

SYSTEMATIC REVIEW

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Illness perception and self-care in hypertension treatment: a scoping review of current literature

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Abstract

Background Self-care and self-perception of the disease are of fundamental importance in the management of systemic arterial hypertension. Therefore, the objective of this study is to identify identified how “illness perception and self-care” concepts are reported in scientific evidence regarding Systemic arterial hypertension treatment.

Methods A scoping review was systematically conducted following the methodological framework of the Joanna Briggs Institute’s Manual for Evidence Synthesis (2020). A comprehensive search of a total of eight electronic databases and grey literature sources was performed. All studies addressing illness perception and/or self-perception, self-care activities and/or behaviors based on Medical subject headings (MeSH) were included. Full texts were assessed to map: (1) study characteristics: authors, publication year, country, aim, methods, sample size and intervention setting (assessment or intervention activities); (2) illness perception concepts (i.e.) and self-care behaviors (e.g. physical activity, diet, smoking cessation); (3) and authors’ professional contribution to the publication.

Results Eight hundred ninety-two studies were identified, resulting in a sample of 39 after applying the inclusion criteria. Of these, there was a predominance of publications in the last 5 years, with the majority being developed in the United States and described as observational studies without any intervention and carrying out only one assessment. All participants were hypertensive, of both sexes, recruited mainly from the community. Antihypertensive medication and the individual’s perception of the disease are the concepts most evaluated in the analyzed context. In no process involving the concepts of disease perception and self-care, it was possible to observe a predominance of nurse and doctor participation.

Conclusions Self-care and self-perception are presented, in the scientific literature, as essential factors in the control of chronic diseases, mainly hypertension. These topics appear mainly in assessment instruments. Such concepts show domains of great importance for rehabilitation. Future research could investigate the psychometric properties of the different tools within the same sphere.

Keywords Illness perception, Self-care, Hypertension

Introduction

Cardiovascular diseases are responsible for 31% of all deaths worldwide. Such high prevalence is due to aging and epidemiological factors which impose high healthcare costs [1]. One of the leading cardiovascular diseases risk factor is Systemic Arterial Hypertension

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(SAH), responsible for 9.4 million deaths per year (one-third between individuals aged 35 to 79 years) globally [2, 3].

SAH treatment reduces cardiovascular morbidity and mortality, and this behavior involves weight control, nutritional measures, physical activity practice, smoking cessation, stress control, and medication. Therefore, to optimize the management of chronic diseases, such as SAH, is necessary to improve secondary prevention since health-related self-management behavior improves clinical outcomes, with better quality of life, fewer hospitalizations, and longer survival rate. In this approach, patients play an active role in managing their health, adopting preventive measures, adjusting lifestyle, and adhering to recommended treatments [4–6].

Despite supervised cardiac rehabilitation is primordial in SAH treatment, lifestyle changes and illness perception are challenges that can improve rehabilitation adherence and contribute to improve cardiovascular health [7]. Illness perception includes disease self-perception, causes and potentials consequences, and its control, that means whether anything can be done regarding the disease. Moreover, gender, age, length of diagnosis, culture and educational status are also associated with illness perception and can be decisive for the clinical outcome [8].

Self-care behavior (SCB) is defined as a process of maintaining health through disease control. In SAH, this optimal disease control requires adhering to anti-hypertensive medication, a healthy diet, adequate regular physical activity, smoking cessation, and moderate alcohol consuming [9]. This definition also includes assure enough sleep, stress management and emotional stability [10].

Regardless of the accessibility to several effective pharmacologic and non-pharmacologic therapies, SAH control persists as a challenge once patients' adherence to self-care behaviors remains insufficient [11]. The health care staff may improve these action statements to develop collaborative involvement of hypertensive patients in rehabilitation programs. Physical therapists perform a fundamental role in this implementation and maintenance of regular physical exercise, this item being essential for self-care and contribute with daily physical activity [12].

Stress, poor sleep quality, and a lower quality of life are just a few of the effects that poor self-care behaviors and lack of knowledge about your health condition can promote in individuals with high blood pressure. The ability of patients to perform SCB was associated with improved clinical outcomes, blood pressure control, fewer medical consultations, and drug use. In addition to preventing disability and lowering healthcare costs, these practices

can enhance the quality of life for individuals with long-term illnesses [13].

The multifaceted nature of SAH care and management makes assessing these concepts a complex mission. There are several instruments that propose to evaluate these themes, however, as they are concepts that depend on several factors such as age, gender, ethnicity/race and education level, it is necessary to understand how self-care and self-perception of the disease are evaluated and included in the of systemic arterial hypertension treatment.

To provide an overview of this topic, we chose to conduct a scoping review, since this study design is capable of mapping the main concepts that underpin a research field, as well as clarifying definitions and conceptual boundaries of a topic. Considering that there are no scoping reviews on this subject, we will examine how research is conducted on this specific topic and how these concepts are used for this population of hypertensive individuals. Other aspects justify this choice, such as: identifying knowledge gaps, examining key characteristics or factors that relate to these concepts, to identify the types of currently available evidence. Additionally, this manuscript will provide the basis for a future systematic review to investigate, for example, the impact of interventions used in the health field as a treatment for hypertensive individuals that influence the improvement of disease perception and self-care [14–16].

The aim of this scoping review was to identify how “illness perception and self-care” concepts are reported in scientific evidence regarding SAH treatment and to classify this literature according to assessment or interventions constructs, country of publication and professional contribution on the publication.

Methods

A scoping review was systematically conducted following the methodological framework of the Joanna Briggs Institute's Manual for Evidence Synthesis (2020). The Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) [17] was used to optimize reporting and evidence synthesis and registered in the Open Science Framework platform (<https://osf.io/6tcwh/>). Firstly, relevant studies were identified then, based on pre-defined criteria, studies were selected; data extracted; and analyzed, summarized and re-reported results.

All studies addressing illness perception and/or self-perception, self-care activities and/or behaviors based on Medical subject headings (MeSH) were included. The research question was developed according to “PCC strategy (Population, Concept, and Context)” as follows: hypertensive individuals (P), illness perception and/or

self-perception, self-care activities and/or behaviors (C), hypertension treatment (C).

Search strategy was performed in November 2024 in the databases: PubMed, Scopus, CINAHL, EMBASE, LILACS, CAPES Portal for Theses and Dissertations, DART-Europe E-Theses Portal, Electronic Theses Online Service (EThOS), Scientific Open Access Repository of Portugal (RCAAP), Trove, National ETD Portal, and Theses Canada. The studies included those that used questionnaires or instruments that cited illness perception and/or self-care in individuals clinically diagnosed with Systemic Arterial Hypertension (Systolic blood pressures ≥ 140 mmHg and/or Diastolic blood pressure ≥ 90 mmHg) [4] by a physician, without age restriction, of both sexes, without neurological and/or cognitive impairments. Full-texts available in Portuguese, Spanish, or English were included, and duplicates were manually excluded. No filters of limits applied. Abstracts, conference proceedings, in vitro studies and studies involving legal issues will not be included.

Research in scientific databases

Titles and abstracts were screening in described databases for the following descriptors: “illness perception”, “self-perception”, “self perception”, “Self-Perceptions”, “perception, self”, “perceptions, self”, “self perceptions”, and “self concept”; “self-care”, “self care”, and “care, self”; and “hypertension”, “high blood pressure”, “blood pressure, high”, “blood pressures, high”, “high blood pressures”. Search strategy was adapted according to each database. Descriptors were combined using the Boolean operator “OR” among synonymous and “AND” among combinations with “OR”. After titles and abstracts screening, it was performed a full-text screening. Full texts were assessed to map: (1) study characteristics: authors, publication year, country, aim, methods, sample size and intervention setting (assessment or intervention activities); (2) illness perception concepts (i.e.) and self-care behaviors (e.g. physical activity, diet, smoking cessation); (3) and authors’ professional contribution to the publication. Examples of search strategies for Pubmed and Lilacs databases have been included as Supplementary material.

Research in gray literature

Titles and abstracts were screened in gray literature repositories for the following descriptors: “illness perception”, “self care”, and “hypertension.” The search strategy was adapted according to the search layout of each database. Descriptors were combined using the Boolean operator AND or through the platform’s own search combination.

Data extraction

Data extraction was checked by a second researcher and discrepancies were discussed and rectified as a group. Following data extraction, data were synthesized and discussed by the research team. After summarizing the study characteristics, to provide an overview of the studies included, data were tabulated using Microsoft Excel® and characterized using simple descriptive statistics. All data are presented as absolute and relative frequency. Summarized data are shown as tables and figures. Ethical approval was not needed for this review of existing literature.

To better describe the study findings, sub-questions to be answered were defined: (a) How the concepts of illness perception and/ or self-care appeared, (b) what purpose do the instruments used have, e.g. assessment or intervention?, (c) What are the main characteristics of these instruments?.

Results

Characterization of included studies and interventions

During the initial search, 892 studies were identified. After abstracts screening, a total of 99 manuscripts were fully read. After full text reading, 39 studies were included (Fig. 1). Table 1 shows the characteristics of included studies according to authors, publication year, research country, aim and study design.

It was found a predominance of publications in the last 10 years ($n=27$; 69%), with most of being developed in the United States ($n=14$; 36%). From the total, 76.92% ($n=30$) were described as observational studies without any intervention and performing only one assessment.

All selected studies focused only on hypertensive patients. The mean age ranged between 29 and 71.2 years, with a median of 60.72 years, however two studies [42, 53] did not present this data in the results. The sample size varied between 17 and 13,512 participants, with a median of 175.5 individuals. When we assessed sample sex, the female population ranged from 0 to 6,963, with a median of 114, and males participants ranged from 0 to 6,549, with a median of 76. However [55], one study did not characterize its sample by sex. In addition, participants were recruited mainly in the community ($n=17$; 43,58%), followed by an outpatient clinic ($n=9$; 23,07%), public health centers ($n=12$; 30,76%) and primary care ($n=2$; 5,12%). Moreover, one of the studies [28] recruited participants in the community and outpatient clinic simultaneously.

Regarding the intervention approach, most studies performed the evaluation of only a certain concept ($n=28$; 71,79%). In intervention studies ($n=6$; 15,38%), health education was a unique action performed. Studies have

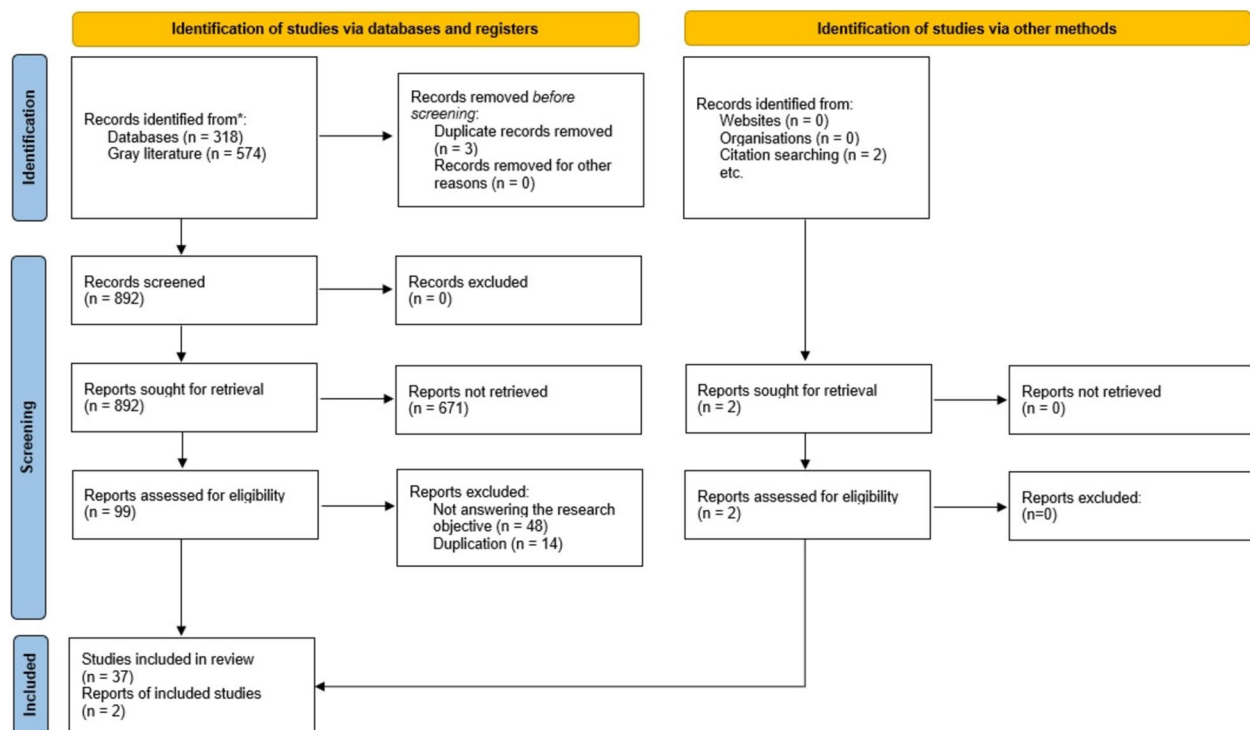


Fig. 1 Prisma ScR flowchart

used different methods. However, 38 studies were performed considering evaluation and 1 intervention. 30 methods were used in the studies, 29 for evaluation and 1 for intervention. Table 2 shows methodological characteristics of included studies grouped as self-care instruments, disease perception instruments and intervention.

Illness perception and self-care behaviors and/or concepts

Antihypertensive medication and an individual's illness perception are the most assessed concepts in the analyzed context. In addition, four publications showed an involvement of psychosocial factors (social support and family support) with hypertension self-care. Table 3 shows the most assessed concepts and behaviors in the studies of self-care and disease perception.

Authors' occupation contribution to the publications

Regarding author's occupation and its contribution to the research. In the process involving disease perception and SAH self-care it was possible to observe a predominance of nurse's participation ($n=25$; 64.10%), followed by physician ($n=12$; 30.76%), pharmacist ($n=3$; 7.69), nutritionist, social scientist and multidisciplinary health team ($n=1$; 2.56% each).

All nursing, medicine, nutrition, and pharmacy professionals participated of participant's recruitment, data collection and analysis. Regarding the social scientist, in one

of the studies, this professional participated of a focus group analysis to identify the studied population behaviors. In addition, experimental research interventions were developed, in large part, by nurses, except in one publication [33], in which the health education program was developed by a multiprofessional team composed of professionals in this area, but also physiotherapist, pharmacist and nutritionist. Moreover, in methodological studies, validation was carried out, exclusively, by nurses.

Discussion

This study shows illness perception and self-care evidence in the treatment of hypertensive patients with the following findings: (1) studies main goal was to identify self-care behavior related factors; (2) the most used instruments are self-care questionnaires, which do not have global questions and may vary from study to study; (3) the most discussed concepts/domains in research are medication, diet and physical activity.

Illness perception instruments

The disease perception instruments analyzed in the review, such as the HELM, primarily aim to assess the individual's knowledge about their health condition. Self-perception is characterized as the patients' own implicit and common sense about their disease. Therefore, it has

Table 1 Characterization of included studies ($n=39$)

Author and year	Country	Aim of the study	Study design
Abza et al. 2024 [18]	Ethiopia	To determine the level of self-care adherence and associated factors among hypertensive patients visiting the public hospitals	Observational cross-sectional
Andala et al. 2024 [19]	Indonesia	To evaluate knowledge and acceptance associated with medication adherence among hypertensive individuals	Observational cross-sectional
Haung; Huo, 2023 [20]	Myanmar	To describe the treatment and control rates of hypertension and their associated factors among patients with hypertension	Observational cross-sectional
Tebelu et al. 2023 [21]	Ethiopia	To identify factors associated with hypertension self-care practices	Observational cross-sectional
Melaku et al. 2022 [22]	Ethiopia	To evaluate the self-care practices of adult hypertensive patients	Observational cross-sectional
Yeom, 2021 [23]	South Korea	To assess the influence hypertension beliefs in self-care and medication adherence	Observational cross-sectional
Miao et al. 2020 [24]	China	To evaluate the effectiveness of a nurse's leadership in managing hypertension	Randomized controlled clinical trial
Silveira et al. 2020[25]	Brazil	To analyze the psychometric proprieties of SC-HI in the Brazilian population	Methodological Exploratory
Bahari et al. 2019 [26]	Saudi Arabia	To assess the relationship among family social support, self-efficacy and self-care behavior in hypertensive patients	Observational cross-sectional
Labata et al. 2019 [27]	Ethiopia	To evaluate self-care predictors among hypertensive patients	Observational cross-sectional
Li et al. 2019 [28]	China	To assess whether a self-management intervention can assist hypertensive patients treatment	Randomized controlled clinical trial
Spikes et al. 2019 [29]	US	To analyze the effects of perceived hypertension on medication adherence	Observational cross-sectional
Ding et al. 2018 [30]	China	To explore a coherent model of self-management among hypertensive patients	Observational cross-sectional
Ea et al. 2018 [31]	US	To explore self-care among Filipino immigrants in the US	Observational cross-sectional
Ma, 2018 [32]	China	To identify the factors that influence hypertensive patients self-care	Observational cross-sectional
Yatim et al. 2018 [33]	Malaysia	To assess the impact of a structured education program for hypertension self-management based on groups	Experimental
Zhu et al. 2018 [34]	China	To analyze the effectiveness of a hypertension management model conducted by nurses	Randomized controlled clinical trial
Silva; Sakon, 2018 [35]	Brazil	To identify self-assessment determinants on health status of hypertensive patients	Observational cross-sectional
Duwe et al. 2018 [36]	US	To correlate disease knowledge to self-perceived health	Observational cross-sectional
Kauric-Klein et al. 2017 [37]	US	To determine whether an educational intervention improves self-efficacy of hypertensive patients	Experimental
Lee; Park, 2017 [38]	South Korea	To identify influence factors on self-care of hypertensive patients	Observational cross-sectional
Wang et al. 2017 [39]	China	To assess the association between quality of life and health literacy and self-care effectiveness	Observational cross-sectional
Stallings; Schneider, 2017 [40]	US	To understand the perceptions of black hypertensive women regarding the disease	Observational cross-sectional
Dickson et al. 2016 [41]	US	To analyze psychometric properties of the theoretical basis of the Self-Care of Hypertension Inventory (SC-HI)	Methodological Exploratory
Chang; Lee 2015 [42]	South Korea	To identify self-care influence factors of hypertensive patients	Observational cross-sectional
Bezerra et al. 2015 [43]	Brazil	To assess lack of knowledge about hypertension and to describe non-pharmacological management aspects	Observational cross-sectional
Meinema et al. 2015 [44]	Netherlands	To identify the determinants of lifestyle adherence related to hypertensive patients	Observational cross-sectional
Fix et al. 2014 [45]	US	To evaluate how health beliefs may affect medication adherence	Observational cross-sectional
Gooding et al. 2014 [46]	US	To assess the impact of health perception on disease control in young hypertensive patients	Observational longitudinal
Pickett et al. 2014 [47]	US	To analyze the relationship between hypertension beliefs and self-care behaviors	Observational cross-sectional
Warren-Findlow et al. 2012 [48]	US	To analyze self-efficacy and hypertension management association	Observational cross-sectional
Wu et al. 2012 [49]	Taiwan	To test whether a health promotion program based on self-efficacy may assist self-care	Experimental

Table 1 (continued)

Author and year	Country	Aim of the study	Study design
Chen et al. 2011 [50]	Taiwan	To test a hypothetical model of disease perception and medication adherence and self-care recommendations relationship	Observational cross-sectional
Lee et al. 2010 [51]	US	to identify self-care influence factors in hypertensive patients	Observational cross-sectional
Warren-Findlow et al. 2010 [52]	US	To assess whether the diagnosis of hypertension helps parents support self-care for hypertensive children	Observational cross-sectional
Chen et al. 2009 [53]	Taiwan	To assess the effects of disease perception on medication adherence and self-management behavior	Observational cross-sectional
Sangren et al. 2009 [54]	Denmark	To explore patients adaptation to hypertension and to describe its impact on health perception	Observational cross-sectional
Chin et al. 2009 [55]	US	To investigate how the disease experience relates to knowledge about it	Observational cross-sectional
Peters et al. 2006 [56]	US	To use the theory of planned behavior as a guide to explore the behavioral beliefs of hypertensive individuals to initiate self-care	Observational cross-sectional

a strong influence on results, coping strategies, treatment adherence and behavior regarding the disease [57].

Concomitantly, Arruda et al. [58] report that it can signal the way in which a person's life is influenced by the presented problem, which shows the need for health professionals to be able to identify self-perception and self-care of individuals with cardiovascular diseases in the daily assistance.

Besides that, Bezerra et al. [43] state that in addition to these modifiable factors, to control blood pressure, it is necessary for the individual to be aware of the disease, since lack of knowledge stands out as a barrier in seeking guidance for proper management, which justifies the importance of self-perception combined with self-care. From this perspective, the level of knowledge and acceptance of the health condition, as assessed by the analyzed instruments, can be used to predict adherence to self-care practices [20].

Self-care instruments

The self-care instruments identified in the review, such as the H-Scale and SC-HI, mostly address domains involved in the management of systemic arterial hypertension. When research participants adhered to these behaviors, they were considered to have good self-efficacy practices [19].

Lee and Park [38] define self-care as the individual's ability to perform activities associated with maintaining and promoting their own health. With this, Silveira et al. [25] state that this concept is essential for hypertensive patients. Furthermore, they consider that individuals' unsatisfactory self-care maintenance generates serious consequences for health, such as increased hospitalization rates and risk of cardiovascular events, such as stroke and myocardial infarction.

On the other hand, Dickson et al. [41] discussed that, although the role of self-care in clinical hypertension management is well established and incorporated in patient education and intervention strategies, few valid instruments are available to measure self-care in these patients. Such statement confirms the finding of several methodologies used to involve self-care and self-perception in the treatment of hypertensive patients.

Topics of illness perception and self-care found in SAH treatments

Teleu et al. [18] argue that the main domains of self-care in systemic arterial hypertension are medication, diet, regular physical activity, weight control, alcohol consumption, smoking, and stress management.

The main self-care behaviors mentioned in the included studies were about medication, diet and physical activity. Although one of the objectives of this review is to emphasize the importance of practicing regular physical exercise as self-care, these first two points deserve to be highlighted because they are related to several complications arising from SAH. Medication taking or medication adherence are the most cited domains of 12 of the 19 instruments cited in a systematic review about SAH self-care instruments [59]. However, medication management is restricted to doing as doctors say and concentrating on giving prescriptions [60]. Another aspect already documented in the literature is that medication management is directly related to family social support [61, 62] and the nonadherence to medication regimen for patients with hypertension is often more prevalent among ethnic minority populations [23].

In relation to diet, the Dietary Approaches to Stop Hypertension (DASH) diet or the Mediterranean diet compared with a control diet reduced SBP levels to a

Table 2 General, methodological characteristics and purpose of the instrument cited in the 39 included studies (n = 30)

Authors	Instruments/ methods	Instrument description	Aim	Score	Target population
Illness perception instruments					
Tebelu et al. 2023 [18]	Hypertension Evaluation of Lifestyle and Management (HELM)	14 items across 3 domains: general hypertension knowledge, lifestyle and medication management, and measurement and treatment goals	To assess disease knowledge	Patients are deemed to have adequate or good knowledge if their scores were at or above the mean	Ethiopian
Huang; Huo, 2023 [21]	Hypertension Knowledge Level Scale	22 items; questions elicited information regarding patient knowledge on the definitions of hypertension, lifestyle, treatment, adherence to medication and complications of hypertension	To assess disease knowledge	The total score possible ranged from 0 to 22. Those with a total score of ≥ 18.0 were considered as having an adequate level of knowledge, while those with a total score of < 18 were classified as having an inadequate level of knowledge	Myanmar people
Yeom, 2021 [23]; Spikes et al. 2019 [29]; Duwe et al. 2018 [36]; Stallings; Schneider, 2017 [40]; Meinema et al. 2015 [44]; Pickett et al. 2014 [47]; Chen et al. 2011 [49]; Chen et al. 2009 [53]; Chin et al. 2009 [55]	Illness perception questionnaire - revised (IPQ-R)	38 items grouped into 7 subscales: timeline, cyclic timeline, consequences, treatment control, personal control, coherence and emotional representation	To assess disease perception	All items are rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores mean better perception	Taiwanese, north americans, south koreans, dutchmen
Ea et al. 2018 [31]	Medical Outcomes Study Specific Adherence Scale	8 items regarding self-care behavior	To assess patient's tendency to adhere to self-care	Each item is assessed from time to time (0) to at all times (6). Higher scores indicate better adherence to self-care	North americans
Ma, 2018 [32]	Health belief questionnaire of hypertensive patients (HBQHP)	29 items grouped into 5 dimensions of health beliefs	To assess health beliefs	Each item is scored on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate greater health belief	Chinese
Silva; Sakon, 2018 [35]; Bezerra et al. 2015 [43]; Fix et al. 2014 [45]; Warren-Findlow et al. 2012 [48]; Warren-Findlow et al. 2010 [52]; Sangren et al. 2009 [54]; Peters et al. 2006 [56]	Semi structured interview	10 questions about hypertension management behavior, daily activities and disease knowledge	To assess health and / or self-care belief	Not applicable	North americans, brazilians, danes
Chang; Lee, 2015 [42]	Questionnaire produced by the author	2 questions being how do you feel about your health? And how much help and support do you receive from various people regarding your illness?	To assess perceived severity and social support	The score is calculated according to a Likert scale ranging from 0 to 5, in which the higher score indicates better result	South koreans

Table 2 (continued)

Authors	Instruments/ methods	Instrument description	Aim	Score	Target population
Gooding et al. 2014 [46]	Questionnaire produced by the author	1 general question about patient's health	To assess health perception	Not applicable	North americans
Self-care instruments					
Silveira et al. 2020 [25]; Dickson et al. 2016 [41]	Self-Care of Hypertension Inventory (SC-HI)	23 items grouped into three different subscales: maintenance of self-care, management of self-care and confidence in self-care	To assess maintenance of self-care	The score, according to the Likert scale, varies from domain to domain. The scores of each subscale are standardized from 0 to 100 with higher scores indicating better self-care. A score of 70 points or more is considered adequate.	US residents, Brazilians
Bahari et al. 2019 [26]	Hypertension self-care profile	Three subscales (self-efficacy, motivation and behavior) of 20 items each. Subscales may be performed in combination or independently.	To evaluate self-care and self-efficacy	Each item is rated on Likert scale ranging from 1 to 4, Higher scores are associated with frequent behaviors and high treatment confidence.	Arabs
Bahari et al. 2019 [26]	The Perceived Family Support	20 items about family support	To assess family support regarding treatment	Answer options consist in yes (1 point), no and I don't know (0 point for both). A score ≤ 6 represents no family support, between 7 and 10 weak family support, and, ≥ 11 strong family support	Arabs
Spikes et al. 2019 [29]	Adherence to Refills and Medication Scale (ARMS-7)	7 items regarding medication adherence	To evaluate medication-taking behavior	Scores can be interpreted according to the cut-off point of 'seven' which means perfect adherence. Greater values suggest some degree of non-adherence	North americans
Tebelu et al. 2023 [18], Abza et al. 2024 [19], Haung; Huo, 2023 [21]; Melaku et al. 2022 [22]; Labata et al. 2019 [27], Li et al. 2019 [28]	Hypertension Self-Care Activity Level Effect questionnaires (H-SCALE)	30 items, grouped into 6 domains: diet, physical activity, medication, alcohol, smoking and weight control	To assess the ability of self-care in hypertensive patients	Answers vary according to a Likert scale that represents the number of days the patient performs that action, but scores vary from domain to domain	Ethiopian, Chinese
Ding et al. 2018 [30]	Hypertension Self-Efficacy Scale	15 items, grouped into 4 subscales: daily activities, health behavior, medication and self-care	To evaluate self-efficacy	Each item is scored on a Likert scale ranging from 0 to 5. Higher scores indicate better self-efficacy for hypertension-control	Chinese

Table 2 (continued)

Authors	Instruments/ methods	Instrument description	Aim	Score	Target population
Ding et al. 2018 [30]	Questionnaire produced by the author	28 questions grouped into 5 dimensions: diagnostic criteria, risk factors, clinical manifestations, adverse outcomes and self-care strategies	To assess disease knowledge	The greater the number of correct answers, the greater the patient's knowledge about the disease	Chinese
Ding et al. 2018 [30]	Hypertension Patients Self-Management Behavior Rating Scale	33 items, grouped into 6 domains: medication adherence, condition monitoring, diet management, sport management, work management and emotion management	To assess hypertension self-management of	Each item is scored on a Likert scale ranging from 0 (always) to 5 (never), in which higher scores indicate better self-management	Chinese
Ding et al. 2018 [30]	Social Support Rating Scale	10 items including subjective support (emotional support provided by relatives or friends), objective support (connection with other people or participation in groups and social networks) and use of social support	To assess social support regarding treatment	Scores range from 12 to 65, with higher scores indicating greater social support	Chinese
Ea et al. 2018 [31]	HTN Self-care Profile Self-Efficacy Scale	20 items assessing the individual's confidence in hypertension management of	To evaluate self-efficacy	Each item is scored on a Likert scale ranging from 1 (not confident) to 4 (very confident), with higher scores indicating better self-efficacy	North americans
Ma, 2018 [32]	Hypertension self-care behavior questionnaire (HSCBQ)	30 items grouped in 6 dimensions: pressure monitor, medication, diet, physical activity, weight control, alcohol and smoking	To evaluate self-care behavior	Each item is scored on a Likert scale ranging from 1 (not at all) to 4 (all the time). Higher scores indicate better self-care behavior	Chinese
Andala et al. 2024 [20], Ding et al. 2018 [30]; Kauric-Klein et al. 2017 [37]	Morisky Medication Adherence Scale	4 items	To assess patient adherence to medication	Answer options include yes and no. One point is assigned to no. The higher the score better the medication adherence	Indonesians, chinese
Kauric-Klein et al. 2017 [37]	Blood Pressure Control in hemodialysis Self-Efficacy Scale	11 items developed based on the self-care behavior that hemodialysis patients must perform to control blood pressure	To assess self-efficacy or confidence regarding individuals' self-care capacity	Items are scored using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total score ranges from 11 to 55, with higher scores indicating greater self-efficacy	North americans
Lee; Park, 2017 [38]	Questionnaire previously developed by the author	16 items including: diet, weight control, physical exercise, pressure measurement, alcohol, smoking and stress	To evaluate self-care behavior	Items are scored using a Likert scale ranging from 1 to 5. Higher scores mean better self-care behavior	South koreans

Table 2 (continued)

Authors	Instruments/ methods	Instrument description	Aim	Score	Target population
Wang et al. 2017 [39]	Self-Efficacy for Managing Chronic Disease 6-Item Scale	6 items	To evaluate self-efficacy	Each item is scored according to a Likert scale ranging from 1 to 10. Higher scores suggest better treatment efficacy	Chinese
Chang; Lee, 2015 [42]	Empowerment scale-short form	8 items regarding sense of control, self-efficacy, problem solving skills, psychosocial coping, support, motivation and ability to make decisions	To assess health empowerment	Each item is rated on a Likert scale ranging from 0 to 5., The highest score indicates the best result.	South Koreans
Pickett et al. 2014 [47]	The Blood Pressure Self-care Scale	10 items regarding self-care behavior	To assess involvement in self-care behavior	Each item is scored on a Likert scale ranging from 1 (never) to 7 (always), with higher scores indicating better self-care behavior	North Americans
Chen et al. 2011 [50]; Chen et al. 2009 [53]	Medication Adherence Inventory (MAI)	13 items grouped into 3 subscales: type of decrease in dosage deviation, type of increase in dosage deviation and unintentional	To assess patient adherence to medication	Each item is rated on a Likert scale ranging from 0 to 5. Higher scores indicate greater adherence to medication	Taiwanese
Chen et al. 2011 [50]; Chen et al. 2009 [53]	Inventory of Adherence to Self-Management (IASM)	14 items grouped into 4 subscales: unhealthy diet, healthy diet, exercise and scheduling appointments	To evaluate self-care activity	Each item is rated on a Likert scale ranging from 0 to 5. Higher scores indicate greater adherence to self-management recommendations	Taiwanese
Lee et al. 2010 [51]	Questionnaire produced by the author	items covering the main self-care behaviors: medication, food, weight control and exercise	To evaluate self-care behaviors	Scores are calculated according to the number of correct answers. Higher scores indicate higher levels of compliance with self-care behavior	US residents
Lee et al. 2010 [51]	Questionnaire produced by the author	26 items questioning about hypertension	To assess disease knowledge	Scores are calculated according to the number of correct answers. Higher scores indicate higher levels of compliance with self-care behavior	US residents
Intervention					
Miao et al. 2020 [24]; Li et al. 2019 [28]; Yatim et al. 2018 [33]; Zhu et al. 2018 [34]; Wu et al. 2012 [49]	Health education	Guidance and educational interventions including home visits about the disease, self-perception and self-care	To improve self-management	Not applicable	Chinese, Taiwanese, Malaysian

Table 3 Domains of illness perception and self-care found in SAH treatments included of the included articles ($n = 16$)

Topics/domains	N	%
Illness perception		
Illness perception	19	48,71
Disease knowledge	13	33,33
Health beliefs	1	2,56
Self-care concepts and/or behaviors		
Medication	26	66,67
Food	22	56,41
Physical exercise	19	48,71
Body weight control	14	35,89
Smoking	12	30,76
Alcohol	12	30,76
Blood pressure self-monitoring	10	25,64
Self-efficacy	10	25,64
Stress	7	17,94
Social support	6	15,38
Physician attendance	5	12,82
Family support	1	2,56
Health empowerment	1	2,56

higher extent in trials with sodium intake > 2400 mg/d than in trials with sodium intake ≤ 2400 mg/d, whereas both SBP and DBP were reduced more in trials with mean age < 50 y than in trials of older participants. Low sodium intake and the DASH diet produce higher SBP/DBP reduction ($-8.9/-4.5$ mmHg) than each of these dietary regimens alone [4].

Another relevant point for this discussion is that the self-care behaviors can be influenced by several factors, including age, gender, place of residence, ethnicity/race, education level, marital status, availability of blood pressure measuring devices at home, monthly income, history, and duration of hypertension and family support. The most dominant factor influencing self-care behavior was the perception of disease [13, 19].

Guisi et al. [63] reported that the success of hypertension treatment is based in part on the patient's ability to maintain behaviors, such as regular physical activity, after the end of the program. In addition to this, social support plays a prominent role in hypertension management. Individuals with social support are four times more likely to practice good self-care compared to those with low social support. This is likely because patients with social support tend to adhere to medication therapy and dietary recommendations, as they benefit from enhanced assistance nearby [19].

Thus, the importance of inserting self-care and self-perception in the treatment of hypertension is evident as these concepts should address changes in lifestyle,

medication adherence, stress reduction, weight control, physical activity and disease knowledge. These concepts must appear in the tools used for both assessment and intervention so that the management of SAH is more global.

Implications for health practice and policy

This study offers a mapping of the main instruments for assessing self-care and self-perception of systemic arterial hypertension and elucidates the main concepts involved in self-management of this condition. For clinical practice, the management of SAH encompasses physician-centered care and pharmacological treatment. SAH is a multifactorial condition that requires multidisciplinary management, and this condition requires instruments that can be direct in evaluating these concepts. Self-care is multifaceted and self-care instruments should be fully incorporated in multidimensions.

These findings cumulatively support the importance of incorporating lifestyle factors into future SAH self-care instruments, emphasizing regular physical activity. We strongly recommend that the concepts of self-care and perception of the disease are incorporated into the management of SAH. At the same time, it can provide information to formulators of public health policies, so that they can take measures aimed at encouraging the practice of, especially with regard to health promotion.

Limitations

This study presented some limitations. Specifically, despite our thorough review of the literature, we limited our review to articles published in English. Furthermore, it was not possible to identify specific instruments available in the gray literature, which is necessary for a global analysis of the scoping review. Additionally, we were unable to detail the use of the concepts of self-care and illness perception through intervention studies. The instruments cited in this review are mostly used for assessment. In future studies, it can be proposed how pharmacological and non-pharmacological treatment can influence the management of this disease, using these instruments as a parameter for behavior change in other types of study design.

Conclusion

Self-care and self-perception are presented, in the scientific literature, as essential factors in the control of chronic diseases, mainly, hypertension. Such concepts show domains of great importance for future research. Furthermore, they will be able to assist in the development of more complete instruments, as there is still no precise tool for this.

The significance of a multiprofessional team in hypertension management cannot be overstated. This collaborative approach brings together a diverse range of expertise, each contributing their specialized knowledge to provide comprehensive care. From accurate diagnosis to personalized treatment plans and ongoing support, this integrated team ensures that patients receive holistic care by addressing not only the physiological aspects of hypertension but also the behavioral and lifestyle factors that influence it. By working together, this team can optimize patient outcomes, enhance medication adherence, promote healthy lifestyle changes, and ultimately, mitigate the risks associated with hypertension, leading to better overall health and well-being for patients.

Supplementary Information

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Supplementary Material 1.

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Authors' contributions

JPSS, INDFL contributed with conception, design of study, the acquisition, analysis, interpretation of data and have drafted the work; GAGS, HRAC, LPG, INDFL substantively revised it and to have approved the submitted version.

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Data availability

All data generated or analyzed during this study are included in this published article (and its supplementary information files).

Declarations

Ethics approval and consent to participate

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Consent for publication

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Competing interests

The authors declare no competing interests.

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