotional exhaustion, particularly due to long-term relationships with patients who attend the unit several times per week. These findings are consistent with Brazilian evidence describing hemodialysis nursing as a field permeated by tension, emotional overload, and ethical dilemmas⁽³²⁾, as well as international studies linking HD work to burnout and compassion fatigue.^(33,34)

From an SBNH-L perspective, these challenges highlight the importance of recognizing nurses as individuals with emotional limits, strengths, and adaptive capacities, rather than viewing emotional strain as an inevitable or individualized failure.^(10,11) Creating empowering work environments that acknowledge emotional demands is essential for sustaining professional well-being and care quality.⁽¹¹⁾

In addition, patient care challenges emerged as a central theme, particularly difficulties related to adherence to fistula and catheter care and inconsistent family engagement. These findings align with evidence from Ozen et al. (2019), who demonstrated that nonadherence among HD patients is frequent and multifactorial, encompassing missed sessions, inadequate fluid and dietary control, and treatment-related behaviors influenced by psychosocial and contextual factors rather than individual choice alone. Similarly, the qualitative study by Partida Ponce et al. (2019) highlights how misunderstandings about treatment, resistance to professional guidance, and fragile family support complicate nursing care and increase emotional burden in the HD setting.^(32,35)

Also, in this study, nurses described how peer influence sometimes outweighed professional guidance, especially when long-term patients assumed advisory roles. Although often perceived as a barrier, the SBNH-L framework allows this phenomenon to be reframed as a potential strength: peer relationships may be mobilized as supportive resources if guided appropriately by the health team.^(10,11)

Institutional challenges, such as outdated equipment, inadequate physical space, excessive bureaucracy, and rigid scheduling, were consistently identified as factors that hinder both patient-centered care and professional well-being. Participants' reports of unsafe and heavy dialysis machines, fragmented unit layouts, and productivity-driven time pressures associate poor infrastructure and organizational rigidity with occupational risk, stress, and reduced care humanization which aligns with literature where shows the poor investment in brazilian dialysis system.⁽³⁶⁻³⁸⁾

Despite these challenges, participants demonstrated adaptive coping strategies, including health education initiatives, security improvements, and multidisciplinary collaboration. Educational activities aimed at promoting adherence and safety were widely used, although their effectiveness varied according to patient engagement. Multidisciplinary collaboration, particularly with psychologists and nutritionists, was identified as essential for addressing the complex clinical and emotional needs of HD patients. These practices reflect everyday expressions of nursing leadership and agency, consistent with SBNH-L principles that emphasize collaboration, contextual care, and shared responsibility.^(10,11,37)

Furthermore, a key contribution of this study lies in the explicit identification of team strengths, particularly autonomy, which is the main element of professional practice in nursing.⁽³⁸⁾ These findings align with SBNH-L literature, which emphasizes that autonomy, relational trust, and collective resilience are foundational to professional empowerment and sustainable practice.⁽¹⁰⁾

Conclusion

This study provides a comprehensive understanding of the hemodialysis context by integrating both challenges and strengths through the lens of the Strengths-Based Nursing and Healthcare Leadership (SBNH-L) philosophy. While the findings confirm that nursing work in hemodialysis is marked by significant emotional, organizational, and structural demands, they also highlight the presence of resilience, autonomy, collaboration, and strong professional commitment within the team. By shifting the focus from a deficit-oriented perspective to a strengths-based approach, this study underscores the potential of nursing professionals to act as agents of change in complex care environments. The results support the development of multilevel, context-sensitive interventions that not only address existing gaps in infrastructure, training, and organizational support, but also leverage team strengths to enhance patient-centered care, professional well-being, and quality of care. Furthermore,

this research contributes to advancing the application of the SBNH-L framework in the Brazilian hemodialysis setting, offering a foundation for future interventions, research, and policies aimed at promoting sustainable and empowering healthcare practices.

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6. FINAL CONSIDERATIONS

The main aim of this dissertation was to identify the needs, challenges, and strengths based on the SBNH-L philosophy among the nursing team in a hospital's hemodialysis unit. Therefore, the study included two articles related to the phases of Stage 1 of the MI theoretical framework. **Article 1** outlined most interventions in the studies, highlighting self-care, symptom management, emotional regulation, and treatment adherence. These areas

emphasise the critical role of nursing in supporting patients' daily adaptation to hemodialysis treatment. Importantly, this review demonstrated that nursing interventions extend beyond technical or procedural tasks; they encompass holistic and person-centred strategies that meet the full spectrum of patient needs. In this context, the results of **Article 2**, by mapping the needs, challenges, and strengths of the nursing team through SBNH-L, provide a strong foundation for the subsequent steps in the Intervention Mapping framework. Therefore, the results indicate that effective interventions in hemodialysis settings should target multiple levels, recognising both the experiential knowledge and leadership capacity of nursing teams. Incorporating the principles of SBNH-L into clinical practice can enhance not only patient outcomes but also nurse well-being, job satisfaction, and the sustainability of hemodialysis care.

7. APPENDICES

Appendix A - Questionnaire

Data Collection: ____/____/____

1. Personal Information

Full Name:

Age: _____ years

Gender: ☐ Female ☐ Male ☐ Other: _____ ☐ Prefer not to answer

Marital Status: ☐ Single ☐ Married ☐ Divorced ☐ Widowed ☐ Other: _____

Education:

- ☐ Elementary School
- ☐ High School
- ☐ Technical School
- ☐ Higher Education (Bachelor's/Undergraduate)
- ☐ Postgraduate (Lato sensu)
- ☐ Master's Degree
- ☐ Doctorate
- ☐ Other: _____

City/State of Residence: _____

2. Professional Information

Time working in the hemodialysis department:

☐ Less than 1 year ☐ 1 to 3 years ☐ 4 to 6 years ☐ 7 to 10 years ☐ More than 10 years

Weekly workload:

☐ Less than 20 hours ☐ 20 to 30 hours ☐ 31 to 40 hours ☐ More than 40 hours

Position performed:

☐ Nurse ☐ Nursing Technician ☐ Nursing Assistant ☐ Other: _____

3. Activities in the Hemodialysis Department

Check the activities you perform:

- ☐ Monitoring specific signs
- ☐ Preparing/administering medications

- ☐ Monitoring patients during hemodialysis
- ☐ Health education for Patients/Families
- ☐ Team Coordination
- ☐ Urgent/Emergency Care
- ☐ Nursing Care (Dressings, Tubes, etc.)
- ☐ Nursing Documentation/Records
- ☐ Other: _____

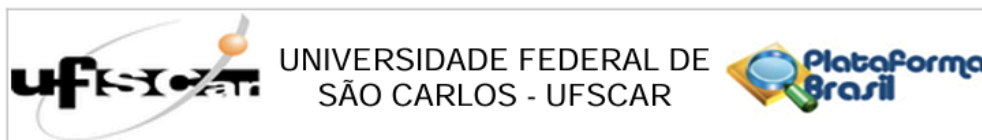
Do you consider that your activities meet the needs of CKD patients?

- ☐ Yes ☐ No. Why? _____

What challenges do you face in your work? (Check all that apply)

- ☐ Lack of material resources
- ☐ Work overload
- ☐ Lack of ongoing training
- ☐ Limitations in communication with staff
- ☐ Difficulties with patients/family members
- ☐ Other: _____

Appendix B - Ethics Approvals



Continuação do Parecer: 7.444.365

qualitativos pode ser suscetível a vieses, tanto dos participantes quanto dos pesquisadores.

Benefícios:

Melhoria na Qualidade do Atendimento: Os resultados da pesquisa podem fornecer insights valiosos que auxiliam na melhoria das práticas no setor de hemodiálise, beneficiando tanto os pacientes quanto os profissionais de saúde. **Desenvolvimento de Políticas de Saúde:** A pesquisa pode contribuir para o desenvolvimento de políticas e práticas mais eficazes no cuidado de pacientes em hemodiálise, baseadas em evidências coletadas diretamente do campo. **Conscientização e Educação:** A pesquisa pode aumentar a conscientização sobre as condições de trabalho e de saúde no setor de hemodiálise, promovendo uma melhor compreensão dos desafios enfrentados por pacientes e profissionais. **Avanço Científico:** A metodologia inovadora e o foco em uma área específica da saúde podem contribuir para o avanço científico, gerando novos conhecimentos e abrindo caminhos para futuras pesquisas.

Comentários e Considerações sobre a Pesquisa:

Trata-se de uma pesquisa que deve seguir os preceitos éticos estabelecidos pela Resolução CNS nº 510 de 2016 e suas complementares.

Considerações sobre os Termos de apresentação obrigatória:

Documentação corretamente apresentada.

Conclusões ou Pendências e Lista de Inadequações:

Conforme solicitação da Irmandade da Santa Casa de Misericórdia de São Carlos (ISCMSC) para início da coleta de dados da pesquisa supracitada, esta Emenda trata-se da inclusão da ISCMSC como instituição coparticipante neste projeto para tramitação no CEP - ISCMSC e autorização para início da coleta de dados neste hospital. As pesquisadoras esclarecem que foi apresentado ao CEP-UFSCar a Carta de Anuência da ISCMSC, todavia não foi feita a inclusão deste hospital como instituição coparticipante via Plataforma Brasil.

Vale reiterar que os objetivos, método e coleta de dados da pesquisa não foram alterados. Ressalta-se ainda que este estudo foi contemplado com uma bolsa de mestrado CAPES e, portanto, o prazo de coleta de dados está intrinsecamente relacionado aos compromissos de relatórios científicos das pesquisadoras à agência de fomento.

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Continuação do Parecer: 7.444.365

Considerações Finais a critério do CEP:

Diante do exposto, o Comitê de ética em pesquisa - CEP, de acordo com as atribuições definidas na Resolução CNS nº 510 de 2016, manifesta-se por considerar "Aprovado" o projeto. Conforme dispõe o Capítulo VI, Artigo 28, da Resolução Nº 510 de 07 de abril de 2016, a responsabilidade do pesquisador é indelegável e indeclinável e compreende os aspectos éticos e legais, cabendo-lhe, após aprovação deste Comitê de Ética em Pesquisa: II - conduzir o processo de Consentimento e de Assentimento Livre e Esclarecido; III - apresentar dados solicitados pelo CEP ou pela CONEP a qualquer momento; IV - manter os dados da pesquisa em arquivo, físico ou digital, sob sua guarda e responsabilidade, por um período mínimo de 5 (cinco) anos após o término da pesquisa; V - apresentar no relatório final que o projeto foi desenvolvido conforme delineado, justificando, quando ocorridas, a sua mudança ou interrupção. Este relatório final deverá ser protocolado via notificação na Plataforma Brasil. OBSERVAÇÃO: Nos documentos encaminhados por Notificação NÃO DEVE constar alteração no conteúdo do projeto. Caso o projeto tenha sofrido alterações, o pesquisador deverá submeter uma "EMENDA".

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_2505091_E1.pdf	20/02/2025 14:25:12		Aceito
Outros	Emenda_CEP_SantaCasaassinado.pdf	20/02/2025 14:22:36	LAIS FUMINCELLI	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_versao_2.pdf	22/01/2025 09:16:12	LAIS FUMINCELLI	Aceito
Declaração de Instituição e Infraestrutura	Cartaanuencia.pdf	30/09/2024 15:37:21	LAIS FUMINCELLI	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE.pdf	26/09/2024 16:59:33	LAIS FUMINCELLI	Aceito
Projeto Detalhado / Brochura Investigador	projeto detalhado.pdf	26/09/2024 16:59:22	LAIS FUMINCELLI	Aceito
Folha de Rosto	folhaDeRosto_JLUVIZUTTO_29_assinadoassinado.pdf	26/09/2024 16:58:06	LAIS FUMINCELLI	Aceito

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Bairro: JARDIM GUANABARA

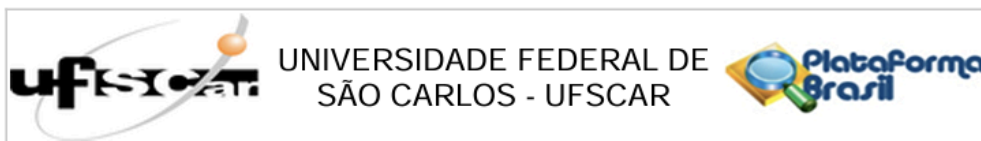
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PARECER CONSUBSTANCIADO DO CEP

DADOS DA EMENDA

Título da Pesquisa: Desenvolvimento de um Programa de Intervenção com Equipe de Enfermagem em um setor de Hemodiálise baseado na filosofia Strenght-based Nursing and HealthCare-Leadership (SBNH-L): um estudo multimétodo

Pesquisador: LAIS FUMINCELLI

Área Temática:

Versão: 3

CAAE: 83663324.5.0000.5504

Instituição Proponente: Departamento de Enfermagem

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 7.444.365

Apresentação do Projeto:

Trata-se de uma solicitação de emenda do projeto de pesquisa aprovado em 18/02/2025, sob parecer nº 7.394.751. A solicitação da emenda está presente no arquivo PB_INFORMAÇÕES_BÁSICAS_2505091_E1.pdf e documento de justificativa de Emenda (Emenda_CEP_SantaCasaassinado.pdf), anexados em 20/02/2025, e onde se lê:
 Conforme solicitação da Irmandade da Santa Casa de Misericórdia de São Carlos (ISCMSC) para início da coleta de dados da pesquisa supracitada, esta Emenda trata-se da inclusão da ISCMSC como instituição coparticipante neste projeto para tramitação no CEP - ISCMSC e autorização para início da coleta de dados neste hospital.

Objetivo da Pesquisa:

Desenvolver um programa de intervenção em saúde com a equipe de Enfermagem que atua com os pacientes renais crônicos, em um setor de hemodiálise, de um hospital no interior do Estado de São Paulo, Brasil.

Avaliação dos Riscos e Benefícios:

Riscos:

Profissionais de saúde podem sentir desconforto ao discutir questões sensíveis durante os grupos focais ou nas coletas de dados quantitativos. Risco de Viés: A coleta de dados

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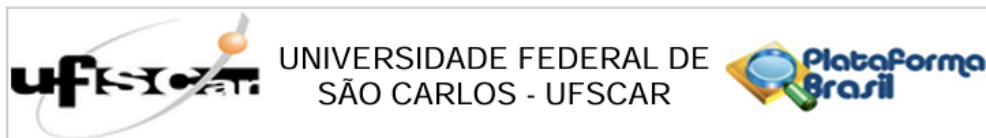
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Continuação do Parecer: 7.444.365

Situação do Parecer:

Aprovado

Necessita Apreciação da CONEP:

Não

SAO CARLOS, 16 de Março de 2025

Assinado por:

Adriana Sanches Garcia de Araújo
(Coordenador(a))

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Bairro: JARDIM GUANABARA

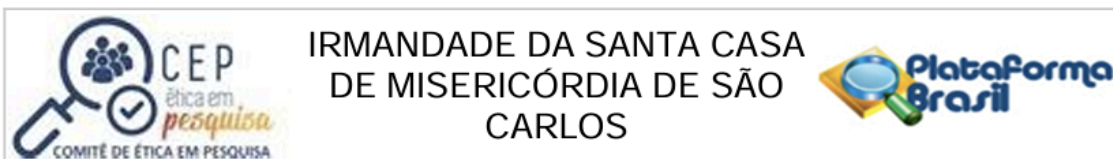
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PARECER CONSUBSTANCIADO DO CEP

Elaborado pela Instituição Coparticipante

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Desenvolvimento de um Programa de Intervenção com Equipe de Enfermagem em um setor de Hemodiálise baseado na filosofia Strenght-based Nursing and HealthCare-Leadership (SBNH-L): um estudo multimétodo

Pesquisador: LAIS FUMINCELLI

Área Temática:

Versão: 2

CAAE: 83663324.5.3001.8148

Instituição Proponente: IRMANDADE DA SANTA CASA DE MISERICORDIA DE SAO CARLOS

Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 7.519.688

Apresentação do Projeto:

As informações elencadas neste campo foram retiradas do arquivo Informações Básicas da Pesquisa (PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_2518307, de 17/04/2025 e/ou Projeto Detalhado (projeto_detalhado_versao2, de 17/04/2025):

" Resumo:

Introdução: A doença renal crônica (DRC) representa um desafio significativo e crescente no domínio da saúde global. O papel da enfermagem no cuidado contínuo ao paciente com DRC é primordial e multifacetado, abrangendo desde o manejo dos sintomas até o suporte emocional e educacional. Frente ao contexto complexo enfrentado pelos pacientes com essa condição, percebe-se a ampla gama de intervenções possíveis tanto para os profissionais da saúde quanto para os pacientes. O enfermeiro ao realizar os cuidados a esses pacientes, pode fundamentar sua prática clínica em modelos teóricos, o qual destaca-se a filosofia do Strengths-Based Nursing and Healthcare (SBNH). Diante disso, torna-se imperativo realizar um mapeamento minucioso dessas intervenções, visando priorizar e efetivar as ações destinadas a esse público específico. Objetivo: Desenvolver um programa de intervenção em saúde com base na filosofia SBNH-L com a equipe de Enfermagem em um setor de hemodiálise de um hospital no interior do Estado de São Paulo, Brasil. Materiais e Método: Trata-se de um estudo

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IRMANDADE DA SANTA CASA DE MISERICÓRDIA DE SÃO CARLOS



Continuação do Parecer: 7.519.688

Intervenções

(1. Modelo lógico do problema. 2. Modelo lógico da mudança. 3. Design do programa).

Caráter acadêmico, realizado para obtenção do título de mestre no Programa de Pós-Graduação de Enfermagem da Universidade Federal de São Carlos (UFSCar).

Patrocinador: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP). País de origem: Brasil.

Número de participantes incluídos no Brasil (n=20).

Armazenamento de amostras em banco de material biológico no Brasil: não.

Considerações sobre os Termos de apresentação obrigatória:

Vide campo "Conclusões ou Pendências e Lista de Inadequações"

Recomendações:

Vide campo "Conclusões ou Pendências e Lista de Inadequações"

Conclusões ou Pendências e Lista de Inadequações:

As informações elencadas neste campo foram retiradas do arquivo Carta_Resposta_versao2 (de 17/04/2025) e no arquivo PB_PARECER_CONSUBSTANCIADO_CEP_7472644, de 28/03/2025):

PENDÊNCIA 1: "1. No arquivo PB_INFORMAÇÕES_BÁSICAS_2505091_E1, de 20/02/25, solicita-se alteração do nome do responsável pela instituição coparticipante para Roberto Muniz Junior, o atual Diretor Técnico da Irmandade da Santa Casa de Misericórdia de São Carlos (ISCMSC)".

RESPOSTA: "Informamos que realizamos tentativas de alteração do nome solicitado, todavia o campo não está permitindo edição".

ANÁLISE: Justificada a não realização da alteração na plataforma. Solicitação considerada atendida.

PENDÊNCIA 2: "Solicita-se "Declaração de Coleta de Dados não Iniciada" já que o cronograma está desatualizado, com início das coletas com data anterior à aprovação do projeto neste colegiado. Obs: O sumário do arquivo "projetodetalhado" (de 26/09/2024) necessita atualização, por exemplo, a indicação do cronograma está em página equivocada".

RESPOSTA: "Em atenção à pendência apontada, encaminhamos a Declaração de Coleta de Dados Não Iniciada, conforme solicitado, esclarecendo que nenhuma atividade de coleta foi

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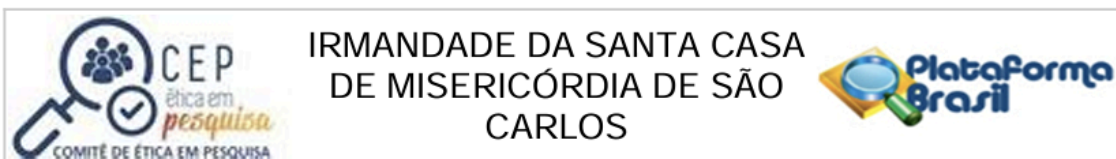
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Continuação do Parecer: 7.519.688

iniciada antes da aprovação ética deste projeto.

Aproveitamos para informar que o arquivo "projetodetalhado" foi atualizado, incluindo a correção do sumário, de modo que agora o cronograma consta na página indicada corretamente e está alinhado com a nova previsão de início da coleta, posterior à aprovação pelo CEP.

Em virtude da alteração acima mencionada, anexamos os documentos readequados (Projeto Detalhado-Versão 2, Declaração), sendo as modificações realçadas com destaques em laranja".

ANÁLISE: Atendida

Considerações Finais a critério do CEP:

Diante do exposto, o Comitê de Ética em Pesquisa (CEP), de acordo com as atribuições definidas na Resolução CNS n.º 466, de 2012, e na Norma Operacional n.º 001, de 2013, do CNS, manifesta-se pela aprovação do protocolo de pesquisa.

Ressalta-se que cabe ao pesquisador responsável encaminhar os relatórios de pesquisa, por meio da Plataforma Brasil, via notificação do tipo <relatório> para que sejam devidamente apreciadas no CEP, conforme Resolução CNS no 466/12, item XI.2.d e Resolução CNS no 510/16, art. 28, item V.

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_2518307.pdf	17/04/2025 16:34:22		Aceito
Outros	Carta_Resposta_versao2.pdf	17/04/2025 16:33:15	LAIS FUMINCELLI	Aceito
Declaração de Pesquisadores	declaracao.pdf	17/04/2025 16:32:36	LAIS FUMINCELLI	Aceito
Projeto Detalhado / Brochura Investigador	projeto_detalhado_versao2.pdf	17/04/2025 16:31:29	LAIS FUMINCELLI	Aceito
Outros	Emenda_CEP_SantaCasa_assinado.pdf	20/02/2025 14:22:36	LAIS FUMINCELLI	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_versao_2.pdf	22/01/2025 09:16:12	LAIS FUMINCELLI	Aceito
TCLE / Termos de Assentimento /	TCLE.pdf	26/09/2024 16:59:33	LAIS FUMINCELLI	Aceito

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IRMANDADE DA SANTA CASA DE MISERICÓRDIA DE SÃO CARLOS



Continuação do Parecer: 7.519.688

multimétodo, por meio de revisão de escopo e estudo de abordagem quanti-qualitativa, o qual seguirá as três primeiras etapas do Mapeamento de Intervenções (1. Modelo lógico do problema. 2. Modelo lógico da mudança. 3. Design do programa). Seguindo os preceitos éticos, serão incluídos os profissionais de enfermagem que atuam no setor de hemodiálise da instituição hospitalar, seja na assistência direta ao paciente ou na gestão do setor e tenham disponibilidade e interesse para responder aos instrumentos de coleta de dados. Serão excluídos os profissionais que se encontrarem de férias, afastamentos ou de licença de trabalho. O período de coleta de dados será realizado em três meses, em formato presencial na própria instituição. Espera-se nesta pesquisa contribuir para o fortalecimento das evidências científicas e inovações na prática da enfermagem em um setor de hemodiálise".

" Metodologia Proposta:

Trata-se de um estudo multimétodo, por meio de revisão de escopo e estudo de abordagem quanti-qualitativa, o qual seguirá as três primeiras etapas do Mapeamento de Intervenções (1. Modelo lógico do problema. 2. Modelo lógico da mudança. 3. Design do programa). Seguindo os preceitos éticos, serão incluídos os profissionais de enfermagem que atuam no setor de hemodiálise da instituição hospitalar, seja na assistência direta ao paciente ou na gestão do setor e tenham disponibilidade e interesse para responder aos instrumentos de coleta de dados. Serão excluídos os profissionais que se encontrarem de férias, afastamentos ou de licença de trabalho. O período de coleta de dados será realizado em três meses, em formato presencial na própria instituição. Espera-se nesta pesquisa contribuir para o fortalecimento das evidências científicas e inovações na prática da enfermagem em um setor de hemodiálise."

" Desfecho Primário:

Identificação e descrição das principais necessidades e desafios enfrentados por pacientes em hemodiálise e pelos profissionais de saúde, em relação à qualidade de vida, comportamento e condições ambientais."

Objetivo da Pesquisa:

As informações elencadas neste campo foram retiradas do arquivo Informações Básicas da Pesquisa (PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_2518307, de 17/04/2025 e/ou Projeto Detalhado (projeto_detalhado_versao2, de 17/04/2025):

" Objetivo Primário:

Desenvolver um programa de intervenção em saúde com a equipe de Enfermagem que atua com os pacientes renais crônicos, em um setor de hemodiálise, de um hospital no interior do Estado de São Paulo, Brasil.

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IRMANDADE DA SANTA CASA DE MISERICÓRDIA DE SÃO CARLOS



Continuação do Parecer: 7.519.688

Objetivo Secundário:

Mapear as evidências científicas sobre as ações de Enfermagem junto aos pacientes em falência renal crônica até a fase de transplante renal. Identificar a avaliação de necessidades acerca dos cuidados aos pacientes em falência renal crônica até a fase de transplante renal por meio da percepção dos profissionais de enfermagem inseridos em um setor de hemodiálise. Desenvolver um Programa de Intervenção em Saúde baseado na filosofia SBNH-L com a equipe de Enfermagem em um setor de hemodiálise em um hospital no interior do Estado de São Paulo, Brasil."

Avaliação dos Riscos e Benefícios:

As informações elencadas neste campo foram retiradas do arquivo Informações Básicas da Pesquisa (PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_2518307, de 17/04/2025 e/ou Projeto Detalhado (projeto_detalhado_versao2, de 17/04/2025):

" Riscos:

Risco de Participação: Profissionais de saúde podem sentir desconforto ao discutir questões sensíveis durante os grupos focais ou nas coletas de dados quantitativos.

Risco de Viés: A coleta de dados qualitativos pode ser suscetível a vieses, tanto dos participantes quanto dos pesquisadores.

Benefícios:

Melhoria na Qualidade do Atendimento: Os resultados da pesquisa podem fornecer insights valiosos que auxiliam na melhoria das práticas no setor de hemodiálise, beneficiando tanto os pacientes quanto os profissionais de saúde. Desenvolvimento de Políticas de Saúde: A pesquisa pode contribuir para o desenvolvimento de políticas e práticas mais eficazes no cuidado de

pacientes em hemodiálise, baseadas em evidências coletadas diretamente do campo. Conscientização e Educação: A pesquisa pode aumentar a conscientização sobre as condições de trabalho e de saúde no setor de hemodiálise, promovendo uma melhor compreensão dos desafios enfrentados por pacientes e profissionais. Avanço Científico: A metodologia inovadora e o foco em uma área específica da saúde podem contribuir para o avanço científico, gerando novos conhecimentos e abrindo caminhos para futuras pesquisas."

Comentários e Considerações sobre a Pesquisa:

Estudo nacional e unicêntrico. Trata-se de um estudo multimétodo, por meio de revisão de escopo e estudo de abordagem quanti-qualitativa, o qual seguirá as três primeiras etapas do Mapeamento de

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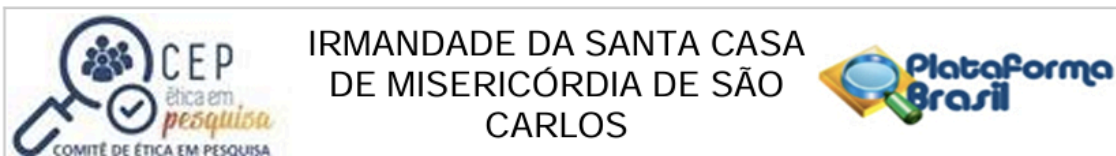
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Continuação do Parecer: 7.519.688

Justificativa de Ausência	TCLE.pdf	26/09/2024 16:59:33	LAIS FUMINCELLI	Aceito
Projeto Detalhado / Brochura Investigador	projeto detalhado.pdf	26/09/2024 16:59:22	LAIS FUMINCELLI	Aceito

Situação do Parecer:

Aprovado

Necessita Apreciação da CONEP:

Não

SAO CARLOS, 23 de Abril de 2025

Assinado por:
LUCIANA DITOMASO LUPORINI
(Coordenador(a))

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