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# Ethnodirected Survey of Two Municipalities of the South Region of Tocantins, Brazil

## *Levantamento Etnodirigido de Dois Municípios da Região Sul do Tocantins, Brasil*

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## ABSTRACT

Medicinal plants have been used as the primary therapeutic resource for treating people across successive generations. The objective of this research is to describe the popular knowledge of the population of Gurupi and Talismã, Tocantins, regarding medicinal plants. A total of 49 semi-structured questionnaires were applied using the snowball methodology until sample saturation was reached. The characterization of the individuals revealed a predominance of females aged between 20 and 90 years. Mentha piperita (peppermint) was the most frequently reported plant in both municipalities, with its most cited uses being as an anti-inflammatory and a depurative, as supported by scientific literature. Thus, this study makes a significant contribution to advancing research on medicinal plants..

**Keywords**: ethnopharmacology, medicinal plants, phytotherapy.

## RESUMO

As plantas medicinais são usadas como principal recurso terapêutico para tratar pessoas por sucessivas gerações. O objetivo dessa pesquisa é descrever o conhecimento popular da população de Gurupi e Talismã -Tocantins sobre as plantas medicinais. Foram aplicados 49 questionários semiestruturado pela metodologia bola de neve até esgotamento amostral. A caracterização dos indivíduos aponta maior número do gênero feminino com idade entre 20 a 90 anos. A Mentha piperita (hortelã) foi a planta mais relatada em ambos os municípios e as afecções mais indicadas foram anti-inflamatória e depurativo, conforme a literatura científica. Assim, o estudo oferece importante contribuição para ampliar pesquisas das plantas medicinais.

**Palavras-chave**: etnofarmacologia, plantas medicinais, fitoterapia.

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## 1. INTRODUCTION

The use of medicinal plants is a way of treatment based on popular knowledge accumulated by successive generations (BADKE et al., 2011). For a long time, this was the main therapeutic resource to treat people and their families, but with the advances in the scientific world, new ways of treating diseases through synthetic drugs (NICOLETTI et al., 2010).

The knowledge and use of medicinal plants as a therapeutic method has perpetuated humanity since ancient times, in the year 400 BC, Hippocrates, the “Father of Medicine” with his work “Corpus Hippocraticum” wrote that for each illness there would be a plant treatment, also like this , the book Shen Nung's Pen Tsao exposed the use of aromatic plants for health benefits. Years later (60 AD), the work “De Materia Medica” described the use of aromatic plants as medical treatment (SANTELLO, MORALES, BOMBINI, 2021).

On the American continent, the first herbarium was produced by the Aztec people in the 16th century and was called the “Badanius Manuscript” and in Brazil, the use of herbs (for healing purposes) were frequently used by the Indians in rituals practiced by the “shamans”, and this culture was consolidated through generations who transmitted this knowledge to both their descendants and European colonizers. Currently, the first Brazilian pharmacopoeia (which was written in 1929) is in its sixth edition and has contributed to research on the subject (SANTELLO, MORALES, BOMBINI, 2021).

In the last decades there has been an increase in the demand and use of medicinal plants, both in natura and in phytotherapic formulations (SOUSA et al., 2010). Thus, knowledge in ethnopharmacology, a science that studies substances with therapeutic potential seeking the rescue and documentation of plants by ethnobotany is a scientific means capable of assisting in the treatment of diseases (ROGÉRIO, 2014), that way guiding new pharmacological studies and the use of regional plants to rescue popular knowledge, therefore enabling even income and savings for traditional populations (PIRES et al., 2014).

The state of Tocantins, located in the northern region of Brazil, borders on the states of Goiás, Pará, Mato Grosso, Piauí and Bahia. It is in a transitional region between the Biomes of the Cerrado and Amazon Forest with 90% of the vegetation formed by the Cerrado (MACIEL et al., 2002; HAIDAR et al., 2013).

The Cerrado biome is the second largest Brazilian vegetation and has a huge number of medicinal species due to the characteristics of xylopodia and bark that hold reserves of

active pharmacological substances (MINGOTI, HOLLER, SPADOTTO, 2014). This biome draws attention due to its high number of diversities such as orders, families and plant genera, as the greater the taxonomic diversity, the greater the phylogenetic distance between the species, which allows for an extensive difference and chemical diversity between them, which is why the its importance in research on medicinal plants. Moreover, the Cerrado has attracted ambitious eyes from pharmaceutical industries that aim to develop new drugs and preserve social medicalization (CASTRO et al., 2022).

In this context an ethnopharmacological survey of the main medicinal plants used by the population in two municipalities in the state of Tocantins was carried out.

## 2. SUBJECTS AND METHODS

The research was carried out in the municipalities of Talismã and Gurupi, cities located in the southern region of the State of Tocantins. Elderly individuals of both genders were interviewed as “raizeiros”, healers, vegetable growers and people who were in those places at the time of the interview. The selection of individuals was performed using the snowball technique (SILVA, MIRANDA, CONCEIÇÃO, 2010), where a respondent indicates other individuals with knowledge of medicinal plants that can be interviewed due to the ability of the same to identify other similar members until exhaustion by sample repetition.

Data collection took place in the period from September to December 2016, through a semi-structured interview with the semi-structured questionnaire according to the methodology proposed by Albuquerque & Hanazaki (MAGNANI et al., 2005).

The profile of the interviewees was analyzed, about which medicinal plants they knew, the way of preparation, use and therapeutic indication of them. The identification of the scientific name of the plants cited by the population was carried out through consultations with the Missouri Botanical Garden, Brazilian Agricultural Research Company (EMBRAPA), INCT – Virtual Herbarium of Flora and Fungi, Reflora - Flora of Brazil and Herbarium Berolinense. This Project was approved by the Research Ethics Committee of the Federal University of Tocantins (0106/2012).

## 3. RESULTS AND DISCUSSION

The total number of people who were willing to provide information on medicinal plants through their prior knowledge in the two municipalities totaled 50 individuals aged 20-89

years-old, with 100% and 62.5% of them, respectively, in Talismã and Gurupi were between 50 and 89 years old, with a greater representation of the female gender (**Table 1**) in the two municipalities studied.

**Table 1**. Profile of the respondents of Gurupi and Talismã.

| Variables | Cities | |
|---|---|---|
| | **Talismã** | **Gurupi** |
| **Gender** | | |
| Male | 10 | 32,5 |
| Female | 90 | 67,5 |
| **Education** | | |
| Illiterate | 60 | 22,5 |
| Incomplete elementar school | 40 | 5 |
| Elementary School | - | 32,5 |
| High School | - | 22,5 |
| Higher education | - | 17,5 |
| **Age** | | |
| 20 to 29 | - | 7,5 |
| 30 to 39 | - | 17,5 |
| 40 to 49 | - | 12,5 |
| 50 to 59 | 20 | 25 |
| 60 to 69 | 30 | 17,5 |
| 70 to 79 | 20 | 17,5 |
| 80 to 89 | 30 | 2,5 |
| **Family income** | | |
| 1 minimum wage | 60 | 17,5 |
| 2 minimum wages | 40 | 40 |
| ≥ 3 minimum wages | - | 42,5 |

**Source:** production of the authors.

In the Talismã survey, 90% of the interviewees were female, as well as in the study in the south of Brazil (VENDRUSCOLO, MENTZ, 2006). In the city of Gurupi, 67.5% of women were obtained, corroborating the studies made in Bahia, Brazil (SANTOS et al., 2017), and Rio Grande do Norte, also Brazil (COELHO et al., 2016), who presented in the total gender sample the percentage greater than 55% of women in the study.

The female predominance is due to the woman being culturally the caretaker of the home, making use of the medicinal plants, because they are plants that grow next to the house, in the vegetable garden and in the Yard (ARAUJO, LEMOS, 2015), besides the fact

of the data collection occur at times that the men are in the work in small towns (FERRAO et al., 2014).

Regarding age, according to a study in two municipalities from São Paulo about the knowledge of use of medicinal plants (QUEVEDO et al., 2011), knowledge of plants is characterized by the passage of oral knowledge from generation to generation. The understanding of the therapeutic use of herbal plants is mostly attributed to the elderly, since they tend to conserve traditional plant use (LIMA et al., 2012).

The level of schooling of the population was heterogeneous in the city of Gurupi (**Table 1**) since they cover all levels of schooling, but in the city of Talismã there were only two levels: illiterate and incomplete elementary school. The degree of schooling does not influence the understanding of these plants and highlights the importance of popular knowledge of medicinal resources, since this does not depend on formal education (CAJAÍBA et al., 2016).

Demographic data such as low level of schooling, higher numbers of older people and income of up to two minimum wages in the city of Talismã and Gurupi, individuals with all levels of schooling, people in all age groups and income up to 3 wages and socioeconomic development in the municipalities studied, but without losses in the regional knowledge of medicinal plants, since in the city of Talismã and Gurupi, respectively 100% and 92.5% of the respondents answered positively to the use of the medicinal plants.

The data from the Talisman studies are in agreement with a study in a municipality from the south state from Brazil (BATTISTI et al., 2013), who identified that the 'Snow Ball' methodology is related to the indication of the individuals of the same social class and network of relations restricting that people with lower income use of the medicinal plants.

However, the incentive to the modism of the consumption of natural products takes several social classes to know these plants in the pharmaceutical formulations and not only the conventional knowledge of the classes with less income (ARAUJO et al., 2014).

A total of 106 medicinal plants (**Table 2 and 3**) were outlined, distributed in 42 families, the Lamiaceae family is the most represented in both study sites, totaling 10.81% in Gurupi and 18.75% in Talismã. They are the most present families in the populations studied in communities from Amazonas, Brazil (CASSINO, 2010; VÁSQUEZ, MENDONÇA, NODA, 2014), due to being a cosmopolitan family composed of herbs, shrubs and trees (MENDES, 2007).

**Table 2.** Medicinal plants described in Gurupi – TO.

| Popular name | Family | Scientific name | Way of use | Part of the plant | Popular Indication |
|---|---|---|---|---|---|
| Aça peixe | **Compositae** | *Vernonia ferruginea* | Tea | Leaf | Pneumonia, flu, cough |
| Saffron | **Zingiberaceae** | *Curcuma longa* | Tea | Root | Cholesterol |
| Watercress | **Brassicaceae** | *Rorippa sp.* | Tea | Leaf | Diuretic |
| Rosemary | **Lamiaceae** | *Rosmarinus officinalis* | Tea | Folha | Hypertension, influenza, migraine anti-inflammatory, rheumatism, soothing |
| Alfavaca | **Lamiaceae** | *Ocimum basilicum* | Tea | Leaf | Influenza, sinusitis |
| Lavender | **Lamiaceae** | *Lavandula officinalis* | Tea | Leaf | Burn, conjunctivitis, migraine |
| Cotton | **Malvaceae** | *Gossypium Barbadense L.* | Tea | Leaf | Anti-inflammatory, gastritis, sinusitis |
| Garlic | **Liliaceae** | *Allium sativum L.* | Tea | Root | Influenza |
| Angelim | **Fabaceae** | *Andira fraxinifolia Benth.* | Tea, syrup | Leaf, bark | Anti-inflammatory |
| Angico | **Fabaceae** | *Anadenanthera falcata (Benth. Speg.)* | Tea, juice | Bark, resin | Anti-inflammatory, healing |
| Araçá-boi | **Myrtaceae** | *Psidium sp.* | Juice | Leaf, fruit | Anti-inflammatory |
| Arnica | **Asteraceae** | *Lychnophora ericoides Less.* | Syrup, tea, juice | Leaf | Anti-inflammatory, Flu, tendinitis |
| Aroeira | **Anacardiaceae** | *Myracrodruon urundeuva Allemão* | Tea, juice, syrup | Leaf, bark | Anti-inflammatory, Liver infection |
| Arruda | **Rutaceae** | *Ruta chalepensis L.* | Juice | Leaf | Erysipelas, hemorrhage anti-inflammatory, flu, asthma, healing |
| Aloe vera | **Aloaceae** | *Aloe vera (L.) Burm* | Tea, juice | Leaf, root | Influenza, skin burn, anti-inflammatory. |
| Barbatimão | **Fabaceae** | *Stryphnodendron barbatiman M.* | Tea, syrup | Leaf, bark. | Hepatic and intestinal disease |
| Baru | **Leguminosae** | *Dipteryx alata Vog.* | Oil | Frui, bark. | Influenza, back pain. |
| Purge potato. | **Convolvulaceae** | *Ipomoea sp.* | Tea | Leaf, root. | Soothing |

| | | | | | |
|---|---|---|---|---|---|
| Boldo | **Monimiaceae** | *Peumus boldus Molina* | Tea | Bark, leaf | Flu, diuretic, Prostate, and bowel disease. |
| Buriti | **Palmae** | *Mauritia flexuosa Linn.f.* | Oil | Fruit | Depurative, soothing, skin burn. |
| Cagaita | **Myrtaceae** | *Eugenia dysenterica DC.* | Tea | Leaf, fruit. | Soothing, diabetes control. |
| Chamomile | **Compositae** | *Matricaria chamomilla L.* | Tea | Leaf | Diarrhea, liver infection, throat infection, soothing |
| Cana de macaco | **Zingiberaceae** | *Costus spiralis (Jacq.)* | Tea | Leaf | Anti-inflammatory |
| Cinnamon | **Lauraceae** | *Cinnamomum zeylanicumi L.* | Tea | Leaf, bark. | Soothing, flu, abdominal distension. |
| Canela d'ema | **Velloziaceae** | *Vellozia flavicans Mart.ex Schult.* | Tea | Leaf | Soothing, back pain. |
| Capim Santo | **Graminiaceae** | *Cymbopogon citratus D.C.* | Tea | Leaf, root. | Flu, soothing, hypertension |
| Carcharum | **Asteraceae** | *Baccharis trimera (Less) DC* | Tea | Leaf. | Inflammation in the stomach, weight loss |
| Confrei | **Boraginaceae** | *Symphytum officinale l.* | Tea | Leaf. | Healing. |
| Copaíba | **Leguminosae** | *Copaifera langsdorfii D* | Oil. | Bark | Urinary infection. |
| Embaúba | **Cecropiaceae** | *Cecropia pachystachia Trécul* | Tea | Leaf | Urinary infection. |
| Cidreira Herb. | **Lamiaceae** | *Lippia alba (Mill.) Blume* | Tea | Leaf | Flu, soothing, herpes. |
| Fennel | **Apiaceae** | *Foeniculum vulgare (mill.) gaertn.* | Tea | Leaf, flower | Anti-inflammatory, asthma, fever, soothing, menstrual cramps, migraine |
| Holy spine | **Celastraceae** | *Maytenus ilicifolia M.* | Tea | Leaf | Stomach pain. |
| Eucalyptus | **Myrtaceae** | *Eucalyptus melanophloia L* | Tea | Leaf | Stomach pain, fever, labyrinthitis. |

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|---|---|---|---|---|---|
| Fedegoso | **Fabaceae** | *Artemisia ocidentalis L* | Tea, juice | Leaf, root | Influenza, anti-inflammatory |
| Folha santa/gorda | **Crassulaceae** | *Bryophyllum pinnatum* | Juice | Leaf | Anti-inflammatory, erysipelas |
| Ginger | **Zingiberaceae** | *Zingiber officinale R.* | Tea | Root | Diabetes, gastritis urinary infection, anti-inflammatory, flu, weight loss. |
| Gervão | **Verbenaceae** | *Stachytarpheta jamaicensis* | Juice | Leaf | Vermífugo, anti-inflammatory |
| Guava | **Myrtaceae** | *Psidium gaujava L.* | Tea, Juice | Leaf | Vermifuge, anti-inflammatory |
| Mint | **Lamiaceae** | *Mentha* 1. *piperita L.* | Tea | Leaf | Cough, flu, fever, soothing, sore throat. |
| Purple Ipê | **Bignonicaceae** | *Tabebuia aurea (Mart.) Bur.* | Tea, juice | Bark | Allergy |
| Jatobá | **Fabaceae** | *Hymenaea courbaril* L. | Tea, juice | Leaf, bark | Uterine infection, anemia |
| Orange | **Rutaceace** | *Citrus sinensis (L.) O.* | Tea | Leaf, dried fruit peel | Anti-inflammatory, flu |
| Lemon | **Rutaceae** | *Citrus limon (L.) Burn.* | Tea, juice | Leaf | Hepatitis, influenza, hypertension. |
| Losma | **Compositae** | *Artemisia verlotorum Lamotte* | Tea, juice. | Leaf | Stomach pain, sedative. |
| Malva do Reino | **Malvaceae** | *Malva sylvestris L.* | Tea, juice. | Leaf | Anti-inflammatory, flu |
| Papaya | **Caricaceae** | *Caripa papaya L* | Tea | Leaf, flower | Soothing, flu, healing, anti-inflammatory |
| Mango | **Anarcadiaceae** | Mangifera indica L. | Tea | Bark, fruit, seed. | Sore throat and intestinal infection |
| Mangaba | **Apocynaceae** | *Hancornia speciosa Gomez* | Tea | Leaf | Measles, anti-inflammatory |
| Basil | **Laminaceae** | *(Lour.) Spreng.* | Tea | Leaf | Influenza, sore throat. |
| Mastruz | **Chenopodiaceae** | *Chenopodium ambrosioides L.* | Tea | Root, leaf | Anti-inflammatory, healing, vermifuge |

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|---|---|---|---|---|---|
| São caetano melon | **Cucurbitaceae** | *Momordica charantia L.* | Syrup | Leaf | Anti-inflammatory |
| Tangerine | **Rutaceae** | *Citrus reticulata L.* | Tea | Leaf | Liver and intetinal disease |
| Noni | **Rubiaceae** | *Morinda citrifolia* | Tea | Seed | Heart and kidney disease |
| Pau terra | **Vochysiaceae** | *Qualea grandiflora Mart.* | Tea | Leaf | Influenza |
| Pé de perdiz | **Malpighiaceae** | *Camarea affinis A. St.-Hil.* | Tea | Leaf | Diuretic, headache. |
| Pequi | **Caryocaraceae** | *Caryocar brasiliense Camb.* | Tea, oil. | Flower, core, leaf | Kidney infection, Influenza. |
| Piaçava | **Arecaceae** | *Attalea geraensis Barb. Rodr.* | Tea | Leaf | Sore throat |
| Picão | **Asteraceae** | *Bidens pilosa L.* | Tea | Leaf | Anti-inflammatory |
| Pitanga | **Myrtaceae** | *Eugenia uniflora L.* | Tea | Leaf | Bronchitis |
| Podoi | **Fabaceae** | *Copaifera langsdorffii Desf.* | Oil | Bark | Diabetes |
| Poejo | **Lamiaceae** | *Mentha pullegium L.* | Tea | Leaf | Diabetes, flu. |
| Quebra pedra | **Euphorbiaceae** | *Phyllanthus niruri L.* | Tea | Leaf | Diabetes, kidney disease |
| Quina | **Rubiaceae** | *Coutarea hexandra L.* | Tea, syrup | Leaf | Anti-inflammatory, increase apetite. |
| Pomegranate | **Punicaceae** | *Punica granatum* | Tea | Leaf, Fruit bark, seed. | Fever, sore throat. |
| Sabugueiro | **Caprifolicaceae** | *Sambucus nigra L.* | Tea | Leaf | Measles, vermifuge |
| Salvia | **Labiateae** | *Salvia officinalis L.* | Tea | Bark | Diarrhea |
| Sambaiba | **Dilleniaceae** | *Curatella americana L.* | Tea | Leaf | Influenza, cough |
| Sangra D'agua | **Euphorbiaceae** | *Croton urucurana* | Tea | Leaf | Back pain |
| Sete dor | **Lamiaceae** | *Plectranthus barbatus Andr.* | Tea, juice | Leaf | Diabetes, fever, stomach pain. |
| Sucupira | **Fabaceae** | *Pterodon polygalaeflorus (Benth.) Benth.* | Syrup | Seed | Fever, anti-inflammatory, hepatitis. |

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|---|---|---|---|---|---|
| Trançagem | **Plantaginaceae** | *Plantago major L.* | Tea, syrup | Bark, seed. | Anti-inflammatory |
| Trevinho | **Araliaceae** | *Didymopanax macrocarpum (C. & S.) Seem.* | Tea | Leaf | Heart Arrhythmia |
| Unha de gato | **Rubiaceae** | *Uncaria tomentosa L.* | Tea | Leaf | Allergy, skin inflammation |
| Vique | **Lamiaceae** | *Mentha arvensis* | Tea, juice | Leaf | Back pain, hiccup. |

**Source:** production of the authors.

**Table 3.** Medicinal plants described in Talismã – TO.

| Popular Name | Family | Scientific name | Ways of use | Part of the plant | Popular Indication |
|---|---|---|---|---|---|
| Rosemary | **Lamiaceae** | *Rosmarinus officinalis* | Tea | Leaf | Liver disease, anti-inflammatory |
| Alfavaca | **Lamiaceae** | *Ocimum basilicum L.* | Tea | Leaf | Menstrual cramps, diarrhea |
| Cotton | **Malvaceae** | *Gossypium Barbadense L.* | Juice | Leaf | Intestinal infection |
| Arruda | **Rutaceae** | *Ruta chalepensis L.* | Syrup | Bark | Anti-inflammatory, influenza, depurative |
| Aloe vera | **Aloaceae** | *Aloe vera (L.) Burm* | Tea | Leaf, root. | Kidney disease |
| Barbatimão | **Fabaceae** | *Stryphnodendron barbatiman M.* | Syrup | Fruit, seed, bark | Anti-inflammatory, labyrinthitis |
| Baru | **Fabaceae** | *Dipteryx alata Vogel* | Tea, syrup | Milk, bark. | Uterine inflammation |
| Boldo | **Monimiaceae** | *Peumus boldus Molina* | Tea, syrup | Bark and seed. | Interstine infection. |
| Cagaita | **Myrtaceae** | *Eugenia dysenterica DC.* | Tea | Root | Gastritis |
| Capim Santo | **Graminiaceae** | *Cymbopogon citratus D.C.* | Tea | Leaf | Flu, asthma |
| Carrapicho | **Compositae** | *Acanthospermum australe (Loef.) O. Ktze.* | Tea | Leaf | Uterine inflammation |
| Fedegoso | **Leguminosae** | *Cassia occidentalis L.* | Syrup | Bark | Gastritis, anti-inflammatory |

| | | | | | |
|---|---|---|---|---|---|
| Ginger | **Zingiberaceae** | *Zingiber officinale R.* | Tea | Leaf | Influenza |
| Mint | **Lamiaceae** | *Mentha piperita L.* | Tea | Leaf, root. | Kidney disease, influenza |
| Jatobá | **Fabaceae** | *Hymenaea stigonocarpa Mart. ex Hayne* | Syrup | Fruit, seed, bark | Anti-inflammatory, labyrinthitis |
| Papaya | **Caricaceae** | *Caripa papaya L* | Tea, syrup | Milk, bark | Uterine inflammation |
| Manacã | **Rutaceae** | *Spiranthela odorantissima A. St.-Hil.* | Tea, syrup | Bark and seed. | Infection |
| Mangabeira | **Apocynaceae** | *Hancornia speciosa Gomez* | Tea | Root | Gastritis |
| Basil | **Lamiaceae** | *Ocimum basilicum L.* | Tea | Bark, seed. | Prostate disease, influenza |
| Mastruz | **Chenopodiaceae** | *Chenopodium ambrosioides L.* | Tea | Leaf | Flu, asthma |
| São caetano melon | **Cucurbitaceae** | *Momordica charantia L.* | Tea | Leaf | Uterine infection |
| Mentrasto | **Asteraceae** | *Ageratum conyzoides L.* | Tea, juice | Leaf | Vermifuge, flu |
| Buriti oil | **Palmae** | *Mauritia flexuosa Linn.f.* | Tea | Leaf | Abdominal pain |
| Poejo | **Lamiaceae** | *Mentha pulegium L.* | Syrup | Bark | Gastritis, Anti-inflammatory |
| Quebra pedra | **Euphorbiaceae** | *Phyllanthus niruri L.* | Syrup | Bark | Anti-inflammatory, flu, depurative |
| Quina | **Rubiaceae** | *Coutarea hexandra L.* | Tea | Leaf | Flu |
| Angico resin | **Fabaceae** | *Anadenanthera falcata (Benth. Speg.)* | Tea | Leaf, root, resin | Kidney disease |
| Pomegranate | **Punicaceae** | *Punica granatum* | Tea, syrup | Bark, leaf. | Influenza, intestinal constipation, low back pain, pneumonia |
| Sangra D'agua | **Euphorbiaceae** | *Croton urucurana* | Tea, syrup | Resin | Asthma |

| | | | | | |
|---|---|---|---|---|---|
| Sucupira | **Fabaceae** | *Pterodon polygalaeflorus (Benth.) Benth.* | Syrup | Fruit, seed, bark | Anti-inflammatory, labyrinthitis |
| Umburana | **Leguminosae** | *Amburana cearensis (Fr. Allem.)* | Tea, syrup | Bark, seed. | Intestinal infection |
| Vique | **Lamiaceae** | *Mentha arvensis* | Tea | Bark, seed. | Prostate disease, influenza |

**Source:** production of the authors.

The plants of the family Lamiaceae are distributed all over the world, but are better adapted to the tropical climate and cover about 3,200 species, especially M. piperita L. (Peppermint), Melissa officinalis L. (Cidreira), Ocimum basilicum L.(Basil) and others (LIMA, CARDOSO, 2007).

The Mentha piperita (mint) plant was the most reported in the two municipalities, with ten and eight citations, respectively, in Gurupi and Talismã, followed by four of Cymbopogon citratus DC (Capim Santo) in Talismã and eight of Aloe vera (L.) Burm (Babosa) in Gurupi.

In the ethnobotanical survey of Goiás and Paraná (ZUCCHI et al., 2013; SILVA, QUADROS, NETO, 2015) emphasized the Mentha mint as the most referenced plant. This species is rich in essential oil and used in folk medicine for gastralgia, stomatology, colic, chronic bronchitis, soothing, hypotensive, liver disorders, antiallergic, antiemetic, antidepressant.

The use of leaves of medicinal plants occurs due to easy access and does not interrupt the development of the plant and promotes the conservation of the vegetal resource (MALAQUIAS et al., 2014; BELIZÁRIO, SILVA, 2012). In this context the leaf was the part of the plant most used in the city of Gurupi (60%) and in the municipality of Talismã was the bark removed from the stem (29.41%) followed by leaf (27.4%). According to the survey about use of medicinal plants on the treatment of gastrointestinal system disorders (GOIS et al., 2016), the leaf (65%) was the most used part followed by bark (15%) and on the survey about diversity and use of medicinal resources the bark was the most cited part of the research (CHAVES, BARROS, 2012).

Among the forms of plant use, tea is the main form of preparation with a higher percentage of citation (**Table 4**) being prepared as infusion, where the part used is covered by boiling water and muffled for minutes and decoction with the immersed vegetable in water

and boiled for a short time; bottle with parts placed in the solvent (wine, alcohol, cachaça, water) for several days; juice by cooking and maceration for extraction; oil subjected to temperature rise for hot removal.

**Table 4.** Profile of the plants that were described in Gurupi and Talismã.

| | Cities | |
|---|---|---|
| | **Talismã %** | **Gurupi %** |
| **Way of use** | | |
| Tea | 60 | 69,4 |
| Juice | 5 | 16,9 |
| Syrup | 35 | 8,4 |
| Oil | - | 5,3 |

**Source:** production of the authors.

Tea is one of the most consumed beverages in the world and refers to the product of medicinal value infusions that contribute to hydration, aid in the digestion of food, and temperature control (ARAUJO et al., 2014). In a study about the use of medicinal plants in Goiás was described tea as the most used form of preparation as well as the studies in communities from Minas Gerais and Mato Grosso (OLIVEIRA, GONDIM, 2013; ALVES, POVH, 2013; JESUS et al., 2009).

## 5. CONCLUSION

It was found that the studied population that had the greatest participation was the women and extends to several age groups, a greater predominance of individuals with low education level. Tea was the most suitable preparation method, because the leaves are the most used part by the population studied.

Thus, the study offers an important contribution to the expansion of research in the Cerrado biome in the context of ethnopharmacology, aiming at future studies of the active principles of medicinal plants as well as the preservation and dissemination of popular knowledge as an interface of the health sciences.

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