

Medical plants use for elderly : Knowledge of risks and benefits

RESUMO | Objetivo: Avaliar a produção científica acerca da utilização de plantas medicinais por idosos e seus conhecimentos sobre riscos e benefícios. Método: estudo descritivo, exploratório com abordagem qualitativa do tipo revisão integrativa da literatura. Os dados foram coletados em julho de 2015, através das bases de dados eletrônicas Scientific Electronic Library Online (SCIELO) e Literatura Latino Americana e do Caribe em Ciências da Saúde (LILACS). Totalizando 36 artigos que após leitura exaustiva restaram apenas 8 para demonstrar o estudo. Resultados: As principais plantas citadas foram: *Matricaria sp.*, *Lippia Alba*, *Cymbopogon citratus*, *Punica granatum*, *Pimpinella anisum*, *Menta sp.*, *Plantago sp.*, *Aroeira*, *Amburana Cearensis*, *Anacardium occidentale*. Observou-se também que esse mesmo grupo vulnerável fez a suspensão do alopático pelo fitoterápico, com riscos de não sucesso terapêutico. Conclusão: é muito importante uma atenção especializada quanto o uso de plantas medicinais por idosos, tendo em vista sua grande vulnerabilidade e os possíveis riscos advindos desta prática.

Descritores: Idosos; Plantas medicinais; Risco à Saúde.

ABSTRACT | Objective: To evaluate the scientific production about the use of medicinal plants by the elderly and their knowledge about risks and benefits. Method: descriptive, exploratory study with a qualitative approach of the integrative literature review type. Collected in July 2015 through the Scientific Electronic Library Online (SCIELO) and Latin American and Caribbean Literature in Health Sciences (LILACS) electronic databases. Totaling 36 articles that after exhaustive reading, only 8 remained to demonstrate the study. Results: The main plants mentioned were: *Matricaria sp.*, *Lippia Alba*, *Cymbopogon citratus*, *Punica granatum*, *Pimpinella anisum*, *Menta sp.*, *Plantago sp.*, *Aroeira*, *Amburana Cearensis*, *Anacardium occidentale*. It was also observed that this same vulnerable group discontinued allopathic treatment with herbal medicine, with risks of therapeutic failure. Conclusion: Specialized attention is very important regarding the use of medicinal plants by the elderly, in view of their great vulnerability and the possible risks arising from this practice.

Keywords: Elderly; Medicinal plants; Health Risk.

RESUMEN | Objetivo: Evaluar la producción científica en la literatura sobre el uso de plantas medicinales por parte de los ancianos y su conocimiento sobre riesgos y beneficios. Método: estudio descriptivo, exploratorio con abordaje cualitativo del tipo revisión integrativa de la literatura. Los datos fueron recolectados en julio de 2015 a través de las bases de datos electrónicas Scientific Electronic Library Online (SCIELO) y Latin American and Caribbean Literature in Health Sciences (LILACS). Totalizando 36 artículos que luego de una lectura exhaustiva, solo quedaron 8 para demostrar el estudio. Resultados: Las principales plantas mencionadas fueron: *Matricaria sp.*, *Lippia Alba*, *Cymbopogon citratus*, *Punica granatum*, *Pimpinella anisum*, *Menta sp.*, *Plantago sp.*, *Aroeira*, *Amburana Cearensis*, *Anacardium occidentale*. También se observó que este mismo grupo vulnerable suspendió el tratamiento alopático con fitoterapia, con riesgos de fracaso terapéutico. Conclusión: la atención especializada en cuanto al uso de plantas medicinales por parte de los ancianos es muy importante, dada su gran vulnerabilidad y los posibles riesgos derivados de esta práctica.

Palabras claves: Anciano; Plantas medicinales; Riesgo a la Salud.

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INTRODUÇÃO

This is an integrative literature review, descriptive in nature, with a qualitative approach, on the use of medicinal plants by the elderly, with the purpose of assessing how popular knowledge is being used in the use of medicinal plants for therapeutic purposes, as well as the risks of their use¹.

We are going through a process of population aging, a fact that has gained great prominence among the scientific community, strengthening public health policy initiatives aimed at this group². The World Health Organization (WHO) predicts that, by 2025, there will be 1.2 billion people over 60 years old in the world³. In Brazil, it is estimated that there will be about 34 million elderly people in 2025, which will take Brazil to the 6th position among the most aged countries⁴.

For⁵, the aging process is directly related to the gradual loss of physiological functions, influenced by genetic and environmental factors. The aspects related to the elderly's health involve several factors that show aging as a physiological process of decreasing functional reserve, which occurs with advancing age, the senescence. Parallel to this process, we observe a pathological aging condition, with health problems, the senility⁶.

In this sense, the elderly population is a social group that requires more attention, once with the occurrence of chronic degenerative diseases, there is a need for more intense and frequent use of medication⁷.

For this reason, the elderly are the main consumers and major beneficiaries of modern pharmacotherapy; more than 80% of them consume at least one medication a day, and this has been a powerful intervention process to improve the health status of this population, and it can be considered the most medicated group in the population⁸.

However, we know that there are

numerous difficulties that hinder the use of industrialized synthetic drugs by the population, among them the lack of financial resources for the acquisition of prescribed drugs arising from an inadequate population income distribution and numerous socioeconomic problems, as well as the scarcity of information about existing alternatives for the use of these services and the difficult access to medical professionals qualified to prescribe such drugs^{9,10}.

In this context, phytotherapy is inserted as an alternative to minimize the difficulties in acquiring synthetic drugs, reflecting in a new therapeutic approach in the treatment of certain pathologies. These medicinal plants can offer active principles

that act therapeutically on the body, alleviating the effects of diseases¹¹.

The choice of species and the way they are prepared follow a culture transferred from generation to generation, and phytotherapy works as a parallel system of health care, and the elderly play an important role because they are the holders of this culture, besides being users of this therapy¹².

In this perspective, the use of phytotherapeutic products, which has been gaining more and more users, is highlighted among the elderly population, because besides the difficulties mentioned in the acquisition of synthetic drugs that prevent their use, most of them believe that the use of this therapy, for being of natural origin, does not cause any harm such as adverse effects or drug interaction^{10,13}.

For this reason, self-medication with medicinal plants is one of the first choices for this age group¹⁴.

It is necessary to inform the population about some essential points for the safe, effective, and qualified use of medicinal plants, such as: handling, collection and therapeutic use; this should be done with the purpose of correlating popular and scientific knowledge so that the health professional indicates

the therapy to be used¹⁵.

Informing the population about the dangers associated with the use of herbal medicines, such as intoxication, allergic reactions, and treatment ineffectiveness, can minimize the risks related to the inappropriate use of these plants. These problems may be associated with misidentification of the species consumed or also with the way they are cultivated, harvested, stored, preserved, or prepared¹⁶.

In order to reduce the risks and dangers that the use of herbal medicines can cause, Pharmacovigilance has been increasingly highlighted, through actions that seek early detection, proper use, prevention in the use of certain plants, and monitoring of adverse events¹⁵.

Supporting pharmacovigilance, the Federal Government has proposed initiatives that ensure the correct use of herbal medicines, reducing the risks and increasing the benefits with their use, where we can highlight the National Policy of Medicinal Plants and Herbal Medicines¹⁷ and the National Program of Medicinal Plants and Herbal Medicines¹⁸.

The ethno pharmacological approach is based on combining information obtained from users of medicinal flora, with chemical and pharmacological studies. The ethno pharmacological method allows the formulation of hypotheses regarding the pharmacological activity and the active substance responsible for the therapeutic actions reported¹⁹.

Taking the above into consideration, it is necessary to analyze how plants and herbal medicines are being used by the elderly, as well as whether they are being monitored by a health professional, besides intensifying studies and research, in order to provide important subsidies that help validating plant species with medicinal applications.

Based on this observation, the interest in researching this theme arose. It

is believed that this research may have great academic and social relevance. It aims to evaluate the scientific literature on the risks and benefits associated with the use of medicinal plants by the elderly.

METHOD

This is an integrative literature review, descriptive in nature, with a qualitative approach, on the use of medicinal plants by the elderly, with the purpose of assessing how popular knowledge is being used in the use of medicinal plants for therapeutic purposes, as well as the risks of their use.

The integrative review is a research method that in recent years has been used in the health field and has made it possible to give visibility to the contribution of Nursing to the improvement of care. It is called integrative because it provides ample information on a subject/problem, thus constituting a comprehensive body of knowledge of methodological rigor.

Data collection was carried out through a literature review with searches in internet databases, at the BIREME Virtual Health Library, which comprises the following databases: LILACS, IBECs, MEDLINE, Cochrane Library, SciELO.

In addition, a search was conducted in Google academic and manuals of the Ministry of Health, giving greater understanding to the theme. The descriptors used include: Elderly AND Medicinal Plants AND Risks. These descriptors were found on the Health Sciences website (<http://decs.bvs.br>).

The period of the database searches was from December 2022 to February 2023, the year of publication, language, subjects, and availability were used to refine the results.

As for the language, texts in Portuguese were selected, and that brought the Brazilian reality as methodology, since we wanted to understand the re-

ality of the population of Brazil, as for the year it was filtered the period from 2012 to 2022.

We found 36 articles that fit the theme, but only 9 of these articles participated in our results, which portrayed the theme for a better understanding of the theme.

It also outlined the question that will direct this work according to the PICo strategy - Population, Interest, Context, P- elderly, I- use of medicinal plants, Co- risks and benefits.

The articles were filtered by keywords and organized in charts following the order of the year of publication. The benefit of this study consists in the improvement of the theme, thus contributing to the literature because it is a relevant theme to health.

RESULTS

Seventy-seven (77) articles were initially found, and after a new search and adding the key word "toxicity", forty-four (44) articles were found, seven of which were reviews. The selected articles were appraised by the authors, and twenty-three (23) of them were rejected for having titles that were incompatible

with the proposed theme.

Thus, in this first selection, twenty-one (21) articles remained. These articles were read, were submitted to inclusion and non-inclusion criteria, and then nine articles remained for this study.

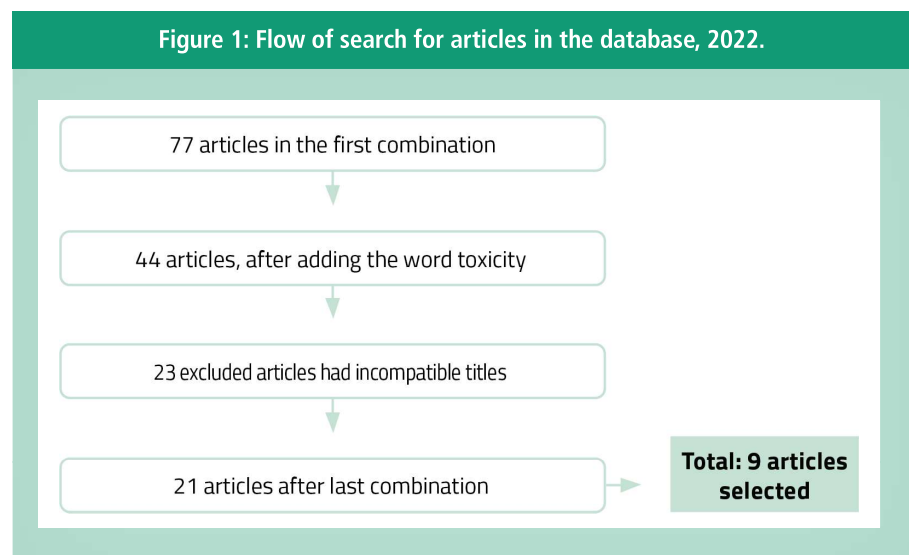
The studies included in this research were organized by title, journal/year, objectives, authors, methodology and results, based on the articles found after applying the inclusion and exclusion criteria.

In the studied articles, 32 different plants were cited, used in most cases for the treatment of disorders of the respiratory, digestive, cardiovascular and genitourinary tracts, with special emphasis on the ten most cited, described in the following table:

DISCUSSION

The use of medicinal plants for the treatment of ailments and diseases is a frequent practice among the elderly. Formulas and teas are prepared in individuals' health care, from generation to generation, deliberately and without medical indications. During aging there are usually physiological changes

Figure 1: Flow of search for articles in the database, 2022.



Source: adapted by the authors, 2022.

Table 1- Scientific studies according to Title, Journal/Year, Objectives, Methodology and Results, 2022.

N	TITLE	JOURNAL/YEAR	OBJECTIVE	AUTHORS	METHODS
1	Representations and use of medicinal plants by elderly men	Latin-Amer Journal Nursing/ 2012	To know and understand the representations about the use of medicinal plants by elderly men assisted in Family Health Strategies of Dourados, MS.	Lima; et al.	This is a qualitative, descriptive and exploratory research.
2	Elderly people's perceptions of toxic plants.	Biosfera Encyclopedia Journal /2015	The research was quantitative, exploratory, descriptive, and in the field, and the questionnaire semi-structured, with information, care, and knowledge about toxic plants.	Sass; et al.	A literature review was conducted with scientific articles published in the last decade in databases such as LILACS, Pubmed and Scielo. The selected publications were in Portuguese containing the descriptors: medicinal plants and elderly.
3	The use of medicinal plants by elderly users of a Basic Family Health Unit.	Nursing Journal. UFPE Online/ 2015.	To characterize the use of medicinal plants by elderly users of a Basic Family Health Unit.	Silva; et al.	A sectional study with a quantitative approach, sample of 94 elders in the city of Campina Grande/PB, with whom a semi-structured questionnaire was applied.
4	Role of the Elderly in the Context of the use of medicinal plants: Contributions to Traditional Medicine and	Testing Science: Biological, Agricultural, and of Health/ 2015	Investigate the role of the elderly in theoretical and practical dissemination about the use of medicinal plants.	Carvalho et al.	Review of Narrative/Classical Literature, qualitative approach.
5	Traditional use of traditional plants by the elderly.	Northeast Nursing Network Journal/2016	To identify the use of medicinal plants by the elderly.	Pereira et al.	Exploratory-descriptive study carried out in an Intermunicipal of Health Consortium with a quantitative approach
6	Use of medicina plants by elderly gop	Electronic Nursing Magazine [Internet]/2017	Verify the use of medicinal plants by elderly users of primary care.	Szerwieski; et al	Cross-sectional, correlational study, analytical, and descriptive study, with qualitative approach.
7	Use of medicinal plants. by the elderly in a philanthropic institution	Brazilian Research Journal in Health Science/ 2017	To investigate the use of medicinal plants among the elderly of the supporting house Remanso da Paz, Quixadá-CE.	Santos; et al.	This was an observational, analytical, cross-sectional study with quantitative approach.
8	Use of medicinal plants. by elderly people enrolled in a primary care in Porto Alegre/ RS, and potential interactions plant-medicine.	Fitos Journal/ 2020	Research the use of medicinal plants by elderly people with diabetes, hypertension, and polymedication and describe potential interactions between the plants and medicines used according to the literature.	Scheid e Fajardo.	This is a descriptive study, with quantitative approach, twenty-two elderly people were interviewed about the medicinal plants they use.
9	Use of medicinal plants and potential risk risks of drug interaction in the elderly in brazil: an integrative review	Journal Interfaces/ 2021	To discuss, according to the scientific literature, the potential risks of drug interaction involving the use of medicinal plants and drugs by the elderly in Brazil.	Ferreira Silva et al.	Integrative review with qualitative approach

Source: the authors' data, 2022.

typical of the period, which can eventually cause unpleasant symptoms to the elderly, thus leading to the use of alternative medicines to ease the discomfort.

This need which many elderly people have to seek relief for their symptoms generates great concern when the products of choice fall on medicinal plants commonly used by the population, since most users are unaware of the adverse effects of this practice.

The elderly stated that they had at one time or another used teas and medicines simultaneously, and many reported having replaced the medication (mainly antihypertensives and hypoglycemic agents) with some natural product.

Szerwiesk and collaborators²⁰ emphasize that the elderly use medicinal plants mainly because of the historical and cultural legacy of their ancestors. This perception is also defended by Pereira and authors²¹, who expose that there is a resistance of this elderly population to drug treatments. Most of these individuals live in regions far from urban centers, and some descend from traditional groups that have used natural medicine for thousands of years, supporting it as a more beneficial, easily accessible, and low-cost alternative.

This factor can further aggravate the clinical picture of these users, since when the tea from a plant with antidiabetic activity, for example, is used in significant quantities (more than three times a day) concomitantly with hypoglycemic medication (usually metformin or glibenclamide), for example, a sudden drop in the level of glucose in the body can occur, resulting in weakness, dizziness, or even fainting.

The replacement of medicine by home remedy is also not advisable, considering that the medicine is one or more isolated substances that have been previously tested to validate its effect, while the plant preparations con-

Table 2- List of the ten plants most referred to by the elderly used for therapeutic purposes, as well as their therapeutic indications and forms of preparation of home remedies based on the literature, 2022.

Species- Popular Name	Indication	Preparation form
Matricaria sp. (chamomile)	Calming	Tea
Lippia alba (lemon balm)	Bellyache, gastric discomfort, calming	Tea, licker
Cymbopogon (lemongrass)	Malaise, stomach ache, pain in the body, lowers blood pressure	Tea
Punica granatum (Pomegranate)	Inflammation	Tea
Pimpinella anisum (fennel)	Calming, bad digestion	Tea
Mentha sp. (mint)	Calming fever	Tea
Plantago sp. (tansagem, tanchagem)	Infection	Tea
Aroeira	Inflammation	Tea
Amburana cearensis (smelling umburana)	Dysentery, gastric discomfort, inflammations	Tea
Anacardium Occidentale (cashew tree)	Inflammations	Syrup

Source: the authors' data, 2022.

tain a complex of substances, among them potentially therapeutic compounds and others that may be too toxic, and may interact among themselves, causing adverse effects.

Another aggravating factor is that a large part of the elderly do not usually inform their doctors about the use of medicinal plants during appointments and, in addition, these users claim to prepare teas in large quantities,

storing these products predominantly for three to five days in refrigerators or cupboards.

A study developed by Silva and collaborators⁵ demonstrated that the conditions and conditioning period of teas can influence the efficiency of extraction of bioactive compounds, as well as the stability of the preparation, which can lead to changes in the profile of pharmacological effects promoted by the plant.

In order to demystify some information classified as scientifically unproven (or incorrect) after analyzing the questionnaires, workshops on medicinal plants were promoted for the

communities and Community Health Agents of the neighborhoods involved in this study.

Vieira (2017)²² addresses an important factor related to the risks that individuals expose themselves when using medicinal plants, since these are the largest sources of xenobiotic. Plants produce toxic substances with many different structures that are generally linked to immune defense.

Man has developed the ability to metabolize some of these substances. However, many of the agents that form these natural resources can be harmful to the body, damaging tissues and disrupting homeostatic events. These properties can be added to or caused by interaction with various drugs used by individuals, such as antihypertensive and antidepressants, sometimes causing intoxication²².

Besides drug interaction²⁰ points out the risks associated with the use of medicinal plants that are stored improperly. Situations such as the collection and storage of plant materials must be analyzed, because they can influence

the content of active principle. During the storage of the plant material, it can be subject to the growth of undesirable microorganisms, such as fungi²⁰.

These organisms, through fermentation and decomposition, can produce metabolites that are undesirable and often toxic to humans. It is also mentioned that contaminated leaves, which are used in tea infusions

for example, can bring additional risks to the body¹⁸.

As Silva and other authors point out, health professionals must be prepared to implement health education about the rational use of medicinal plants among the population. Nurses, nutritionists, doctors, and other health professionals must be prepared to teach users of medicinal plants, taking on an educating character, with the goal of

promoting and providing the rational use of these resources.

Factors related to referral, preparation, contraindications, and toxicity should be known by health professionals, integrating popular and scientific knowledge and helping promote health²³.

CONCLUSION

The literature on the use of plants and their derivatives by the elderly is quite expressive, requiring attention and care when using them, since their indiscriminate use without the necessary precautions can generate countless risks for people who use them, especially the elderly population, which, due to immunological issues, can present serious problems when facing

some undesirable effect from the use of these preparations.

There are many risks that can be generated by the inappropriate use of plants and their derivations, such as infections and adverse reactions in the body, especially when there is a side effect from the use of other substances, common in the elderly population.

It is extremely important that all health professionals involved in the care of elderly patients take responsibility for providing information on the correct use, the possible effects of interactions, and the care that must exist from the consumption of these plants and their parts by the elderly, protecting this population from unwanted effects to their health.

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