MEDICINAL PLANTS USED BY THE POPULATION OF VIÇOSA, MG, BRASIL - PRELIMINARY STUDY

PLANTAS MEDICINAIS UTILIZADAS PELA POPULAÇÃO DE VIÇOSA, MG, BRASIL - ESTUDO PRELIMINAR

PLANTAS MEDICINALES UTILIZADAS POR LA POBLACIÓN DE VIÇOSA, MG, BRASIL - ESTUDIO PRELIMINAR

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ABSTRACT: The Ethnobotany listing was realized from July to August 2006, in which 205 residents of Viçosa in the state of Minas Gerais (MG), Brazil were interview. The interview was realized using a semi-structured questionnaire containing a socioeconomic profile and questions related to the use of medical plants, in which the plants cited by the interview people were organized in 78 species with a total of 518 citations. Among the accounted plants the most cited were Hortelã *(Mentha sp.)* (17,4%), Boldo *(Plectranthus barbatus* Andrews*)* (7,9%), Erva cidreira *(Melissa officinalis L.)* (7,3%), Camomila *(Chamomilla recutita* (L.) Rauschert.*)*, (5,8%) and Macaé *(Leonurus sibiricus* L.*)*, (5,8%). The most used part of the plants was the leaf (69, 1%), being infusion the most common way of administration cited (61, 9%). The Ethnobotany listing permitted verify that the

traditional use of medicinal plants in the municipal of Viçosa-MG has traditionalism and its use is related with scientific knowledge, once its therapeutics recommendation are known by science and valid by traditional knowledge.

KEYWORDS: Ethnobotany, Medical plants, Medicine Traditional.

RESUMO: O levantamento etnobotânico foi realizado de Junho a Agosto de 2006, onde foram entrevistados 205 moradores da cidade de Viçosa, MG, Brasil. A entrevista foi realizada utilizando-se um questionário semi-estruturado contendo o perfil socioeconômico e questões relacionadas ao uso de plantas medicinais, onde as plantas citadas pelos entrevistados foram agrupadas em 78 espécies com um total de 518 citações. Dentre as plantas relatas as mais citadas foram Hortelã (*Mentha sp*.) (17,4%), Boldo (*Plectranthus barbatus* Andrews) (7,9%), Erva cidreira (*Melissa officinalis* L.) (7,3%), Camomila (*Chamomilla recutita* (L.) Rauschert.) (5,8%) e Macaé (*Leonurus sibiricus* L.) (5,8%). A parte das plantas mais utilizadas foi a folha (69,1%) sendo a infusão o modo de preparo o mais citado (61,9%). O levantamento etnobotânico permitiu verificar que o uso tradicional de plantas medicinais no município de Viçosa-MG, possui tradicionalidade, e sua utilização está condizente com o conhecimento científico, visto que suas indicações terapêuticas são reconhecidas pela ciência e validadas pelo conhecimento tradicional.

DESCRITORES: Etnobotânica, Plantas medicinais, Medicina tradicional.

RESUMEN: El estudio etnobotánico se realizó de junio a agosto de 2006, donde se entrevistó a 205 residentes en la ciudad de Viçosa, Brasil. La entrevista se llevó a cabo mediante un cuestionario semi-estructurado que contiene el perfil socioeconómico y las cuestiones relativas a la utilización de plantas medicinales, donde las plantas mencionadas por los encuestados fueron agrupados en 78 especies con un total de 518 citas. Entre las plantas de la casa de moneda más citados Hortelã (*Mentha sp*.) (17,4%), Boldo (*Plectranthus barbatus* Andrews) (7,9%), Erva cidreira (*Melissa officinalis* L.) (7,3%), Camomila (*Chamomilla recutita* (L.) Rauschert.) (5,8%) y Macaé (*Leonurus sibiricus* L.) (5,8%). La parte de la planta con mayor frecuencia fue el modo de la hoja (69,1%) y la infusión de la administración el más utilizado (61,9%). El estudio etnobotánico ha demostrado que el uso tradicional de plantas medicinales en Viçosa-MG, ha tradicionalidad y su uso es consistente con el conocimiento científico, ya que sus

indicaciones terapéuticas están científicamente reconocidos y validados por el conocimiento tradicional.

PALABRAS CLAVE: Etnobotánica, plantas medicinales, la medicina tradicional.

INTRODUCTION

The use of plants on treatment and cure of illness it is as antique as human being. The search for relief and cure of illness probably may have been one of the first ways of using natural products[1]. Nowadays the knowledge about medical plants is discussed not only in Brazil but on the entire world[2], and offers a contribution to science development, starting from knowledge of empiric character[3].

The major of the world population does not have access to modern medicine and consequently to the synthetic and herbal medicine, resorting than, to the popular medicine. The acquisition of medical plants it is done in many ways, including industry business, grocery stores and herb stores, root stores or by extracting from nature usually near residence[2]. However the search for quality of these products is indispensable, which makes fundamental the use of systematic methods for a better scientific evidence of the real using of herbal and validation of production and cultivation technological processes[4].

Many researchers have been developed to call attention to the popular use of medical plants in many regions of Brazil. Vila Verde et al.[5] made a list of the most used vegetable species by the population of Mossâmedes – GO. Another similar research was developed by Soares et al.[6] where the objective was to evaluate the use of medical plants in the town of São João do Polêsine – RS. Equally, Rodrigues & Carvalho[7] researched the use of medical plants in the region of Alto Rio Grande – MG. These studies "spread" to the entire national territory reveal the worry with the species and its way of use [5].

The Ethnobotany approach, that is to say, the study of medical plants by popular observation about its use and efficiency, contributes in a relevant way to publish the therapeutic virtues of vegetable and helps the researchers in the selection of species for botanic studies, pharmacologic and phytochemical [5]. It demonstrates the importance of valorization of different knowledge and the importance of combination between them so the right usage of the medical plants can be promoted [8]. This study is part of a project initiated in 2006 that aimed to check the popular use, identify key plants used and how they are used by communities of Viçosa and cities that make up your region. The focus of the

study is a preliminary survey of information on the medicinal use of native plants, naturalized and cultivated, used for therapeutic purposes by people living in neighborhoods near the center of the city of Viçosa. Recent studies on the use of plants used in popular medicine and Viçosa region has been carried out Almeida et al.[9], Miranda et al. [10] and this work contributes to the expansion of this knowledge.

METHODS

The Ethnobotany listing was done in the city of Viçosa – MG, Brazil, between July and August 2006, according to IBGE data (2007)[11], has an urban population of 70.704 inhabitants. During this study 205 residents were interviewed.

The interview was realized using a semi-structured questionnaire containing a socioeconomic profile (age, gender, monthly income, education, use of medicine) and questions related to the use of medical plants as: popular name, reason for using it, where to find them, used parts, how to prepare and therapeutics purpose. The interviewed people had the right to participate or not, as well it were explained the objective of the study. All the quotations of the interviewed people were analyzed and a identification of plants was carried out through their common names and comparing them with pictures for confirmation using appropriate reference

material such as books and scientific papers on medicinal plants, the same were not herbalized. The results were analyzed by descriptive statistic of value parameters.

Whole experiment was conducted being approved by the Commission of Ethics of the Faculdade de Ciências Biológicas e da Saúde (UNIVIÇOSA), under protocol number 47/2008.

RESULTS AND DISCUSSION

The population sample studied were 205 people, residents of central city neighborhoods, being 25,8% male and 74,2% female, similar result was observed by Jesus et al.[12] in a study realized in the community of Pirizal, in the town of Nossa Senhora do Livramento – MT, where most of the interviewed were female. In studies conducted in neighborhoods farther from the central city of Viçosa similar results are reported, where women are the major holders of knowledge about plants playing a key role in the transmission of information [9].

This results can be justified by the fact that at the moment of the interview (morning period), the men were at work and the women were involved in the house work, which is the local reality.

The interviewed presented age superior 20th, where 69,3% were over 40. From the total, 15,6% had a monthly income under a minimum wage, 67,4% with a monthly income between one and

four minimum wages and 17,0% with a income over four minimum wages. Related to education, 5,4% didn't have any, 36,6% had incomplete primary school, 15,1% had complete middle school, 31,7% had complete high school and 11,2% had complete college or more.

When asked about the use of plants or not, 92,7% of the interviewed people affirmed using plants as disease treatment; similar result was found by Veiga[13] on a study realized on the Mid-North of Rio de Janeiro State, where more than 90% of the interviewed used medical plants regularly for the cure of their illness. Almeida et al. [9] reports that 44% of respondents use medicinal plants because they are not harmful to health, demonstrating a lack of knowledge and the need for professional guidance regarding the appropriate use of them. Related to the use of medicine 43,4% of the interviewed declared using. These data when compared with the results of the use of plants, reveled a reduction of 49,3%, demonstrating a preference for a natural treatment.

Regarding to the reason for using medical plants (table 1), 51,6% of the interviewed declared familiar tradition, resulting similar to the one found by Vendrusculo & Mentz[8], where 78,4% of the interviewed declared that the reason for using medical plants comes from the knowledge acquired from relatives.

Table 1. Reason for using medical plants.

Reason	Frequency	Relative Frequency (%)
Familiar tradition	132	51,6
Not bad for health	71	27,7
It is cheaper	29	11,3
Other reason	12	4,7
Medical recommentation	12	4,7

The plants cited by the interviewed were organized in 78 species, and each interviewed person cited the use of at least three plants. There were 518 cited plants (table 2). Among the accounted plants the most cited were Hortelã (*Mentha sp.*) (17,4%), Boldo (*Plectranthus barbatus* Andrews*)* (7,9%), Erva cidreira *(Melissa officinalis L.)* (7,3%), Camomila *(Chamomilla recutita* (L.) Rauschert.*)*, (5,8%) and Macaé *(Leonurus sibiricus* L.*)*, (5,8%).

Table 2. Medical plants used by interviewed people.

Scientific name	Common name	Therapeutic identification	Frequency	Relative Frequency (%)
Abrus precatorius L.	Jequeri	Expectorant	1	0,2
Achillea millefolium L.	Dipirona	Anti-flatulence	2	0,4
Achyrocline satureioides (Lam.) DC/	Macela	Antispasmodic	6	1,2
Ageratum conyzoides L.	Mentrasto	Analgesic	1	0,2
Agrimonia eupatoria L.	Agrimônia	Antiinflammatory	1	0,2
Aloe vera (L.) Burm. f.	Babosa	Healing	3	0,6
Alternanthera brasiliana (L.) O. Kuntze	Terramicina	Diuretic	1	0,2
Apium graveolens L.	Aipo	Diuretic	1	0,2
Artemisia absinthium L.	Losna	Dyspepsia	4	0,8
Baccharis trimera (Less.) DC.	Carqueja	Antidiarrheal	7	1,4
Bidens pilosa L.	Picão	Antipyretic	4	0,8
Bixa orellana L.	Urucum	Antipyretic	1	0,2
Cajanus cajan (L.) Millsp.	Feijão Andu	Antitussive	1	0,2
Calendula officinalis L.	Calêndula	Thrush	1	0,2
Camellia sinensis (L.) Kuntze	Chá verde	Antiulcerogenic	3	0,6
Catharanthus roseus (L.) G. Don	Boa noite	Hypoglycemic	1	0,2
Chamomilla recutita (L.) Rauschert.	Camomila	Soothing	30	5,8
Chenopodium ambrosioides L.	Santa Maria	Anthelmintic	4	0,8
Citrus aurantifolia	Limeira	Antirheumatic	1	0,2
Citrus aurantifolia (Christm.) Swingle.	Limão	Treatment of Hemorrhoids	5	1,0

Tabela 2, Cont.

Citrus aurantium L.	Laranja da Terra	Expectorant	1	0,2
Citrus sinensis Osbeck.	Laranjeira	Analgesic	2	0,4
Costus spicatus (Jacq.) Sw.	Cana de macaco	Laxative	2	0,4
Cymbopogon citratus (DC) Stapf.	Capim cidreira	Soothing	8	1,6
Cynara scolymus L.	Alcachofra	Hypolipidemic	1	0,2
Desmodium adscendens (Sw.) DC.	Carrapicho	Expectorant	1	0,2
Echinodorus grandiflorus Mitch	Chapéu de couro	Diuretic	3	0,6
Equisetum giganteun L.	Cavalinha	Antidiarrheal	1	0,2
Eucalyptus globulus Labill.	Eucalipto	Antiseptic	3	0,6
Foeniculum vulgare Mill.	Funcho	Anti-flatulence	20	3,9
Gossypium hirsutum L.	Algodão	Laxative	4	0,8
Ilex paraguariensis A. St.- Hil	Chá mate	Orexigenic	1	0,2
Imperata brasiliensis Trin.	Sapé	Diuretic	1	0,2
Jathropa podagrica L.	Baspo	Dyspepsia	1	0,2
Kalanchoe sp.	Saião	Antiulcer	2	0,4
Lantana camara L.	Cambará	Expectorant	1	0,2
Leonotis nepetaefolia (L.) R. Br.	Cordão de Frade	Antirheumatic	2	0,4
Leonurus sibiricus L.	Macaé	Soothing	30	5,8
Malpighia glabra L.	Acerola	Source of vitamin C	4	0,8
Malva sp.	Malva	Antimicrobial	1	0,2
Maytenus ilicifolia Mart. Ex Reissek.	Espinheira Santa	Dyspepsia	1	0,2
Melissa officinalis L.	Erva cidreira	Soothing	38	7,3
Mentha arvensis L.	Vique	Nasal decongestant	6	1,2

Tabela 2, Cont.

Mentha pulegium L.	Poejo	Anti-flatulence	26	5,0
Mentha sp.	Hortelã	Anti-flatulence	90	17,4
Mikania sp.	Guaco	Antirheumatic	4	0,8
Momordica charantia L.	São Caetano	Hypoglycemic	1	0,2
Myroxylon peruiferum L. f.	Bálsamo	Antirheumatic	2	0,4
Nasturtium officinale R. Br.	Agrião	Antitussive	2	0,4
Ocimum basilicum L.	Manjericão	Analgesic	15	2,9
Origanum majorana L.	Manjerona	Antispasmodic	1	0,2
Passiflora edulis Sims	Maracujá	Soothing	1	0,2
Persea americana Mill.	Abacateiro	Antianemic	1	0,2
Petiveria alliacea L.	Guiné	Antispasmodic	1	0,2
Petroselinum crispum (Mill.) A. W. Hill	Salsa	Anthelmintic	4	0,8
Phyllanthus niruri L.	Quebra-pedra	Antimicrobial	6	1,2
Pimpinella anisum L.	Erva doce	Soothing	20	3,9
Plantago major L.	Tranchagem	Antimicrobial	25	4,8
Plectranthus barbatus Andrews	Boldo	Antitussive	41	7,9
Psidium guajava L.	Goiabeira	Antidiarrheal	2	0,4
Pterodon emargnatus Vogel	Sucupira	Hypoglycemic	1	0,2
Punica granatum L.	Romã	Antimicrobial	5	1,0
Pyrostegia venusta (Ker-Gawler) Miers.	Cipó de São João	Antirheumatic	1	0,2
Rosa Alba L.	Rosa branca	Laxative	4	0,8
Rosmarinus officinalis L.	Alecrim	Antirheumatic	18	3,5
Rubus brasiliensis Mart.	Amora	Laxative	3	0,6

Tabela 2, Cont.

Ruta graveolens L.	Arruda	Anthelmintic	2	0,4
Salvia officinalis L.	Sálvia	Expectorant	9	1,7
Scambucus australis Cham. & Schltdl	Sabugueiro	Antipyretic	1	0,2
Sechium edule (Jacq.) Swartz.	Chuchu	Diuretic	5	1,0
Serjania erecta Radlk.	Cinco folhas	Gastroprotective	2	0,4
Solanum paniculatum L.	Jurubeba	Dyspepsia	1	0,2
Sonchus oleraceus L.	Serralha	Antidiarrheal	1	0,2
Syzygium aromaticum (L.) Merril. & Perry	Cravo	Carminative	1	0,2
Taraxacum officinale Weber.	Dente de leão	Diuretic	1	0,2
Tropaeolum majus L.	Capuchinha	Antiseptic	1	0,2
Zea mays L.	Milho	Diuretic	3	0,6
Zingiber officinale Roscoe	Gengibre	Antimicrobial	5	1,0

According to Lorenzo and collaborators[14], the kind *Mentha* (Lamiaceae) include aromatic herbs with a big variety in its morphologic characters and frequent hybridization. A large number of plants from this kind of herb have been traditionally used in the treatment of dyspepsia, intestinal colic and wind, due to its carminative and antispasmodics properties.

The specie *Plectranthus barbutatus* Andr. (Lamiaceae), according to the interviewed people, it is good to fight cough, sore throat and bronchitis. These information are in accordance with Costa[15] where he accounts that the specie presents many biologics activities that have already been studied and proved, between them are hypotensive action, inotropic positive, cardiovascular, bronco-dilate, activation of the adelilate cyclase, inhibition of plaque collect (anti-metastasis), anti-tumor, antinociceptive and anti inflammation.

According to Reis and collaborators[16] the specie *Mellisa officinalis* L. (Lamiaceae) presents moderate sedative properties in sleep disturbs, in reducing nerves disorders symptoms, excitement reduction, anxiety, tension beyond antispasmodics and carminatives that are in accordance with the data of this research.

The specie *Chanomilla recutita* (L.) Rauschert (Asteraceae), according to the literature it is one of the most well documented medical plant in herbal medicine, whose flours are used internally and externally to relief a vast disturb list, particularly the ones related to inflammation conditions. Chamomile is mostly used as a sedative for perfusion and against anxiety, and as a digestion auxiliary for gastric-intestinal treatment, especially for babies and kids[17]. The research showed that the specie have been utilized as a tranquillizer in colic treatment and appetite stimulant according to the literature data.

Leonurus sibiricus L. (Lamiaceae) according to the interviewed people presents the activity against fever and edema, excessive menstruation and anxiety. These data are in accordance with the ones from[18] that account that the same plant is utilized in the folkloric medicine due to its many therapeutics properties like: antispasmodics, diuretics, tonic and carminative, against rheumatic pain, urinary inflammation and stimulant. However, the stimulant property contradicts with the data cited by the interviewed people, when they account its use as tranquilizer. In chinese medicine, the seeds of *L. sibiricus* are considered aphrodisiac and the dry plant is prescript as toning and used in menstrual dysfunction[19].

Among the used parts (table 3), the leaf was the most cited (69,1%), confirming with Pereira et al.[3], Amorozo[20] , Vendrusculo & Mentz[8] and Jesus et al.[12] that also found the same result. The fact of using the leaves is convenient, the leaf is the easiest part to obtain and its collection does not harm

the plant keeping the specie alive. Related to the most common way of preparation, infusion represented 61,9%, similar result Amorozo[20] obtained when studying the use and variety of medical plants in the city of Santo Antonio do Leverger, in the state of Mato Grosso.

Regarding to the way of acquisition of the medical plants (table 3), 61,3% are obtained from the backyard of the interviewed people, which indicates the cultivation of these plants. Almeida et al. [9] when listing medical plants found in the central city neighborhoods of Viçosa, Minas Gerais obtained similar results, indicating that both the central region and the suburbs have similar profiles as the plant used, preparation methods and local production.

Table 3. Place of acquisition, way of using and utilized part of the species cited by interviewed people.

Questions	Frequency	Percentage (%)
Where do you get the plant?		
Own backyard	309	61,3
Herb stores	100	19,9
Friends backyard	75	14,9
Native forest	20	4,0
How do you use the plant?		
Infusion	322	61,9
Decoction	108	20,7
Maceration	40	7,7
Juice	27	5,2
Inhalation	8	1,5
Syrup	8	1,5
Plaster	6	1,2
Compress	1	0,2
Used part of the plant.		
Leaf	365	69,1
Whole plant	71	13,5
Flowers	40	7,6
Bunch	27	5,1
Fruit	9	1,7
Roots	9	1,7
Seeds	7	1,3

The cultivation of medical plants is important for the preservation of the vegetables species, removing them from its natural environment have cause a reduction of these species[8]. This approach through the popular observation about the use and effectiveness of medical plants contribute in a relevant way to spread the therapeutic virtues of the vegetables and helps the researchers to select species for botanic, pharmacologic and phytochemical studies.

The Ethnobotany listing permitted verify that the traditional use of medical plants in the town of Viçosa-MG, has traditionalism related to the use of medical plants and its use is and its use is related with scientific knowledge, once its therapeutics recommendation are known by science and valid by traditional knowledge.

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