



## SCOPING REVIEW: SELF CARE INSTRUMENT FOR CHRONIC KIDNEY DISEASE PATIENTS ON HEMODIALYSIS

**Firah Azzahra\*, Wahyu Hidayati, Sri Padma Sari**

Department of Nursing, Faculty of Medicine, Universitas Diponegoro, Jl. Prof. Soedarto, Tembalang, Semarang, Central Java 50275, Indonesia

\*[firahzahra97@gmail.com](mailto:firahzahra97@gmail.com)

### ABSTRACT

Chronic kidney disease (CKD) is an incurable global health problem, with a growing prevalence, particularly in Asia. It is estimated that by 2030, 2.16 million individuals will require hemodialysis, a 233% increase from previous years. Self-care practices are an important aspect in improving health, preventing complications, and supporting daily functioning and well-being of patients. Therefore, a valid and reliable instrument is needed to measure the level of self-care in patients with chronic diseases. Objective to identify a validated self-care assessment instrument for hemodialysis patients. The methodological approach refers to Arksey and O'Malley, with article searches through ScienceDirect, PubMed, and EBSCO databases using relevant keywords, focusing on full-text, English-language, open access, and published in the last 18 years published between 2007 and 2024, keywords included "self-care", "hemodialysis", "instrument", "scale", and "chronic kidney disease". Of the 1,327 articles screened, the investigation was executed by accumulating empirical data from the preceding 18 years, aggregating 22 scholarly articles, among these, 9 articles satisfied the inclusion criteria, concentrating on selected studies that utilized quantitative methodologies and on self-care instruments for hemodialysis patients. The article evaluation was conducted systematically employing the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) as a framework, succeeded by assessment based on inclusion and exclusion criteria. This study identified nine self-care instruments for hemodialysis patients with varying psychometric properties. Most of the instruments showed good reliability and validity, but still require improvement in criterion validation, sensitivity, and responsiveness. Future research should focus on the development of concise yet comprehensive instruments, cross-cultural adaptation, and full psychometric evaluation to ensure accurate measurement of self-care, thereby improving patients' health outcomes and quality of life.

Keywords: hemodialysis; instruments; self-care

### How to cite (in APA style)

Azzahra, F., Hidayati, W., & Sari, S. P. (2025). Scoping Review: Self Care Instrument for Chronic Kidney Disease Patients on Hemodialysis. *Indonesian Journal of Global Health Research*, 7(4), 427-438. <https://doi.org/10.37287/ijghr.v7i4.6378>.

### INTRODUCTION

Chronic disease kidney is one of the problem health the largest in the world, which is condition term length that is not can cured with ongoing events increase the year (Al-Abedi et al., 2020). Data regarding prevalence disease kidney chronic in 161 countries, revealed level prevalence worldwide reached 9.5%, with number varies from 4.2% in the African continent to 12.8% in the Eastern and Central European region. The incidence of Disability-Adjusted Life Years (DALYs) associated with disease kidney chronic measured in 491.4 patients for every 100,000 individuals in population (Bello et al., 2024).

Asia is continent the largest, most populous, and most heterogeneous in the world, and the number of patients with disease kidney chronic Keep going increase, results calculation shows 2.16 million people need hemodialysis in 2030 increase by 233% (Prasad & Jha, 2015). According to the 2023 Indonesian Health Survey (SKI) conducted by the Health Development Policy Agency, the prevalence disease kidney chronic kidney disease (CKD) in Indonesia reached 638,178 cases, and of that amount of these, around 1,259 sufferers fail kidney need

therapy hemodialysis (Badan Penelitian dan Pengembangan Kesehatan Kementerian RI, 2018).

Practice self-care is very important for increase health and prevention disease among adults. Many problems are faced patient hemodialysis. Disorders sleep, neuropathy peripheral, infection, stress, depression, anxiety, osteodystrophy kidneys, changes cognitive, anemia, edema lungs acute, pale, scratch, change color skin, and decrease strength and fragility skin is problem main (Al-Abedi et al., 2020). Maintenance self also helps increase function daily, development personal, and welfare (Irwan et al., 2016). The purpose of this study was to identify several valid and reliable instruments to assess the level of self-care in chronic kidney disease patients with hemodialysis.

## **METHOD**

### **Research Design**

Review This use the scoping review method is one of the types of study science based on a framework Work For merge existing literature, whether it has been published or those that have not available, regarding a Topic certain (Pham et al., 2014). Review using framework Work referring to the methodology six step According to Arksey and O'Malley, including 1) formulating question research, 2) identify relevant literature, 3) selection study, 4) creation data chart, 5) analysis data reporting and 6) consultation with party related or expert for ensure review covers all aspect (Arksey & O'Malley, 2005). This review begins with the first question, "What self-care instruments are valid and reliable for use in patients with chronic kidney disease on hemodialysis?"

### **Data Collection**

Review This utilize three main databases: ScienceDirect, PubMed, and Ebsco. Search article done using keywords main "instrument, self-care scale, and hemodialysis." Keywords the expanded with the term "self-care and development hemodialysis, measurement" is taken from MeSH, then combined using AND and OR operators. Included articles in review is full-text article published in range time 2007 until 2024 without limitation date specific. The article written in Language English and use method quantitative. Focus review This is on self-care instruments designed or has tested validity and reliability, especially in patients with disease kidney chronic, including those who undergo hemodialysis. Excluded articles from review is article that discusses self-care instruments in non- chronic conditions or non-hemodialysis, no own abstract, or no available open access, because no fulfil established criteria.

### **Data extraction and charting information**

Selection process article in review This follow PRISMA- ScR guidelines, as shown in (Figure 1) (Tricco et al., 2018). Writer develops a search strategy with help librarian for explore the database and complete the filtering process. Search strategy This reviewed re-reviewed by the author, who also checked eligibility every article on each stage selection. From initial search, 1,327 articles were identified across three databases. Criteria inclusions used to cover article speak English and focus on self-care instruments that have been designed and proven to be valid and reliable in 18 years final with objective see development instruments used, criteria exclusion covers article that discusses self-care instruments for non-hemodialysis patients or non-chronic, as well as publications that are not in the form of journal article. After screening process, 9 articles were ultimately selected for final analysis. Each article summarized with map relevant information, including tool name, type research, what is measured by the tool said, the year publication, definition maintenance self, specifications disease, theory support, structure instruments, and summaries findings main.

## RESULT

Search article performed on three databases, resulting in several articles. Selection beginning done with read title and abstract, where the article is not relevant with objective review This were removed, leaving 1,327 articles. The articles that have been filtered Then reviewed repeat in a way deep for identify duplication, so that the amount reduce into 22 articles. Furthermore, each article read return with consider relevance and clarity findings, up to finally 9 articles chosen as the most appropriate for review this (Figure 1). Review This identified and analyzed a total of nine instrument measurement that meets criteria inclusion, as summarized in (Table 1).

### PRISMA Diagram

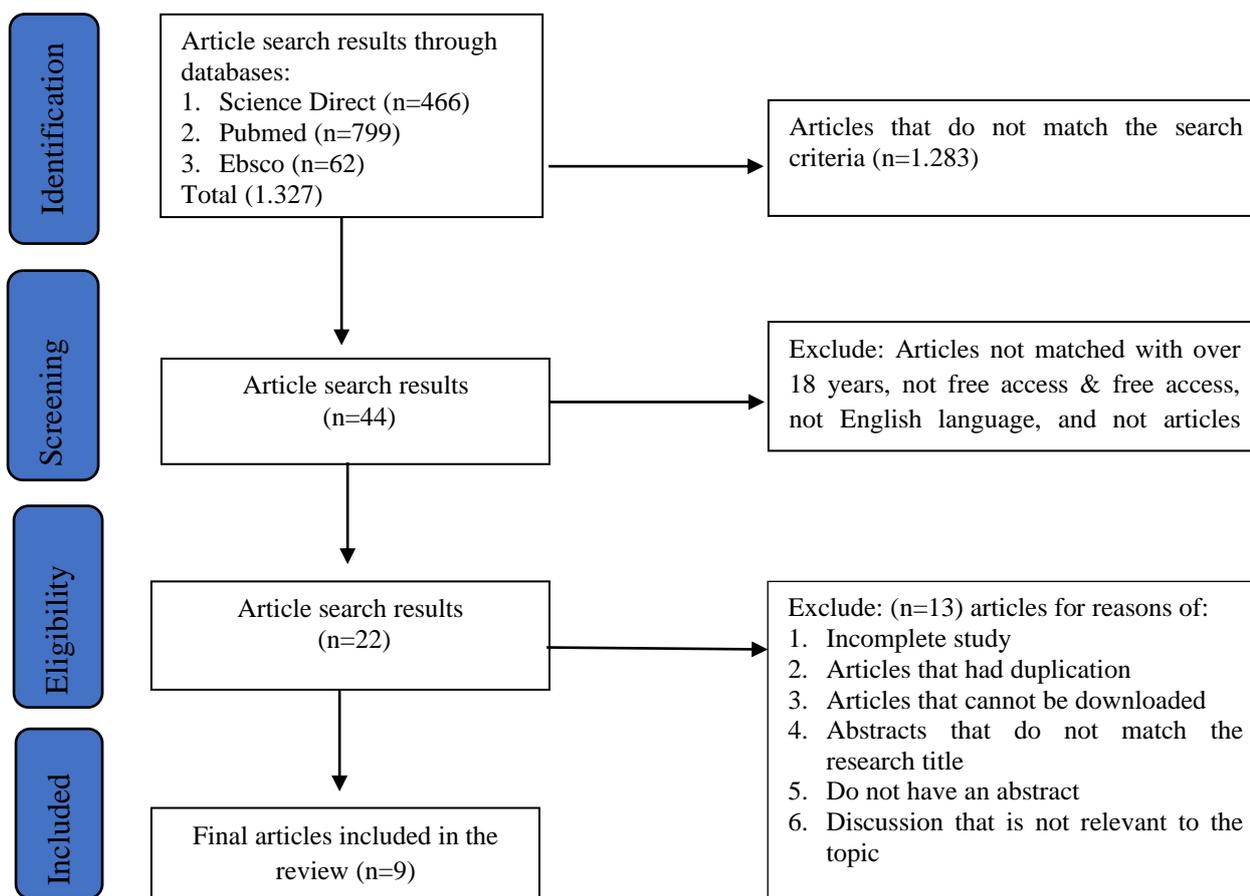


Figure 1. PRISMA Flow Chart

Table 1.  
Evidence Based Practice

No	Tool Name, Research Type and Author	What This Tool Measures	Definition Self Care	Specific Disease or Non-Disease Special	Supporting Theory Tool Making	Structure and Research Results	Research location, Tools Have Been Used Everywhere
1	<i>Self-Care for Adults on Dialysis (SCAD)</i> , Quantitative. (Trask et al., 2016)	SCAD tools measure abilities and behavior maintenance self in adults with HD, assessing five aspects: Assessment, Knowledge, Advocacy, Normalization, and Tasks Self Care	Maintenance self is capabilities that include assessment, knowledge, advocacy, normalization, and assignments maintenance self	Disease kidney chronic	Not mentioned	6 subscales, 66 items  SCAD tools measure abilities and behavior maintenance self with index 0.89,  Coefficient reliability the internal consistency of SCAD is 0.95, The various SCAD domains show coefficient internal consistency from 0.56 to 0.93.	Canada, Hemodialysis Center
2.	<i>Self-Care of Chronic Illness Inventory (SC-CII)</i> . Quantitative. (Riegel et al., 2018)	Instrument measure maintenance self in adults with disease chronic, assess behavior maintenance self, not only barriers and facilitators. This tool is size general applicable for diverse population.	Maintenance self is the process of taking naturalistic decisions. Purpose of care self is guard stability and control symptom  Study This develop tool measuring maintenance self-generic	All over disease chronic including patient disease kidney chronic	Intermediate theory maintenance self-disease chronic support development Instrument by Barbara Riegel	3 subscales, 20 items  Inventory For measure maintenance self-disease chronic  Psychometric testing demonstrated good internal coherence, with alpha coefficients of 0.86 for the Self-Care Monitor and 0.67 for the overall instrument.	Not mentioned, Clinical and community

<p>3. <i>Self-Care for Adults on Dialysis Tool (SCAD)</i>, Quantitative. (Costantini et al., 2011)</p>	<p>This tool measure ability maintenance self for adults in need dialysis therapy. The SCAD tool evaluates relevance of care items self</p>	<p>Maintenance self-involving deliberate action for health and well-being  Arrangement self is very important for life and health</p>	<p>Disease kidney chronic</p>	<p>Study This guided by Nursing Theory Deficit Orem Self Care  This theory support measurement ability maintenance self for patient dialysis  This emphasizes importance intervention maintenance supportive self</p>	<p>5 Subscales, 66 items  SCAD tools measure ability maintenance self for adults undergoing dialysis  It is modified from tool <i>Lay Care Giving for Adults on Dialysis</i>  Validity content tested by a panel of experts nursing nephrology  The content validity index (CVI) for the SCAD tool was found to be .89 overall, with specific domains scoring .87 for assessment, .84 for knowledge seeking, .95 for advocacy, .98 for normalization, and .88 for self-care tasks.</p>	<p>Canada, Dialysis center</p>
<p>4. <i>Self-Care Agency Scale</i>, Quantitative. (Aydin et al., 2017)</p>	<p>This tool measure ability maintenance self in patient hemodialysis that assesses behavior care to maintenance self through evaluation self.</p>	<p>Maintenance self is action positive related with various factor  This involves not quite enough answer individual for maintenance health and activities daily  Ability maintenance self-reflect capacity for do activity maintenance self</p>	<p>This study focusses on ability maintenance self in patient hemodialysis</p>	<p>Not mentioned</p>	<p>This study use questionnaire with 17 items and the Self - Care Agency Scale  Self -Care Agency Scale consists of of 35 items, developed in 1979  The scale is instrument type Likert measuring ability maintenance self  The scale has validated for used in the Turkish population, with coefficient Cronbach's alpha internal consistency was reported of 0.73, indicating reliability that can accepted for evaluation</p>	<p>Turkey, Dialysis Center</p>
<p>5. <i>Instrument To Measure Contextual Factors Influencing Self-Care Decisions Among Adults With Chronic Illness</i>, Quantitative. (Page et al., 2022)</p>	<p>Instrument measure factor contextual influencing decision maintenance self about symptom  This includes factors like urgency, uncertainty, and influence external</p>	<p>Maintenance self-involving decision about symptom disease chronic  Inventory covers factor contextual influencing decision maintenance self</p>	<p>Samples included individual with condition chronic, including problem mental health</p>	<p>Framework taking decision naturalistic support development instrument for decision maintenance self in disease chronic</p>	<p>6 subscales, 27 items measuring factor contextual influencing decision maintenance self  Psychometric testing revealed a 6- factor multidimensional structure with high reliability (0.864) and significant associations with related scales.</p>	<p>Not mentioned, Clinical and community</p>

6.	<p><i>Malay Chronic Kidney Disease Self-management instrument (MCKD-SM)</i>. Quantitative.  (Al Sawad et al., 2022)</p>	<p>MCKD-SM measures behavior management self-including self-care in CKD patients, assessing understanding and managing CKD, seeking support, and compliance</p>	<p>Management maintenance self-increase health and avoid complications in condition chronic  Patient in a way active involved in manage symptom through compliance treatment</p>	<p>Disease kidney chronic</p>	<p>Not mentioned</p>	<p>29 items grouped become three factors  Factors including, understanding and Managing CKD', ' Searching for Support ', and ' Compliance ', demonstrated excellent internal consistency, with Cronbach's <math>\alpha</math> ranging from 0.885 to 0.960, and high test-retest reliability, with intraclass correlation coefficients between 0.938 and 1.000.</p>	<p>Malaysia, Clinic nephrology</p>
7.	<p><i>Chronic Kidney Disease Self-Care Scale (CKDSC-K)</i>. Quantitative.  (Seo et al., 2022)</p>	<p>The CKDSC-K scale measures behavior maintenance self in patient disease kidney chronic, assess compliance medication, diet control, exercise, behavior smoking, and monitoring pressure blood.</p>	<p>Maintenance self is improving health status sick patient chronic involving activity for maintenance and management health.</p>	<p>Disease kidney chronic</p>	<p>Not mentioned</p>	<p>5 subscales, 15 items across five factors  Factors including compliance medication, diet control, exercise, behavior smoking, and monitoring pressure blood  Index validity content scale is <math>\geq 0.80</math> and internal reliability is 0.81. Confirmatory factor analysis showed that five factors explained 75.3% of the total variance. However, the smoking behavior domain showed low reliability (Cronbach's .40), indicating the need for further evaluation.</p>	<p>South Korea, Dialysis center</p>
8.	<p><i>Assessment of self-care behavior for arteriovenous fistula (ASBHD-AVF) Turkey version</i>. Quantitative.  (İkiz et al., 2021)</p>	<p>This tool measure behavior maintenance self with arteriovenous fistula in patients' hemodialysis, assess management signs and symptoms as well as evaluate prevention associated complications with arteriovenous fistula</p>	<p>Maintenance self is involving management signs and symptoms as well as complications condition health</p>	<p>Disease kidney chronic</p>	<p>Self-care orem</p>	<p>2 subscales, 16 items.  The Turkish version of the ASBHD-AVF consists of two subscales: Self-care in the management of signs and symptoms and Self-care in the prevention of complications, with Cronbach's alpha values of 0.91, 0.84, and 0.85, indicating high internal consistency.</p>	<p>Turkey, Clinical center dialysis</p>

<p>9. <i>Hemodialysis patients' self-care measurement scale</i>, Quantitative. (Shintani, 2007)</p>	<p>Measuring scale practice maintenance self in patient hemodialysis, evaluating activity maintenance health, restoration and promotion.  Rating scale level maintenance yourself in between patient</p>	<p>Maintenance self-involving activity for maintain and restore health aiming for prevent worsening disease and disability</p>	<p>Disease kidney chronic</p>	<p>Self-care Orem 1991</p>	<p>The scale is based on Orem's nursing model and includes a questionnaire with 155 items, which were analyzed to identify 5 universal self-care factors and 3 health deviation self-care factors.  Analysis showed a significant positive correlation with the Preventive Health Behavior Scale, supporting the criterion-related validity of the scale. The results showed that the scale effectively measured the level of self-care practiced by hemodialysis patients.</p>
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## DISCUSSION

### Purpose of the Instrument

The development of self-care instruments in hemodialysis patients shows diverse but complementary focuses, which can be grouped into several main categories: Comprehensiveness of self-care behavior: Instruments such as Self Care for Adults on Dialysis (SCAD) and the Chronic Kidney Disease Self-Care Scale (CKDSC-K) were developed with the aim of comprehensively assessing self-care behavior in hemodialysis patients. The SCAD aims to measure self-care abilities and behaviors across five main dimensions: assessment, knowledge, advocacy, normalization, and self-care tasks.(Costantini et al., 2011; Trask et al., 2016) The CKDSC-K focuses more on concrete behaviors such as medication adherence, diet control, exercise, smoking behavior, and blood pressure monitoring.(Seo et al., 2022) This comprehensive objective reflects the understanding that self-care in hemodialysis involves a broad spectrum of skills and activities. As stated by Riegel et al., a comprehensive approach to measuring self-care is essential because of the complexity of caring for hemodialysis patients involving physical, psychological, and social aspects.(Riegel et al., 2018) Lorig and Holman also emphasize that self-care should be seen as a multidimensional concept that encompasses various aspects of self-care.(Lorig & Holman, 2003) Assessment of Specific Aspects of Self-Care: Several instruments are designed to measure specific aspects of self-care, such as the Assessment of Self-Care Behaviours for Arteriovenous Fistula (ASBHD-AVF) which specifically measures self-care behaviors related to arteriovenous fistula.(İkiz et al., 2021) Contextual Factor Measurement Instruments: such as the “Instrument to Measure Contextual Factors Influencing Self-Care Decisions Among Adults With Chronic Illness” were developed to understand the contextual factors that influence self-care decisions.(Page et al., 2022) This reflects the recognition that self-care behaviors do not occur in a vacuum, but are influenced by a variety of external and internal factors. Cross-Cultural Adaptation: Several instruments, such as the Malay Chronic Kidney Disease Self-Management Instrument (MCKD-SM) and the Turkish version of the ASBHD-AVF, were developed with the aim of cross-cultural adaptation.(Al Sawad et al., 2022; İkiz et al., 2021) This demonstrates an awareness of the importance of culturally relevant instruments for different populations. As emphasized by Beaton et al., cross-cultural adaptation of health instruments involves not only language translation but also adjustment for cultural context to ensure measurement validity.(Beaton et al., n.d.).

### **The theory behind the creation of the instrument**

Of the nine instruments analyzed, several major theories were identified as the basis for development: Orem's Self-Care Theory: Orem's Self-Care Deficit Nursing Theory is the dominant theoretical basis for the development of self-care instruments for hemodialysis patients. Three instruments (SCAD, ASBHD-AVF, and Hemodialysis Patients' Self-Care Measurement Scale) explicitly mention Orem's theory as the conceptual framework underlying instrument development.(Costantini et al., 2011; İkiz et al., 2021; Shintani, 2007) Orem's theory emphasizes the individual's ability to perform self-care and the nurse's role in supporting patients when there is a gap between self-care needs and the ability to meet them.(Orem D, 2001) The application of Orem's theory in self-care instruments allows for a more structured assessment of the self-care needs of hemodialysis patients. Naturalistic Decision-Making Theory: An instrument for measuring contextual factors influencing self-care decisions using the naturalistic decision-making framework as its theoretical basis.(Page et al., 2022) reflects that self-care decision-making in hemodialysis patients does not always follow a strict rational process, but is influenced by various contextual factors. Naturalistic decision-making theory, developed by Klein, emphasizes real-world situations, individuals often make decisions based on experience, intuition, and pattern recognition, rather than through rational analysis of all available alternatives.(Klein, 2008) Intermediate Theory of Chronic Illness Self-Care: The Self-Care of Chronic Illness Inventory (SC-CII) was developed based on the intermediate theory of chronic illness self-care by Barbara Riegel. (Riegel et al., 2018)The theory identifies three major dimensions of self-care: self-maintenance, self-monitoring, and self-management. This approach provides a comprehensive framework for measuring various aspects of self-care in patients with chronic illness, including hemodialysis patients.(Riegel et al., 2018) No Specific Theory Statement: It is important to note that four of the nine instruments did not explicitly state the theory underlying their development. This (Al Sawad et al., 2022; Aydin et al., 2017; Seo et al., 2022; Trask et al., 2016)suggests gaps in the theoretical foundation of some of the instruments, which may affect construct validity and the interpretation of measurement results. As DeVellis notes, developing an instrument that is not based on a strong theoretical framework may limit the instrument's ability to truly capture the intended construct.(DeVellis, 2017).

### **Self-care Instruments**

Three studies discussed self-care instruments that focused on patients with chronic diseases including patients undergoing hemodialysis, namely chronic kidney disease. The study used a quantitative method with psychometric results showing good internal coherence, with a reliable Cronbach alpha coefficient so that it can be used(Aydin et al., 2017; Page et al., 2022; Riegel et al., 2018).

### **Hemodialysis Focus Instrument**

One article discusses a self-management instrument, namely *the Malay chronic kidney disease self-management instrument* (MCKD-SM) with the results of a structural validity study through exploratory factor analysis, which identified three factors that contributed 56.3% of the total variance. The MCKD-SM showed excellent internal consistency, with Cronbach's  $\alpha$  ranging from 0.885 to 0.960, and high test-retest reliability, with an intraclass correlation coefficient between 0.938 and 1,000, so that the instrument can be used in hemodialysis patients. (Al Sawad et al., 2022)Five articles discuss self-care instruments that focus on hemodialysis patients with the names of *the self-care for adults on dialysis (SCAD) instrument*, *chronic kidney disease self-care scale (CKDSC-K)*, *arteriovenous fistula in patients hemodialysis self-care (ASBHD AVF)*, *hemodialysis patients' self-care measurement scale*, *self-care for adults on dialysis tool (SCAD)*. Based on the results of validity and reliability scale self-care measurement for patient hemodialysis show level high reliability and validity. This scale can be used for measure ability maintenance self in patient hemodialysis and

potentially tested repeat on population with background behind demographics, culture, or different languages for evaluate its reliability in diverse contexts. (Aydin et al., 2017; Costantini et al., 2011; İköz et al., 2021; Seo et al., 2022; Shintani, 2007)

### **Research Instrument Development Method**

Analysis showed that all instruments in this review were developed and validated using quantitative methodology, although there was variation in the specific approaches: Item Development and Content Validation: The majority of instruments were developed through literature review and expert consultation. For example, SCAD modified the Lay Care Giving for Adults on Dialysis tool and had it content validated by a panel of nephrology nursing experts.(Costantini et al., 2011) CKDSC-K also performs content validation with a content validity index of  $\geq 0.80$ .(Seo et al., 2022) The content validation process follows Lynn's recommendations emphasizing the importance of expert judgment to ensure items reflect the intended domain.(Lynn, 1986) Factor Analysis: Several instruments use exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to test the dimensional structure. The MCKD-SM applied EFA and identified three factors that explained 56.3% of the total variance.(Al Sawad et al., 2022) The CKDSC-K used CFA which confirmed five factors explaining 75.3% of the total variance.(Seo et al., 2022) The use of factor analysis is in accordance with best practices in instrument development, as recommended by Brown to ensure construct validity.(Brown, 2015) Psychometric Testing: All instruments in this review underwent psychometric testing including reliability and validity. Internal consistency was measured using Cronbach's alpha, ranging from 0.40 (CKDSC-K) to 0.96 (MCKD-SM).(Al Sawad et al., 2022; Seo et al., 2022) Test-retest reliability was tested on several instruments, with intraclass correlation coefficients ranging from 0.938 to 1.000. (Al Sawad et al., 2022)The Hemodialysis Patients' Self-Care Measurement Scale reported a significant positive correlation with the Preventive Health Behavior Scale, supporting criterion-related validity.(Shintani, 2007) This comprehensive approach to psychometric testing is consistent with the instrument development standards recommended by DeVellis and Streiner et al.(DeVellis, 2017; Streiner et al., 2015) Cross-Cultural Adaptation: Like the MCKD-SM and the Turkish version of the ASBHD-AVF, it underwent cross-cultural adaptation through translation, contextual adaptation, and revalidation. (Al Sawad et al., 2022; İköz et al., 2021)This process followed the guidelines of Beaton et al., including forward-backward translation, expert assessment, and pre-testing.(Beaton et al., n.d.).

### **Psychometric Properties**

Analysis of the psychometric properties of the nine instruments reviewed showed variation in psychometric strength: Internal Consistency Reliability: The majority of instruments demonstrated good to excellent internal consistency (Cronbach's alpha 0.67–0.96). (Al Sawad et al., 2022; Riegel et al., 2018)However, some domains had lower reliability, such as the SCAD (0.56–0.93) and the smoking behavior domain in the CKDSC-K (0.40). (Seo et al., 2022; Trask et al., 2016)Alpha values below 0.70 are considered suboptimal according to Nunnally and Bernstein domains with low reliability may require revision or further evaluation.(Nunnally & Bernstein, 1994) Test-Retest Reliability: Some instruments, such as the MCKD-SM, demonstrate strong test-retest reliability (ICC coefficients 0.938–1.000), confirming measurement stability over time.(Al Sawad et al., 2022) Several instruments showed strong content validity with high CVI, such as SCAD (0.89; domain 0.84–0.98) and CKDSC-K ( $\geq 0.80$ ) reflecting the suitability of the items to the construct according to Polit et al.'s standards.(Costantini et al., 2011; Polit et al., 2007; Seo et al., 2022) Construct Validity: evaluated through factor analysis, with the MCKD-SM identifying three factors (56.3% of variance) and the CKDSC-K five factors (75.3% of variance).(Al Sawad et al., 2022; Seo et al., 2022) This percentage is generally adequate, as recommended by Hair et al. ( $\geq 60\%$  for social sciences).(Hair et al., 2010) Criterion-Related Validity: The Hemodialysis Patients' Self-Care Measurement Scale demonstrated criterion-related validity through a significant

positive correlation with the Preventive Health Behavior Scale. (Shintani, 2007) However, most instruments do not report criterion-related validity, a limitation. None report sensitivity or responsiveness, a gap in psychometric evaluation. Both are important for measuring change after an intervention. (Terwee et al., 2007).

### **Implications for Practice and Research**

Based on the analysis of nine self-care instruments for hemodialysis patients, several implications for clinical practice and research can be identified: Instrument selection: self-care must base on purpose specific assessment and target population. For evaluation comprehensive self-care skills, SCAD with six subscales and 66 possible items more in accordance. (Trask et al., 2016) For more assessment focus on behavior concrete, CKDSC-K with five subscales and 15 possible items more practical. (Seo et al., 2022) Cross- Cultural Adaptation: Properties psychometric instrument can vary between population and context different cultures. Therefore that, adaptation cross culture and validation repeat very important instrument before used in context different cultures. Example successful adaptation seen in MCKD-SM and the Turkish version of ASBHD-AVF. (Al Sawad et al., 2022; İkiz et al., 2021) The Gap in Evaluation Psychometrics: Although majority instrument show property good psychometrics, some aspect evaluation psychometric Still Not yet reported in a way consistent, such as validity related criteria, sensitivity, and responsiveness. Future research must overcome gap This For ensure that instruments used in practice clinical and research own property Robust and comprehensive psychometrics.

### **CONCLUSION**

Scoping this review identify nine self-care instruments for patient hemodialysis that has been show property diverse psychometrics. Although majority instrument show good reliability and validity, still There is room for improvements, especially in matter validation related criteria, sensitivity, and responsiveness. Future research must focus on development and validation more instruments summary However comprehensive, adaptation cross culture existing instruments, and evaluation more psychometric complete, including sensitivity and responsiveness. With Thus, we can ensure that self-care instruments for patient hemodialysis can in a way accurate measure and monitor self-care skills, which ultimately can increase results health and quality life patient.

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