



## **Ethnoknowledge: Use of Medicinal Plants in Communities**

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### **Authors' contributions**

*This work was carried out in collaboration between all authors. All authors read and approved the final Manuscript.*

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### **ABSTRACT**

**Aim:** To evaluate the traditional knowledge as for the use of medicinal plants in the municipal districts that integrate the 14th Administrative Area of the Company of Technical Support and Rural Extension of the State of Paraíba.

**Methodology:** This study was promoted by a field research, of descriptive character with a qualitative approach. As instrument of data collection, a questionnaire was previously structure, containing objective and subjective subjects. 30 people were interviewed in the rural area and in the headquarters of each municipal district, in other words, in the nine municipal districts, totaling, like this, 315 interviewees. The data were analyzed as to the relative frequency of the medicinal plants being calculated in the Microsoft Excel Program.

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**Results:** 82 species were mentioned with medicinal potential, distributed in 52 families, with 52 therapeutic indications, among them, anti-inflammatory activity with 32 species, anti-pains (analgesic) with 21 and antiseptic with 19 species, nineteen species were referred for hepatic upset and in the symptomatic treatment of influenza, and some species possessed more than a therapeutic indication.

**Conclusion:** The species more mentioned were: Herb cidreira, mallow, marcela, mint, angry Lavender, Grass saint, mastruz and cumaru. The families of plants used for the treatment of diseases with larger representativeness were: Lamiaceae, Asteraceae, Verbenaceae, Malvaceae, Anacardiaceae and Euphorbiaceae.

**Keywords:** *Ethnobotany; phytotherapy; semi-arid; cultural meaning.*

## 1. INTRODUCTION

Plants, recognized by mankind in coexistence with the environment, were tools for creating technical and empiric knowledge, transmitted along the times, from generation to generation and influencing in the improvement and development of the same. The perception of the therapeutic value of vegetable species, together with other practices, formed a medical system, known as traditional [1].

Plants with medicinal potential come as a form of alternative resource against the symptoms of several diseases, with great use in distant communities of urban centers and without support of public health system. Ethnobotany is the branch of science that is devoted to the study of the work of plants for several purposes, registering the use of the present vegetable resources in certain areas and the handling forms used by traditional communities, as a form of rescuing and preserving popular knowledge [2, 3].

Brazil is a holder of the largest genetic diversity in the world and the wider tradition of use of the medicinal plants linked to the popular knowledge. However, in spite of the wealth of the Brazilian flora, the number of information on medicinal plants is still considerably low. Although there isn't a lot of investment in medical plants research, it is made calculations that at least half of the plants contained in the country contain active principles, capable to cure and to prevent a lot of diseases [4].

In agreement with [5], among the medicinal plants traditionally known and used are the Rosemary (*Rosmarinus officinales*), the boldo (*Peumus boldus*), to aloe (*Aloe Vera*), the marcela (*Achyrocline satureioides*), the mallow

(*Malva sylvestris*), cidreira (*Lippia alba*) and chamomile (*Matricaria chamomilla*), working as sedative, anti-inflammatory, against influenzas and digestive problems. It is also relevant to stand out that the incorrect job of plants with therapeutic properties, as well as in the case of the medicines, can cause serious problems to the organism, because, many of them have poisonous principles. Therefore it should be known which leaves of the plant can be used and the effects that they can bring to the organism, so that there is no compromising on the desired effect [6].

Before we proceed, it is indispensable to remark the necessity of acquiring information about medical plant usage in certain local communities, in the intention of discovering the potentialities of the vegetable resources with medicinal ends and their different use forms, as well as, to collaborate with the diffusion of this, that comes as a form of natural treatment and of low cost or even with the progress in the herbal medicine uses. Therefore, the present study had the objective to evaluate the traditional knowledge for the use of medicinal plants in the municipal districts that integrate the 14th Administrative Area of the Company of Technical Support and Rural Extension of the State of Paraíba, headquartered in the city of Pombal, on the state's interior.

## 2. MATERIALS AND METHODS

The study was performed in nine municipal districts that compose the 14th Administrative Area of EMATER-PB, constituted by the municipal districts of Cajazeirinhas, Condado, Coremas, Lagoa, Paulista, Pombal, São Bentinho, São Domingos and Vista Serrana. The city of Pombal stands out in the state's interior as being one of the regional poles, as well as Patos, Sousa and Cajazeiras.

The research was performed with the head households, being considered man and woman. Initially, 30 people were interviewed in the rural area and in the headquarters of each municipal district, in other words, in the nine municipal districts above related, totaling 315 interviewees.

As tool for the collection of data, a questionnaire was previously structured, containing objective and subjective subjects. It has two parts. The first, destined to draw the interviewees' socioeconomic profile and the second seeks to reach the objective, that is, to investigate the use of medicinal plants destined to the treatment of diseases.

It was performed during the months of March to June of 2014. During the interviews, it was looked forward to avoid the other people's direct influence. For this, individual interviews were accomplished and in schedules different, same when there was occurrence of two or more people to live in the same place.

After collection, the data were analyzed as to the relative frequency of the medicinal plants usage, using Microsoft Excel Program, according to methodology [7] and presented in the form of tables. Seeking to subsidize the discussion of the results, the research was linked to pertinent literature.

### 3. RESULTS AND DISCUSSION

The socioeconomic profile of the sample (sex, age group and occupation) is shown in Table 1. It was verified that the public presented an average of age from 51 to 70 years, being the 31 year-old observed minimum age, and 87 year-old maxim. Among the interviewees, 40% were composed by women and 60% by men. As for the profession, most was farming, representing a percentile of 79,92% of the interviewees. Those that don't have the agriculture as a main activity, exercise the activity in a secondary way.

The interviewees, usually, have minimum formal education (illiterates or 1st incomplete degree); most of them didn't have opportunities in other fields besides the agriculture [1]. The evaluation on the ethnobotany of medicinal plants in the municipal district of São José of Espinharas - PB, verified that most of the interviewees, age group above 40 years, didn't complete the 1<sup>st</sup> degree of formal education.

In the present study, 82 species were mentioned with medicinal potential, which are distributed in

52 families (Table 2). Striped in 52 therapeutic indications, standing out the anti-inflammatory activity with 32 species, anti-pains (analgesic) with 21 and antiseptic with 19 species. However, species exist with several therapeutic functions, which for hepatic upset and in the symptomatic treatment of the influenza it was referred nineteen species.

Among the species, the more mentioned was herb cidreira (*Melissa officinalis*) with 102 citations, following for the mallow (*Malva sylvestris*) with 79 citations and the third species more mentioned was the Marcela (*Achyrocline satureioides*) with 76 citations. Later, they were mentioned mint (*Mentha spicata*), angry lavender (*Lavandula angustifolia*), Grass saint (*Cymbopogon citratus*), Mastruz (*Dysphania ambrosioides*) and cumarú (*Dipteryx odorata*) equivalent to 74, 73, 71, 66 and 64 citations, respectively.

**Table 1. The profile of the interviewees in the 14th administrative area of EMATER-PB, headquartered in Pombal, Paraíba**

	Absolute value	Relative value (%)
<b>Sex</b>		
Male	189	60%
Female	126	40%
Total	315	100%
<b>Age group</b>		
31-40 years	21	6,66%
41-50 years	56	17,76%
51-60 years	77	24,42%
61-70 years	98	31,08%
71-80 years	49	15,54%
81-90 years	14	4,54%
Total	315	100%
<b>Profession</b>		
Farmer	252	79,92%
Merchant	7	2,22%
Teacher	21	6,66%
Domestic	35	11,2%
Total	315	100%

The herb cidreira possesses essential oil with wide spectrum of antimicrobial activity, being this prepared herb under infusion form using leaves for therapeutic ends [8]. Corroborating [9] the study, it was observed that the most mentioned species of medicinal plants as remedies in Blumenau, Santa Catarina were: the herb - cidreira, the chamomile, the mint and the lemon.

**Table 2. List of the botanical families, scientific and popular names, therapeutic indications, frequency of citations and relative frequency in the nine municipal districts of the state's interior, lead to Pombal, Paraíba.**

Botanical Family	Scientific name	Popular name	Therapeutic treatment	Nº Cit.	F.R. (%)
Verbenaceae	<i>Lippia alba</i> (Mill) N. E. Brown	erva cidreira	Bad digestion, sedative, bellyache, cold, diarrhea, upset of the nervous system, complications of the pre and postpartum, indigestion, late period, menstrual colics, anemia, hypertension, headache, intoxication.	102	32,38
Malvaceae	<i>Malva sylvestris</i> L.	mallow	Gastritis, ulcer, infection in the mouth and in the throat, healing.	79	25,07
Asteraceae	<i>Achyrocline satureioides</i> (Lam.) DC.	marcela	Intestine, diarrhea, heartburn, intestinal problems.	76	24,12
Lamiaceae	<i>Mentha arvensis</i> L.	mint	Intestinal problems, catch flu, cold, bronchitis, asthma.	74	23,49
Lamiaceae	<i>Hyptis suaveolens</i> (L.) Poit	angry lavender	Intestinal constipation.	73	23,17
Poaceae	<i>Cymbopogon citratus</i> (D.C.) Stapf	grass Saint	Sedative, bellyache, diarrhea, fever, coughs, digestive problems.	71	22,53
Amaranthaceae	<i>Chenopodium ambrosioides</i> L.	mastruz	Inflammation, influenza, coughs, cold, gastritis, pain in the bones.	66	20,95
Fabaceae	<i>Amburana cearensis</i> (Allemão) A.C.Sm	cumarú ou imburana-de-cheiro	Inflammmations, influenza, coughs, breathing problems.	64	20,31
Rutceae	<i>Citrus limonium</i> L.	lemon tree	Fever, influenza, cold, cough.	57	18,09
Anacardiaceae	<i>Myracrodruon urundeuva</i> Allemão	aroeira	Inflammation, coughs, influenza, inflammations in general, healing.	47	14,92
Liliaceae	<i>Aloe vera</i> (L.) Burm. F	aloe	Hemorrhoids, cuts, wounds, inflammations, baldness, ulcers, gastritis.	42	13,33
Phyllanthaceae	<i>Phyllanthus niruri</i> L.	quebra pedra	Renal affections, urinary infection, inflammations of the column, late period, menstrual colics.	36	11,42
Bignoniaceae	<i>Bignonia exoleta</i> Vell	purge potato	alntestine, constipation, sinusitis, hemorrhage.	34	10,79
Olacaceae	<i>Ximenia americana</i> L.	bush plum	Inflammation, cicatrization, wash of wounds, column pain, diarrhea, problems in the stomach, intestinal constipation.	29	9,20
Mimosoideae	<i>Anadenanthera colubrina</i> (Vell.) Brenan	angico	Intestinal constipation.	25	7,93
Sapotaceae	<i>Sideroxylon obtusifolium</i> (Humb. ex Roem. & Schult.) T.D.Penn.	quixabeira	Inflammmations of the column, bruises.	24	7,61

Botanical Family	Scientific name	Popular name	Therapeutic treatment	Nº Cit.	F.R. (%)
Euphorbiaceae	<i>Ricinus communis</i> L.	carrapateira or castor	Constipation, headaches, chicken pox.	23	7,30
Cucurbitaceae	<i>Momordica charantia</i> L.	melão of São Caetano	Constipation, headaches, chicken pox. He/she regularizes the menstrual flow, it relieves menstrual colic, hemorrhoids, fever, furuncles, abscesses, scabies.	23	7,30
Punicaceae	<i>Punica granatum</i> L.	pomegranate	Infections of the throat, hangover, hoarseness, problems in the stomach.	23	7,30
Apiaceae	<i>Anethum graveolens</i> L.	dill	Intestinal constipation.	22	6,98
Anacardiaceae	<i>Anacardium occidentale</i> L.	cashew tree	Inflammation, diarrhea, influenza, weakness, urinary problems, cough.	21	6,66
Lamiaceae	<i>Plectranthus ornatus</i> Codd	boldo	Diarrhea, indigestion, pains or abdominal colics, affections of the liver, insomnia.	20	6,34
Brassicaceae	<i>Nasturtium officinale</i> R. B.	cress	Pains, rheumatism, drop, arthritis, coughs, influenza, bronchitis, asthma, amenorrhoea, anemia, appetite lack, dandruff, colitis, toothache, diabetes, digestive disturbances, dyspepsia, fever, acne, jaundice, tuberculosis, uremia, syphilis, stones of the kidneys, worms, cystitis, swelling of the glands, weaknesses of the heart and of the nerves.	19	6,03
Myrtaceae	<i>Psidium guajava</i> L.	guava	Loss of calcium, indigestion, abdominal pains, diarrhea.	17	5,39
Euphorbiaceae	<i>Croton blanchetianus</i> B.	quince	Dysentery, bellyache, badly to be.	16	5,07
Lamiaceae	<i>Vitex gardneriana</i> S.	jaramataia	Pains in the bones, problems in the kidneys, problems in the column, sedative, inflammations, pain in the stomach.	16	5,07
Rubiaceae	<i>Cascarilla undata</i> (Klotzsch) Wedd	corner corner	Amenorrhoea, invigoration of the blood, sinusitis, abortion, intestinal constipation.	16	5,07
Cercideae	<i>Bauhinia pentandra</i> (Bong.) Vogel ex Steud.	mororó	Cholesterol.	16	5,07
Caprifoliaceae	<i>Sambucus nigra</i> L.	sabugueiro flower	Sinusitis	15	4,76
Papaveraceae	<i>Argemone mexicana</i> L.	holy thistle	Upset of the nervous system, anemia, parasitic diseases, hypertension, diarrhea, indigestion, pains or abdominal colics.	14	4,44
Rhamnaceae	<i>Ziziphus joazeiro</i> M.	Juazeiro	Catarrh in the chest, influenza, decays; dandruff,	14	4,44

Botanical Family	Scientific name	Popular name	Therapeutic treatment	Nº Cit.	F.R. (%)
			sinusitis, inflammation in the teeth and in the mouth.		
Anacardiaceae	<i>Astronium graveolens</i> J.	field gonçalo	Inflammation, diarrhea, anti-inflammatory.	14	4,44
Mimosoideae	<i>Mimosa tenuiflora</i> W.	black jurema	Healing (use external topic).	14	4,44
Fabaceae	<i>Caesalpinia pyramidalis</i> T.	catingueira	Spill, sinusitis, masculine sexual impotence.	14	4,44
Chrysobalanaceae	<i>Licania rigida</i> B.	oiticica	Inflammations, diabetes.	14	4,44
Caricaceae	<i>Carica papaya</i> L.	papaya	coughs, bronchitis, hoarseness.	13	4,12
Alliaceae	<i>Allium sativum</i> L.	garlic	Inflammation in the throat, hypertension, influenza, hemorrhoids, parasitic diseases, high cholesterol, affections of the feminine reproductive apparel.	12	3,80
Malpighiaceae	<i>Malpighia glabra</i> L.	barley	He/she coughs, catarrh in the chest, influenza, asthma.	12	3,80
Euphorbiaceae	<i>Cnidioscolus phyllacanthus</i> M.	faveleira	Healing.	12	3,80
Musaceae	<i>Musa sapientum</i> L.	banana tree	Coughs, bronchitis, hemorrhoids, parasitic conditions, renal affections, hypertension, hemorrhage of wounds, tuberculosis, whooping cough.	12	3,80
Meliaceae	<i>Azadirachta indica</i> A.	Nim	Vermicide.	12	3,80
Rutaceae	<i>Ruta graveolens</i> L.	rue	Ear pains, parasitic infections, menstrual colics, corporal pains.	12	3,80
Lamiaceae	<i>Lamium album</i> L.	tiredness or nettle-white	Inflammations in general, toothache, high cholesterol.	12	3,80
Fabaceae	<i>Caesalpinia ferrea</i> M.	wood-iron or jucá	Diabetes, reducing the volume of the urine and thirst, as anti-inflammatory, catarrhal disease, tonsils, intestinal colic, dysentery, throat, drop, hemorrhage, rheumatism, syphilis, coughs, hemorrhoids, heart problems, as expectorant, febrile, general weakness, lung diseases.	12	3,80
Apiaceae	<i>Foeniculum vulgare</i> M.	sweet herb or fennel	Heart problems, nauseas, flatulence, headache, hypertension, diarrhea, vomits.	12	3,80
Violaceae	<i>Hybanthus calceolaria</i> L.	pepaconha	For diseases in the teeth.	12	3,80
Asteraceae	<i>Matricaria chamomilla</i> L.	chamomile	Headache, fever, influenza, soothing.	11	3,49
Asteraceae	<i>Rosmarinus officinalis</i> L.	rosemary	Bronchitis, sinusitis, insomnia, depression, labyrinthitis, memory cellulite, headache, asthma.	11	3,49

Botanical Family	Scientific name	Popular name	Therapeutic treatment	Nº Cit.	F.R. (%)
Lamiaceae	<i>Ocimum basilicum</i> L.	basil	Fever, headache diarrhea, bellyache, coughs, bad digestion.	11	3,49
Acanthaceae	<i>Justicia pectoralis</i> L.	noun	Pains, fever, influenza, menstrual colics, abdominal pains.	11	3,49
Euphorbiaceae	<i>Jatropha gossypifolia</i> L.	purple pinhão	Asthma, coughs, catarrh in the chest.	11	3,49
Combretaceae	<i>Combretum laxum</i> J.	mufumbo	Hemorrhages, breathing problems, for cicatrization and sedative.	11	3,49
Urticaceae	<i>Parietaria officinalis</i> L.	alfavaca	Catarrh in the chest, fever, sinusitis, ear pains, eye conditions, diarrhea, menstrual colics, upset of the nervous system, genitourinary disorders.	10	3,17
Solanáceas	<i>Solanum melongena</i> L.	eggplant	Arthritis, diabetes and inflammations of the skin in general.	10	3,17
Asteraceae	<i>Acanthospermum hispidum</i> DC.	gypsy thorn or sheepskin	Headache, toothache, dysentery, healing, bad digestion.	10	3,17
Burseraceae	<i>Commiphora leptophloeos</i> M.	imburana	Inflammation, healing, influenza, coughs, sinusitis.	10	3,17
Boraginaceae	<i>Heliotropium elongatum</i> W.	fedegoso	Pains, anemia, bronchitis, menstrual complications, headache, gastrointestinal pain, fever, hepatic diseases, neuralgias, burns, measles, scabies and amenorrhoea.	10	3,17
Cactaceae	<i>Melocactus zehntneri</i> (Britton & Rose)	crown of monks	Parasitic infections.	10	3,17
Crassulaceae	<i>Sedum dendroideum</i> M.	balm	Itch.	10	3,17
Malvaceae	<i>Pseudobombax marginatum</i> A.	Embiratanha	Renal calculation, infection urinary, colic.	10	3,17
Brassicaceae	<i>Cleome spinosa</i> J.	mussambê	Inflammation, influenza, cough.	9	2,85
Rubiaceae	<i>Genipa americana</i> L.	jenipapeiro	Healing.	9	2,85
Apocynaceae	<i>Aspidosperma pyrifolium</i> M..	Pereiro	Intestine, fevers, dizziness, bad digestion.	8	2,53
Euphorbiaceae	<i>Euphorbia tirucalli</i> L.	Aveloz	Warts.	8	2,53
Malvaceae	<i>Gossypium hirsutum</i> L.	Cotton	Furuncle.	8	2,53
Fabaceae	<i>Stryphnodendron adstringens</i> M.	barbatimão	Open wounds, inflammations in general, cutaneous affections.	8	2,53
Moraceae	<i>Morus nigra</i> L.	Blackberry	Hypertension.	8	2,53
Turneraceae	<i>Turnera subulata</i> S.	Chanana	Digestive problems, pains in general, elimination of tumors.	7	2,22
Zingiberaceae	<i>Renealmia aromatica</i> A.	Cuité	Pains in the column, renal problems.	7	2,22
Smilacaceae	<i>Smilax brasiliensis</i> S.	Japecanga	Diuretic, skin diseases.	7	2,22

Botanical Family	Scientific name	Popular name	Therapeutic treatment	Nº Cit.	F.R. (%)
Arecaceae	<i>Attalea humilis</i> M.	coconut catolé	Inflammation of the kidneys.	7	2,22
Bignoniaceae	<i>Jacaranda caroba</i> V.	Caroba	Inflammations in general.	7	2,22
Rubiaceae	<i>Uncaria tomentosa</i> W.	cat nail	Afecções of the prostate, urinary infection.	7	2,22
Combretaceae	<i>Terminalia catappa</i> L.	Castanet	Diuretic.	7	2,22
Cucurbitaceae	<i>Luffa operculata</i> L.	cabacinho	Sinusitis, abortive.	7	2,22
Euphorbiaceae	<i>Croton heliotropiifolius</i> K.	Velame	Badly to be, bad digestion, depurative, furuncle, pain in the column.	6	1,90
Fabaceae	<i>Senna alexandrina</i> M.	Senna	Intestinal constipation.	6	1,90
Faboideae	<i>Erythrina velutina</i> W.	Mulungu	Sinusitis, abortive.	6	1,90
Faboideae	<i>Geoffroea spinosa</i> J.	Marizeiro	Antidiarrheal	6	1,90
Solanaceae	<i>Solanum agrarium</i> S.	watermelon of the beach	Spill, fever, constipation, sexual impotence.	6	1,90
Poaceae	<i>Zea mays</i> L.	Corn	Pains, drop, edemas, cystitis, urethritis, urinary lithiasis.	6	1,90
Myrtaceae	<i>Syzygium cumini</i> L.	Jambolão	Cholesterol.	6	1,90

**Table 3. They have striped the botanical families and the amounts of mentioned species and the number of citations for the interviewee, in the nine municipal districts that compose the 14th administrative area of EMATER-PB.**

Botanical families	Cited species	Citations
Anacardiaceae, Faboideae, Malvaceae e Rubiaceae (4)	12	287
Lamiaceae (1)	6	206
Asteraceae e Fabaceae (2)	6	148
Euphorbiaceae (1)	7	82
Other (35)	51	949
Total	82	1672



As [10], studying the use of medicinal plants for hypertensive and diabetics, the mallow was indicated by the interviewees for infections, with therapeutic allegations as an expectorant for the respiratory diseases (orally) and in the bruises and lawsuits of the mouth and throat (for topical road).

Considering the frequency of citation of the Marcela, it can be justified in the use of their inflorescences is related mainly to problems of the digestive treatment and inflammatory states, being also one of the more mentioned among the interviewees [11].

The mint is one of the most versatile species in the therapeutic treatment, besides the indications mentioned in the Table 2, this species also brings benefits in the treatment of arterial hypertension and acts in the decrease of the cholesterol levels, being the leaf of the plant used in the preparation of the "lambedor", as well as for the treatment of breathing illnesses, by decoction [12].

The angry lavender (*Hyptis suaveolens*) is indicated for pains, breathing infections and it possesses antimicrobial activity. To these purpose, the plant can also be used for making tea [13]. Besides the medicinal importance it was also verified that the essential oils of *Hyptis suaveolens* present efficiency in the control of larvae of *Aedes aegypti* tends potential for they be used as biolarvicides [14], in other words, in the prevention of the contamination of the primmest.

The grass saint is used through the infusion of the leaves. [15] To the they evaluate medicinal plants used by the population of the municipal district of Lagarto-SE in cancer patients, the species more mentioned were: Balm-mint (*Lippia dawn* (Mill) N. E. Brown - 30,8%), Boldo (*Plectranthus barbatus* Andr. - 15,7%), and Grass-Saint (*Cymbopogon citratus* (A.D.) Stapf - 14,6%), all used in common for some purposes (bad digestion, bellyache and indisposition). The Balm-mint and the Grass-saint were also mentioned as sedative. Still, in agreement with these authors the acquisition of these herbs in his/her majority is in the own back yard, indicating the easy access. These species are still used by patients with cancer, which told to use these concomitant ones with chemotherapy about 40%.

The mastruz is used for therapeutic ends through the maceration of the leaves, which mentioned in

the Table 2 besides the indications are also adapted in the treatment of bone fractures, anthelmintic and antifungal [16,17]. [18] studying the anatomical and histochemical analysis of *Dysphania ambrosioides* (Mastruz) the presence of lipophilic substances was evidenced, essential oils, oleoresins, phenolic compounds, starch, lignin and oxalate crystals of calcium, being those present compositions in the metabolism of the plants used in the defense and adaptation of the same ones to the environment and also presenting medicinal effect.

The cumarú also denominated of Imburana-of-smell is much used in the Northeast area. The species possesses medicinal properties for treatment of breathing illnesses [1].

The other mentioned species were referred as having been used in the treatment of breathing illnesses: lemon tree, Juazeiro, garlic, Acerola, flower-of-sabugueiro, catingueira, rosemary, basil, mulungu, banana tree, chamomile, pinhão-purple, anador, papaya tree, watercress, gourd and mussambê. [19] evaluating the medicinal plants that are used in the city of Vilhena, Rondônia, it was observed that through the leaf of the lemon (*Citrus limonium*) it is possible to obtain the tea or the syrup for the herbal treatment of the influenza and of the sore throat.

Aroeira, aloe, break-stone, plum of the bush, quixabeira, cashew tree, coconut catolé, caroba, oiticica, nettle-white, black jurema, mufumbo, romãzeira, imburana and faveleira were considered anti-inflammatory and cicatrizant. The study of the *Myracrodouon urundeuva* Allemão (aroeira of the interior) for the farmers in the treatment of diseases showed that the main forms of use of the aroeira by the farmers are the soaps as healing and the cooking for seat bath and vaginal cream against vaginal itches. Already the teas or infusions were mentioned for throat inflammations and gastritis; in what refers to the extract and dye, they are used as healing [20]. In agreement with [21] the romãzeira is indicated for inflammation in the throat being used the fruit softened orally, and the break pointed stone for inflammations in the urinary apparel, in the form of infusion of the leaves.

With analgesic acting, were mentioned the melon of São Caetano, cuité, fedegoso, gypsy's thorn, jaramataia, pepaconha, cat nail and the corn. The melon of São Caetano is used broadly for pains, to combat viral illnesses and infections of the cardiocirculatory and gastrointestinal system

and the fedegoso used leaves or roots in the form of tea for pains and gastric problems [22].

For the cure of intestinal diseases as intestinal constipation: Senna, angico, dill, corner-corner, carrapateira, velame, watermelon of the beach, pereiro and potato-of-purgative, while antidiarréico: boldo, guava tree, marmeleiro, gonçalo-pity-field, basil and marizeiro. In similar study [19], it was observed that species as boldo, corner-corner, guava tree and melon of São Caetano they were mentioned in the treatment of bellyaches.

With antiparasitic action, stood out the nim, sacred thistle, arruda and friar's crown. [23] Evaluating the ethnobotanic capacity of medicinal plants used in the district of Vista Alegre, Claro dos Poções, MG, it was ditched the use of the species friar crown for the treatment of the white cloth that is a disease caused by a mushroom, soon the species presents antiparasitic action similar to the observed in this work.

For the treatment of the itch, balm was mentioned, for the wart they indicated the plant aveloz and the furuncle the use of the cotton. In agreement with [24] the species aveloz can be used externally to cauterize abscess and warts, could still be used to remove melanomas (skin cancer).

At the time, for control of chronic diseases as hypertension, cholesterol and diabetes, were pointed jucá, anise, eggplant, mororó, amoreira and jambolão. [25] It was evaluated the use of the herbal treatment for the control of diabetes mellitus verified effectiveness twice a week with the use of the tea of the jambolão leaves.

Already with diuretic function, it was mentioned the japecanga and the castanet. [26] when evaluating extract of the castanet fruit, it observed that the present natural pigmentation in the fruit indicates the presence of anthocyanins, components of phenolic nature belonging to the group of the flavonoids, with anti-inflammatory action, being to the peels of the castanet used as diuretic and to the leaves they act as diuretic and against headaches.

Lisboa and Rodrigues [27] The accomplished analysis of the scientific production on medicinal plants verified that the vegetable species more researched were bold, aroeira, mint, eucalyptus, chamomile, sacred espinheira, garlic, break-stone, mallow, arruda, cashew tree, guava tree,

basil, pomegranate, anise and senna, being these mentioned in this work, demonstrating like this, that the empirical knowledge corroborates with scientific literature.

The families with larger representativeness were Lamiaceae (12%) with 206 citations, Asteraceae (6%) with 108, Verbenaceae (6%) with 102, Malvaceae (6%) with 97, Anacardiaceae (5%) with 82 and Euphorbiaceae (5%) with 82 citations (Table 3).

It was also observed similarity under the presence of most of the families in this work in [28] where stand out for the number of species Fabaceae (14), Lamiaceae (11), Asteraceae (9), Euphorbiaceae (7) and Solanaceae (7). Apiaceae and Arecaceae had four mentioned species, while three species were told for the families Anacardiaceae, Lauraceae, Moraceae, Poaceae, Rutaceae and Zingiberaceae.

For [29] the families Asteraceae (12), Lamiaceae (11), Fabaceae (11), Euphorbiaceae and Myrtaceae, with six species each. As well, [30] the family of plants with larger note was Fabaceae, with 19 species perfazendo 22,35% of the total. Where can verify the importance, especially of the family Fabaceae that had representativeness in the two studies.

Being like this, the use of species for physiotherapy purposes is shown as an alternative for rural communities' families, due to easy acquisition and the knowledge perpetuated by the generations, in spite of empiric, it possesses scientific proofs that corroborate with the mentioned purposes, rescuing cultural aspects and preserving these species when demonstrating the wealth of the flora in the semi-arid region of Paraíba.

#### 4. CONCLUSION

The most cited therapeutic-purpose species were: "cidreira" herb, mallow, marcela, mint, "Lavanda Brava" (angy lavender), "Capim-santo" (saint grass), mastruz and cumarú.

The plant families used for the treatment of diseases with larger representativeness were: Lamiaceae, Asteraceae, Verbenaceae, Malvaceae, Anacardiaceae and Euphorbiaceae.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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