INDICATION OF HERBAL MEDICINES AND MEDICINAL PLANTS BY THE DOCTORS OF BASIC HEALTH UNITS

INDICAÇÃO DE FITOTERÁPICOS E PLANTAS MEDICINAIS PELOS MÉDICOS DE UNIDADES BÁSICAS DE SAÚDE

Artigo Original

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Abstract

In Brazil, the use of medicinal plants in the treatment of illnesses is influenced by indigenous, African and European cultures. Approximately 80% of the world population uses plants or their preparations in health care, making it a complementary therapy. Thus, the objective was to identify the indication made by doctors working in the Family Health Strategy for medicinal plants and/or herbal medicines. Thirty-one doctors from the Basic Health Units located in Juazeiro do Norte-CE were interviewed, using semi-structured forms. For data analysis, the Microsoft Excel 2010 program was used. 23 plant species indicated for medicinal purposes and 19 phytotherapeutic purposes were identified, and Cymbopogon citratus (DC.) Stapf, Matricaria chamomilla L., Aloe vera L. Burm.f. and Peumus boldus Molina were more representative among plants, and Valeriane® (Valeriana officinalis L.); Calman® (Passiflora incarnata L., Crataegus oxyacantha L. and Salix alba L.); Ginkgo biloba® Extract (Ginkgo biloba L.); Sintocalmy® (Passiflora incarnata L.) and Liberaflux® (Hedera helix L.) were the most representative among herbal medicines. It was found that doctors recommend plants and/or herbal medicines in the treatment of certain diseases, however further study is needed regarding their use and dosage.

Keywords: Ethnobotany. Alternative medicine. Family Health Program.

Resumo

No Brasil, o uso de plantas medicinais no tratamento de enfermidades tem influência das culturas indígena, africana e europeia. Aproximadamente 80% da população mundial faz o uso de plantas ou de suas preparações no cuidado para com a saúde, tornando-se uma terapia complementar. Dessa forma objetivou-se identificar a indicação realizada por médicos atuantes na Estratégia Saúde da Família de plantas medicinais e/ou fitoterápicos. Foram entrevistados 31 médicos das Unidades Básicas de Saúde situadas em Juazeiro do Norte-CE, com o auxílio de formulários semiestruturados. Para análise dos dados foi utilizado o programa Microsoft Excel 2010. Foram identificadas 23 espécies vegetais indicadas para fins medicinais e 19 fitoterápicos, sendo que *Cymbopogon citratus* (DC.) Stapf, *Matricaria chamomilla* L., *Aloe vera* L. Burm.f. e *Peumus boldus* Molina apresentaram maior representatividade entre as plantas, e Valeriane® (*Valeriana officinalis* L.); Calman® (*Passiflora incarnata* L., *Crataegus oxyacantha* L. e *Salix alba* L.); Extrato de Ginkgo biloba® (*Ginkgo biloba* L.); Sintocalmy® (*Passiflora incarnata* L.) e Liberaflux® (*Hedera helix* L.) a maior representatividade entre os fitoterápicos. Verificou-se que os médicos

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indicam plantas e/ou fitoterápicos, no tratamento de determinadas doenças, contudo ainda se faz necessário um estudo mais aprofundado quanto ao uso e posologia dos mesmos.

Palavras-chave: Etnobotânica. Medicina alternativa. Programa Saúde da Família.

INTRODUCTION

The use of elements from nature by man is an ancient custom and since primitive times, plants, animals and chemical elements are used as "medicines" that man uses. The use of plants is not only related to medicine, but also in rituals and in food (Cruz *et al*., 2021). In Brazil, the use of medicinal plants in the treatment of diseases is influenced by indigenous, African and European cultures, which have been integrated into a set of principles that aim to cure diseases and restore natural life to man. About 80% of the world population uses plants or their preparations to treat diseases and this practice is currently being instituted as a complementary therapy (Magalhães *et al*., 2019).

Medicinal plants have been used as a therapeutic method in the health/disease process in various societies, by the general population and by specialized professionals (Oliveira *et al*., 2012). Currently, they have conquered space in biomedical therapy considering judicious scientific studies aimed at the development of herbal medicines. Thus, the use of medicinal plants has become an important tool for health professionals, users and researchers (Cruz *et al*., 2021).

The use of herbal medicines has also gained space for discussion with regard to politics and economics, not only in Brazil, but throughout the world. In this scenario, the World Health Organization (WHO) sees the use of herbal medicine as a possible solution of great importance for populations in underdeveloped and developing countries, due to its low cost (Ribeiro; Guimarães, 2013).

Over the last decade, the Ministry of Health has established a series of programs and public policies to encourage the use of medicinal plants and complementary therapies within the scope of the Unified Health System (SUS) (Ribeiro, 2019). In 2006, through Federal Decree 5,813, the National Policy on Medicinal Plants and Herbal Medicines was approved (Brasil, 2006). According to Castro and Figueiredo (2017), such a program will enable the growth of the entire production chain of medicinal and herbal plants, ensuring the efficacy, safety and quality of these products. These authors see in the use of herbal medicine an expansion of possible therapeutic options offered to SUS users, in addition to providing safe access to medicinal and herbal plants in order to ensure effectiveness and quality (Ribeiro, 2019).

The vast majority of primary care coverage in Brazil is carried out through the Family Health Strategy (FHS), through the Primary Care Units, and many of the programs aimed at the use of phytotherapy developed in the public health system are currently linked to the ESF (Silva *et al*., 2006). Thus, this research aimed to identify the indication of medicinal plants and/or herbal

medicines to users of the referred program by doctors working in the Family Health Strategy of Juazeiro do Norte-CE.

MATERIAL AND METHODS

The city of Juazeiro do Norte covers an area of 248.832 km² and is located in the Metropolitan Region of Cariri, in the south of the state of Ceará, at an altitude of 377 meters above sea level. It stands out as an important center for regional shopping and services (IBGE, 2014). Being characterized as the third most populous city in the state and the 102nd in Brazil, it has an approximate population of 266,022 inhabitants. To serve this population, the municipality currently has 46 Basic Health Units (UBS), distributed in urban and rural areas.

This research is characterized as descriptive exploratory, in which doctors from the Family Health Strategy Units located in the city of Juazeiro do Norte-CE took part. The sampling adopted was of the intentional non-probabilistic type, and data collection was carried out through semi-structured interviews with the aid of a pre-elaborated form consisting of questions related to the indication of herbal medicines and medicinal plants in primary care. The plants mentioned were identified by professionals from the Herbarium Caririense Dárdano de Andrade-Lima (HCDAL) of the Regional University of Cariri and by consulting the specialized literature.

Visits to Basic Health Units were carried out from August to December 2017. All respondents signed the Informed Consent Form (FICF). Participants were assured of the reliability, secrecy and privacy of their identity, using the subjects' identification codes. Also, the autonomy to refuse participation and the right to leave the study at any time were assured.

Descriptive data were organized in databases using the Microsoft Excel 2010 program, and descriptive statistics (simple frequency and percentage) and the Relative Frequency of Citation (RFC) - Relative frequency of citation, obtained from the FC/N ratio, were used , where FC represents the number of informants who mentioned the indication of medicinal plant and/or herbal medicine, and N the total number of informants in the study (Albuquerque *et al.*, 2007).

The research project was approved by the Research Ethics Committee (CEP) of the Regional University of Cariri (URCA) with a substantiated opinion (CAAE 71436117.8.0000.5055) in accordance with Resolution 466/12 of the National Health Council.

RESULTS AND DISCUSSION

Of the 42 physicians approached, 31 agreed to participate in the interview and 11 refused. Of those who volunteered to collaborate with the survey, 55% were male with an average age of 46 years and 45% female with an average age of 39 years. Among the informants, 55% have specialization in the most varied areas of medicine.

When asked about the prescription of medicinal plants or phytotherapeutics, 84% said they performed such an indication, with 23% prescribing only the use of plants, 34% only phytotherapeutics and 26% of plants and herbal medicines, while 16% said they did not make such a prescription (Figure 1).

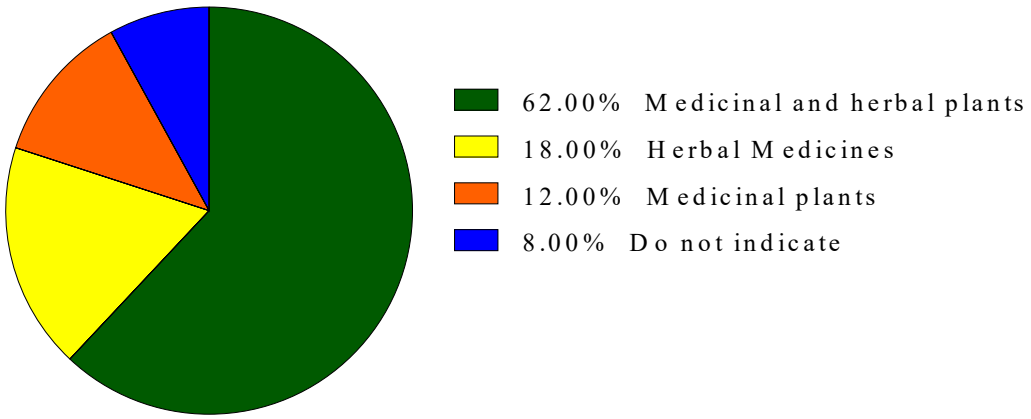

Figure 1: Graphic representation of indications of medicinal plants and/or herbal medicines by physicians working in UBS's of Juazeiro do Norte-CE to users. Juazeiro do Norte, Ceará, 2017. Source: Authors.

In total, 23 species with medicinal use were mentioned, distributed in 23 genera and 19 families. The species with the highest number of citations were *Cymbopogon citratus* (DC.) Stapf (grass), *Matricaria chamomilla* L. (chamomile), *Aloe vera* L. Burm.f. (Aloe) and *Peumus boldus* Molina (Bilberry), respectively (Table 1 and 2). In a study carried out by Nascimento-Junior et al. (2016) on the use and indication of medicinal and herbal plants by health professionals in Petrolina, Pernambuco, *M. chamomilla* and *P. boldus* were also among the most recommended species for the treatment of diseases.

Table 1: Medicinal plants recommended by doctors to users of Basic Health Units in Juazeiro do Norte-CE. Juazeiro do Norte, Ceará, 2017. Source: Authors.

Family	Species	Popular name	UP	WU	MI	CN	RF (≥5%)
Anacardiaceae	*Myracrodruon urundeuva* M. Allemão	Aroeira	Bark	in natura	Vaginal discharge	2	-
Anacardiaceae	*Anacardium occidentale* L.	Caju	Fruit	in natura	Healing	1	-
Annonaceae	*Annona muricata* L.	Graviola	Fruit	in natura	Diabetes	1	-
Apiaceae	*Anethum graveolens* L.	Endro	Seed	Decoction	Colic and Indigestion	1	-
Apiaceae	*Pimpinella anisum* L.	Erva doce	Seed	Decoction	Indigestion	1	-
Asteraceae	*Cynara scolymus* L.	Alcachofra	Leaf	Infusion	Cough	1	-

Table 2 - Medicinal plants recommended by doctors to users of Basic Health Units in Juazeiro do Norte-CE. Juazeiro do Norte, Ceará, 2017. Source: Authors. (Conti.)

Family	Species	Popular name	UP	WU	MI	CN	RF (≥5%)
Asteraceae	*Matricaria chamomilla* L.	Camomila	Flower	Decoction	Soothing and Fatigue	5	11.90
Asteraceae	*Egletes viscosa* (L.) Less.	Macela	Flower	Decoction	Indigestion and Flatulence	2	-
Bromeliaceae	*Ananas comosus* (L.) Merr.	Abacaxi	Fruit	Infusion	Cough	1	-
Crassulaceae	*Kalanchoe pinnata* (Lam.) Pers.	Malva corama	Leaf	Syrup	Cough	2	-
Fabaceae	*Bauhinia ungulata* L.	Pata de vaca	Leaf	Decoction	Diabetes	1	-
Lamiaceae	*Mentha x villosa* Huds.	Hortelã	Leaf	Infusion	Cough	2	-
Linaceae	*Linum usitatissimum* L.	Linhaça	Seed	in natura	Constipation	1	-
Lythraceae	*Punica granatum* L.	Romã	Fruit	Decoction	Tonsillitis and Quinsy	1	-
Malpighiaceae	*Malpighia glabra* L.	Acerola	Leaf	Juice	Flu	1	-
Monimiaceae	*Peumus boldus* Molina	Boldo	Leaf	Infusion	Flatulence and Indigestion	3	7.14
Myrtaceae	*Eucalyptus globulus* Labill.	Eucalipto	Leaf	Infusion	Fever	1	-
Oleaceae	*Olea europaea* L.	Oliveira	Leaf	Decoction	Diabetes	1	-
Poaceae	*Cymbopogon citratus* (DC.) Stapf	Capim-santo	Leaf	Decoction	Soothing, Heartburn and Depression	5	11.90
Rubiaceae	*Morinda citrifolia* L.	Noni	Fruit	Juice	Diabetes	1	-
Rutaceae	*Critus limon* L. Burm.f.	Limão	Fruit	Juice	Laryngitis, Pharyngitis, Migraine and Obesity	2	-
Verbenaceae	*Lippia alba* Mill. N.E. Br. ex Britton & P.Wilson	Erva-cidreira	Leaf	Decoction	Increase appetite, Soothing	2	-
Asparagaceae	*Aloe vera* (L.) Burm.f.	Babosa	Fruit	Mucilage	Healing	4	9.52

Legend: UP= used part; WU= way of use; MI= medical indication; CN= Citation Number; RF= Relative Frequency. Source: Authors (2017).

In

With regard to the most used parts of the plants, according to the indications, were the leaves (48%) followed by the fruits (26%); seeds (13%); flower (9%) and bark (4%). Several studies involving leaves as the most used part in the preparation of phytomedicines are found in the literature (Santos *et al*., 2016). According to Cruz *et al*., (2021), medicinal plants tend to concentrate the active principles in their leaves, which demonstrates the prevalence of their use, as well as being the easily obtainable part in terms of quantity, handling and conservation of species.

In this study, as well as in other works such as those by Costa and Marinho (2016) to the

decoction is the most indicated form of use representing (39%), followed by infusion (22%), in natura (17%), juice (13%) and mucilage, both with (4%). However, Oliveira et al. (2018), observed that among the three forms of preparation mentioned (infusion, decoction and maceration) used by the interviewed population, the infusion method had the highest prevalence. The authors also point out in the study that some methods are not indicated in the specialized literature, giving as an example the species *M. chamomilla* (chamomile), which when prepared by decoction can cause loss of essential oil (chemical constituent responsible for the therapeutic effects of the species) . In our work, chamomile was one of the most cited species and is prepared by decoction.

In view of the data reported above, the importance of botanical knowledge for the correct use of the plant species used is observed, since its inappropriate use can promote a reduction in the therapeutic effect, or not have the expected effect, and in cases of plants with potential toxic, it can cause intoxication and even death (Bezerra *et al*., 2017).

Respondents attributed 20 indications for use to medicinal plants, with emphasis on diabetes and cough. Works carried out by Caetano *et al*. (2015); Defani and Oliveira (2015) also highlight the use of vegetables in the treatment of diabetes. It should be noted that of the plants mentioned in the treatment of diabetes, only *Bauhinia forficata* has scientific proof.

Scientific proof.Regarding the prescription of Herbal Medicines, a variety of 19 medications were mentioned by doctors (Table 3 and 4), the most mentioned being: Valeriane® (*Valeriana officinalis* L. 26%) Calman® (*Passiflora incarnata* L., *Crataegus oxyacantha* L. and *Salix alba* L. 22.5%); Ginkgo biloba® Extract (*Ginkgo biloba* L. 22.5%); Sintocalmy® (*Passiflora incarnata* L. 19%) and Liberaflux® (*Hedera helix* L. 10%). Among the listed drugs, there is a predominance of herbal medicines indicated for the treatment of anxiety and insomnia, and those with an indication for respiratory problems (expectorant) and relief of digestive symptoms are also reported. These findings corroborate those found by Ribeiro and Guimarães (2013), in which the herbal medicines Valeriane®, Passiflorine®, Liberaflux® and Pasalix® were also prescribed by doctors.

Table 3 - Herbal Medicines cited by Physicians at Basic Health Units in Juazeiro do Norte-CE. Juazeiro do Norte, Ceará, 2017. Source: Authors.

Herbal medicine	Species	Indications	CN	RF (≥ 5%)
Acheflan®	*Cordia verbenacea* DC.	Analgesic and Anti-inflammatory	1	-
Aplause®	*Cimicifuga racemosa* L.	Menopause	1	-
Bromelin®	*Ananas comosus* L. Merril	Collagen expectorant and replenisher	1	-
Buona®	*Glycine max* (L.) Merr.	Hormone replacement	1	-
Calman®	*Passiflora incarnata* L., *Crataegus oxyacantha* L. and *Salix alba* L.	Anxiety and insomnia states	7	14.89
Chestnut of India®	*Aesculus hippocastanum L.*	Varicose veins	1	-
Extract of *Ginkgobiloba*®	*Ginkgo biloba* L.	Memory, anticoagulant and dizziness	7	14.89
Extract of Kavakava®	*Piper methysticum* G. Forst.	Anxiety state	1	-

Table 4 - Herbal Medicines cited by Physicians at Basic Health Units in Juazeiro do Norte-CE. Juazeiro do Norte, Ceará, 2017. Source: Authors. (Cont.)

Herbal medicine	Species	Indications	CN	RF (≥ 5%)
Giamebil®	*Mentha crispa* L.	Against giardia and amoeba in the digestive tract	1	-
Kios®	*Schinus terebinthifolius* Raddi.	Decrease in stomach acidity	2	-
Kronel®	*Schinus terebinthifolius* Raddi	Healing of the vaginal mucosa	1	-
Liberaflux®	*Hedera helix* L.	Expectorant	3	6.38
Melxi®	*Ananas comosus* L. Merril	Expectorant	1	-
Pasalix®	*Passiflora incarnata* L., *Crataegus oxyacantha* L. and *Salix alba* L.	Anxiety state	1	-
Passiflorine®	*Passiflora incarnata* L., *Crataegus oxyacantha* L. and *Salix alba* L.	Anxiety and insomnia states	2	-
Permear®	*Harpagophytum procumbens* (Burch.) DC. ex Meisn.	Analgesic	1	-
Remilev®	*Humulus lupulus* L. and *Valeriana officinalis* L.	Weaning from benzodiazepines	1	-
Sintocalmy®	*Passiflora incarnata* L.	Anxiety state	6	12.77
Valeriane®	*Valeriana officinalis* L.	Anxiety and depression states	8	17.02

Legend: CN= Citation number; RF= Relative frequency. Source: Authors (2017).

In the studies carried out by Varela and Azevedo (2014), the findings found also corroborate the present study, including the herbal medicines Calman®, Ginkgo biloba® Extract, Kronel®, Passiflorine®, Remilev® and Valeriane®. Regarding the evaluation of the results obtained with the indication of these alternative treatments, doctors reported that herbal medicines are very effective in the treatment of diseases for which they were indicated when compared with medicinal plants in natura.

A fact that drew attention in the research was the indication of the herbal medicine Remilev® for weaning from benzodiazepines. The drug is indicated for the treatment of insomnia and people with agitation, nervousness and irritability. In this case, one of the interviewed doctors stated that he prescribed the herbal medicine in order to replace the use of benzodiazepines by patients, due to the intense side effects generated by these, such as sedation, dependence and amnesia.

The use of herbal medicines in the prevention and treatment of diseases confirms the argument presented by other authors that the use of Complementary Integrative Practices (PIC) in the ESF is relevant not only to treat certain pathologies, but especially to prevent diseases and promoting health, enabling an expansion of care practices developed by SUS users and a democratic choice of therapy to be used (Paranaguá *et al*., 2009).

CONCLUSION

The doctors participating in the study prefer to indicate herbal medicines to medicinal plants, and this behavior is attributed to the fact that they have more knowledge about them. However, it is possible to conclude that these professionals are still resistant to the indication and use of alternative medicine, often due to lack of knowledge about it. It should be noted that the competent authorities have created programs and policies that collaborate with the dissemination of popular knowledge about medicinal plants. These emphasize the importance of the health professional in having knowledge in the prescription of medicinal plants and herbal medicines, in order to avoid improper indication and misuse by the population. This has enabled the reduction of cases of intoxication and side effects and encouraged the responsible use of alternative medicine.

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