

Use of medicinal plants among elderly people: scoping review protocol

Uso de plantas medicinais por pessoas idosas: protocolo de revisão de escopo

Uso de plantas medicinales por personas mayores: protocolo de
revisión de alcance

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ABSTRACT

Objective: to map how elderly people use medicinal plants in their everyday life. **Method:** a scoping review protocol guided by the recommendations set forth in the Joanna Briggs Institute Database and following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews. Publications addressing exclusive use of medicinal plants by elderly people will be included. No language- or time-limiting filters will be used in the searches in order to retrieve the highest possible number of publications. The search strategy will be conducted in internationally recognized scientific databases, as well as in Grey Literature repositories. This protocol was registered on the Open Science Framework platform (osf.io/ka8ud/overview). **Results:** they will be presented in a flowchart, highlighting the search process and inclusion/exclusion of publications. **Final considerations:** this study aims at mapping the available evidence on how elderly people use medicinal plants, which may guide future research on this topic.

Descriptors: *Aged Individual; Elderly Health; Aging; Medicinal Plants; Lifestyle.*

RESUMO

Objetivo: mapear o uso de plantas medicinais no cotidiano de pessoas idosas. **Método:** trata-se de um protocolo de revisão de escopo guiado pelas recomendações da base de dados do *Joanna Briggs Institute* e orientado pelo *Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews*. Serão incluídas publicações que abordem o uso exclusivo de plantas medicinais por pessoas idosas. Não serão utilizados filtros que delimitem o idioma ou tempo nas buscas com intuito de recuperar o maior número de publicações. A estratégia de busca será conduzida em bases de dados científicas amplamente reconhecidas no âmbito internacional, além de repositórios de literatura cinzenta. Esse protocolo foi registrado na plataforma *Open Science Framework* (osf.io/ka8ud/overview). **Resultados:** serão apresentados em fluxograma, destacando o processo de busca e inclusão/exclusão das publicações. **Considerações finais:** por meio desse estudo, espera-se mapear as evidências disponíveis sobre o uso de plantas medicinais por pessoas idosas, o que poderá orientar a realização de futuras pesquisas nessa temática.

Descritores: *Pessoa Idosa; Saúde do Idoso; Envelhecimento; Plantas Medicinais; Estilo de Vida.*

RESUMEN

Objetivo: mapear el uso de plantas medicinales en la vida diaria de las personas mayores. **Método:** protocolo de revisión de alcance guiado por las recomendaciones de la base de datos del Instituto Joanna Briggs y orientado por los *Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews*. Se incluirán publicaciones que aborden el uso exclusivo de plantas medicinales por personas mayores. No se utilizarán filtros que limiten el idioma o el tiempo en las búsquedas con el fin de recuperar el mayor número posible de publicaciones. La estrategia de búsqueda se llevará a cabo en bases de datos científicas reconocidas internacionalmente, así como en repositorios de literatura gris. Este protocolo se registró en la plataforma *Open Science Framework* (osf.io/ka8ud/overview). **Resultados:** se presentarán en un diagrama de flujo, destacando el proceso de búsqueda y la inclusión/exclusión de publicaciones. **Consideraciones finales:** este estudio pretende mapear la evidencia disponible sobre el uso de plantas medicinales por parte de personas mayores, lo que podrá orientar futuras investigaciones sobre este tema.

Descriptores: *Persona Mayor; Salud del Anciano; Envejecimiento; Plantas Medicinales; Estilo de Vida.*

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Introduction

In Brazil, some of the Integrative and Complementary Practices (ICPs) that have been implemented in the Unified Health System (*Sistema Único de Saúde*, SUS) since the 1990s were institutionalized by the National Policy for Integrative and Complementary Practices (*Política Nacional de Práticas Integrativas e Complementares*, PNPIC) in the SUS, approved by GM/MS Ordinance No. 971 dated May 3rd, 2006. This policy recognizes practices such as Phytotherapy (which includes using medicinal plants) as part of the health promotion and recovery actions implemented in the SUS¹.

Medicinal plants are species that contain substances with therapeutic properties in their different parts (such as leaves, flowers, roots and peels); these substances are used to prevent, treat and alleviate diseases and symptoms².

Currently, medicinal plant use is the result of an ancestral legacy. This popular wisdom was transmitted through oral tradition, which presents both positive aspects due to the extent of the knowledge about their use and dangerous ones because of difficulties in terms of verification and unawareness about pharmacological and toxicological properties³⁻⁴.

Medicinal plant use is a common practice among elderly people and is oftentimes associated with seeking complementary therapies and rescuing traditional wisdom. However, scarcity of recent studies deepening on this theme in this population group is noticed, especially in terms of the reasons for their use, the frequency with which this practice is implemented and the safety perceptions related to these substances. This gap evidences the need to map the existing knowledge in order to support safer evidence-based practices and foster new research studies on the care to be provided to elderly people.

The use of medicinal plants is frequently seen as a positive alternative for aged individuals; however, some concerns arise as for how they are employed, especially due to lack of scientific knowledge and guidelines about their proper use. All plants contain substances that can be both beneficial and harmful to health⁵.

Medicinal plants are oftentimes used in a mechanized way and without due care, risking that population's health. But what does it take to ensure more conscious and safer use? The importance of updated scientific materials that can be used as grounds to raise awareness about the risks associated with inadequate use among health professionals, elderly people and their caregivers stands out; this includes information about dosage, possible side effects and drug interactions. It is essential for people to always seek guidelines and follow prescriptions made by duly certified professionals, in order to reduce the risk of adverse reactions and poisoning⁶⁻⁷.

Studies on this theme are important because they help understand how elderly people use medicinal plants, contributing to clarifying their benefits and use-related risks, in addition to supporting public policies and enhancing health professionals' knowledge about the subject matter⁸⁻⁹.

Given the use of medicinal plants by this population segment, this material proves to be pertinent for offering insights for future research and because it strengthens the scientific grounds available for this audience. Thus, the objective is to map how elderly people use medicinal plants in their everyday life.

Method

The current protocol will be implemented according to the JBI methodology for scoping reviews, which includes the following: definition and alignment with the research question objective; development and alignment of the inclusion criteria with the research objectives and question; description of the approach planned to search, select, extract and organize all the evidence; search for the evidence; selection of the evidence; extraction of the evidence; analysis of the evidence; presentation of the results; and summary of the evidence in relation to the review purpose¹⁰⁻¹¹. The report will be written following the recommendations set forth in the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews* (PRISMA-ScR) guideline, which instructs transparent and standardized structuring of the review sections¹². The protocol has been prospectively registered on the *Open Science Framework* (OSF) platform: under DOI 10.17605/OSF.IO/6R8HT.

Research question and eligibility criteria

No similar reviews were found after conducting a previous search in the JBI CONNECT+, Cochrane Library, PROSPERO, OSF and Google Scholar databases, which reinforces the gap on the topic. Thus, the following review guiding question was defined: “How do elderly people use medicinal plants in their everyday life”?

Recommended by the JBI Manual for Evidence Synthesis¹⁰, the “PCC” mnemonic was used:

- Population: Aged individuals
- Concept: Use of medicinal plants
- Context: Everyday life

No geographic limitations will be applied in this research, as the intention is to explore the scope of medicinal plant use among elderly people in different global contexts.

Types of evidence

The review will include primary studies available in the main databases from the health area, in addition to theses and dissertations identified in specific academic literature repositories and which answer the study guiding question, with no time or language restrictions, aiming to retrieve the most varied evidence possible.

Literature reviews, editorials and studies not addressing how elderly people use medicinal plants in their everyday life will be excluded.

Search strategy and data collection period

The search strategy will be organized in three phases. Controlled and non-controlled descriptors will be used, combined by means of AND and OR Boolean operators according to the particularities inherent to each database. The controlled descriptors will be selected from the DeCS and MeSH vocabularies, including terms such as “*Plantas Medicinais*” (“Medicinal plants”) and “*Idoso*” (“Aged person”). In turn, the non-controlled descriptors will include words or synonyms commonly found in the titles and abstracts of the studies, such as “*ervas medicinais*” (“medicinal herbs”), “*uso de plantas*” (“plant use”), “*pessoas idosas*” (“elderly people”), “*idosos*” (“aged individuals”) and “*terapias naturais*” (“natural therapies”). The reason for using these variations is to expand search sensitivity and avoid missing relevant studies.

The search strategy will aim at finding primary research studies, dissertations and theses in several databases and will be organized in three phases:

- Phase 1 (initial search): an initial search was made in national (DeCS) and international (MeSH) descriptors databases, as well as in MEDLINE/PubMed (via the National Library of Medicine) and *Biblioteca Virtual em Saúde* (BVS) for the exploratory search with the objective of identifying the main descriptors and keywords used in the studies addressing the topic of interest (Chart 1).

Chart 1 - Search strategies developed for the research. Campina Grande (PB), Brazil, 2024.

INFORMATION SOURCE	SEARCH STRATEGY	N
MEDLINE	(Aged OR Elderly OR "Older people") AND ("Plants, Medicinal" OR "Medicinal plant" OR "Medicinal plants" OR "Medicinal herb" OR "Medicinal herbs" OR "Pharmaceutical Plant" OR "Pharmaceutical Plants")	328
CAPES Theses and Dissertations Catalogue	idosos AND plantas medicinais	58

• Phase 2 (comprehensive search): the final search strategy will be applied in the following sources chosen for this study: MEDLINE/PubMed, LILACS/BVS, Cochrane, Web of Science (WoS), SCOPUS and EMBASE, making due adjustments according to the indexing specificities of each database.

These portals and databases were selected because they offer large collections of publications in the areas relevant for the study. The processes to prepare the search keys and retrieve the articles will be developed with the support of a librarian specialized in reviews.

Searches will also be made in the Grey Literature, resorting to the Theses and Dissertations Catalogue belonging to the Coordination Office for the Improvement of Higher Level Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior*, CAPES), Google Scholar and *Biblioteca Digital de Teses e Dissertações*.

• Phase 3 (manual search and cross references): the lists of references from the articles retrieved in the full-text search and included in the final selection will also be screened for inclusion in the study sample.

All the search stages will be recorded and presented in a flowchart according to the PRISMA guidelines, including the total numbers of studies identified, selected, excluded and included in the final synthesis.

A standard search strategy will be adopted, developed in a systematic and reproducible way and based on controlled descriptors and free terms related to the research topic, namely: (Aged OR Elderly OR "Older people") AND ("Plants, Medicinal" OR "Medicinal plant" OR "Medicinal plants" OR "Medicinal herb" OR "Medicinal herbs" OR "Pharmaceutical Plant" OR "Pharmaceutical Plants"). This strategy will be applied with due adjustments to the different databases and repositories, in the relevant indexing fields, in order to expand reach of the searches and, thus, ensure the necessary scope and sensitivity to identify the highest possible number of relevant studies.

Search for studies

As a first step, the data collection procedure will be conducted using an adequate strategy for each database. Duplicates will be removed and the titles and abstracts of all the studies identified will be assessed independently by two reviewers (WAB and RLA), in the Rayyan software program and according to the inclusion criteria. Any and all divergences between the evaluators will be discussed until reaching consensus. In case of persistent disagreements, a third reviewer (CRDVS) will be consulted. Subsequently, the articles selected will be read in full.

The publications selected after reading their titles and abstracts will be retrieved in full and independently extracted by two reviewers after the full-text reading step. Selection of the studies, the eligibility criteria and the reasons for inclusion and exclusion in each stage will be reported in a specific flowchart, according to PRISMA-ScR¹⁰.

Reasons will be given for all exclusions. The references of the articles will also be assessed, considering the possibility of including studies not retrieved when searching the databases selected. This stage will also encompass extracting and summarizing all the information from the articles included that meet the review objective. All the studies included in this phase will be divided between the reviewers, who will fill-in a data extraction synthesis matrix.

Data extraction

Two reviewers (WAB and RLA) will extract the analysis *corpus* data to a Microsoft Excel® spreadsheet, adapted to meet the research objectives (Chart 2).

Chart 2 - Data extraction instrument. Adapted from the JBI Manual for Evidence Synthesis (2020). Campina Grande. Brazil, 2024.

Type of publication	Article, dissertation or thesis
Year	Publication year
Country	Country where the study was developed
Objective	To describe the study main objective
Methodological design	Type of research conducted by the study authors
Types of medicinal plants used	To detail the types of medicinal plants used by elderly people
How often are medicinal plants used?	To detail how often elderly people use medicinal plants
Reasons for using medicinal plants	To detail why elderly people use medicinal plants
Information sources about medicinal plants	To describe the knowledge sources about medicinal plants consulted by elderly people
Benefits of using medicinal plants	To describe the benefits elderly people notice when using medicinal plants
Challenges related to using medicinal plants safely	To describe the challenges related to using medicinal plants safely, as perceived by elderly people
Ways of use	To describe how elderly people use medicinal plants

With the objective of better responding to the study objectives, the reviewers may adjust all this information throughout the data extraction process. Any and all changes made to the instrument will be reported in the scoping review final text. All divergences in the data extracted by the reviewers will be solved through a discussion and consensus or by the intervention of a third reviewer (CRDVS).

All the information collected in this phase will be stored in an electronic database created in Microsoft Excel for Windows®.

Summarization of the results

After the extraction phase, all the information collected will be organized, analyzed and interpreted so as to allow preparing a description of the results in consonance with the study objectives and with the review guiding questions. The data analysis will be supported by the IRaMuTeQ software, in order to favor systematization and thematic categorization of the findings. The synthesis of the results will follow a narrative approach guided by an interpretive structure based on the JBI framework, ensuring greater consistency and transparency in the inferences produced.

The results will be presented using tables, charts and flowcharts representing the main categories identified; this will favor understanding the data. The data organization and analysis process will be aided by Microsoft Excel®, which will allow grouping all the information extracted.

Ethical considerations

The data will come from online public-access databases and repositories, thus waiving approval by a Research Ethics Committee. The data resulting from this research will be published in scientific journals and presented in scientific events relevant to the area.

Results

The organization and mapping of all the information selected will provide relevant insights about how elderly people use medicinal plants. Such evidence may contribute to delimit knowledge gaps and guide the development of future research studies on this theme, especially in a country like Brazil, characterized by biodiversity and abundant traditional wisdom.

The data extracted will be presented graphically by means of tables, charts and flowcharts, as suggested in the recommendations for presenting and interpreting data from scoping reviews. The results will be presented in a flowchart evidencing the study

identification, screening, inclusion and exclusion stages, as established in the PRISMA-ScR protocol. Subsequently, charts and graphs will be prepared to illustrate the main review findings¹⁰.

Final considerations

The purpose of this protocol is to clearly describe and organize the methodological stages of this scoping review about how elderly people use medicinal plants. Therefore, the intention is to reduce possible biases throughout the process, promote transparency and ensure that all the reviewers follow standardized criteria. It is expected that this protocol will contribute to identifying and understanding all the evidence available on the topic, in addition to encouraging new reviews and future in-depth approaches to the theme.

Authors' contributions

Study conception: Wilza Aparecida Brito de Oliveira, Cícera Renata Diniz Vieira Silva, Rebeca Lopes de Assis, Risomar da Silva Vieira, Claudia Santos Martiniano, Fabiana Ferraz Queiroga Freitas. **Data collection:** Wilza Aparecida Brito de Oliveira, Cícera Renata Diniz Vieira Silva, Rebeca Lopes de Assis. **Data analysis and interpretation:** Wilza Aparecida Brito de Oliveira, Cícera Renata Diniz Vieira Silva, Rebeca Lopes de Assis. **Writing of the manuscript:** Wilza Aparecida Brito de Oliveira. **Critical review of the manuscript:** Wilza Aparecida Brito de Oliveira, Cícera Renata Diniz Vieira Silva, Rebeca Lopes de Assis, Risomar da Silva Vieira, Claudia Santos Martiniano, Fabiana Ferraz Queiroga Freitas. **Approval of the final version:** Wilza Aparecida Brito de Oliveira, Cícera Renata Diniz Vieira Silva, Rebeca Lopes de Assis, Risomar da Silva Vieira, Claudia Santos Martiniano, Fabiana Ferraz Queiroga Freitas.

Conflict of interest

The authors declare that there is no conflict of interest.

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