



**Integration of good practices and new methods for professional
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CHAPTER 17.

MEDICINAL HERBS AND HEALTH

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1. INTRODUCTION

In recent decades has been a significant increase in the use of medicinal plants. This is mainly explained by the development of phytotherapy, offering prepared with quality, safety and efficacy, as well as increased social demand for natural origin drugs, so that an estimated 60-80% of the world's population sometime of their lives, use medicinal plants with healing purposes.

In Europe, the dispensing of medicinal plants represents 25% of the global market for pharmaceutical advertising specialties (self-prescription drugs, OTC) with an estimated 10% annual growth.

The medicinal plant (MP) is defined by experts from the World Health Organization (WHO) as any plant in one or more of their organs contains substances that may be used for therapeutic purposes or are precursors for semi-synthetic chemical-pharmaceutical.

The medicinal plants are classified in two categories:

- 1.-Plants used exclusively to obtain the active principles responsible for its pharmacological action; such as digital sheet, sumidadelphra, belladonna leaf, opium among others.
- 2.- Plants or parts of them used intact or like extracts. This second category is known as plant of medicinal used. Medicinal plants can become drugs when they adapted to the regulations of each country and have the properties of quality, safety and efficacy.

2. USE OF PHYTOTHERAPY

Phytotherapy is used in the prevention and treatment of diseases and improving the quality of life of patients. In some cases it will be enough to cure a disease and in other cases aid will be other medications, or help improve certain associated symptoms. His main field of action is mild to moderate disease, and chronic diseases, thus being useful in the therapy of the most common diseases in primary care. In some cases it will be enough to cure a disease and other aid will be other medications, or help improve certain associated symptoms.

3. DISEASES THAT COULD BE TREATED WITH MEDICINAL

HERBS

3.1. DIGESTIVE SYSTEM, LIVER, BILE DUCTS

- Loss of appetite
- Dyspepsia
- Flatulence
- Gastritis, ulcers
- Motion sickness, hyperemesis gravidarum
- Constipation, diarrhea, irritable bowel syndrome
- Hepatitis
- Biliary dyskinesia

3.2. RESPIRATORY SYSTEM

- Flu and colds
- Rhinitis, sinusitis
- pharyngitis
- Bronchitis, asthma

3.3. CIRCULATORY SYSTEM

- Mild to moderate heart failure
- Arterial hypertension
- Venous Stasis: varicose veins, arterial occlusive disease hemorrhoids -
- Capillary fragility

3.4. LOCOMOTIVE

- Bone inflammation
- Osteoarthritis

3.5. METABOLISM

- Hyperlipidemias
- Diabetes Overweight

3.6. NERVOUS SYSTEM

- Anxiety, Depression of sleep disorders (mainly mild or moderate) - cognitive- headaches- disorders Asthenia

3.7. URINARY SYSTEM

- Urinary tract infections - Lithiasis

3.8. REPRODUCTIVE SYSTEM

- Premenstrual syndrome
- Disturbances of menstruation
- Symptoms associated with menopause
- Benign prostatic hyperplasia

3.9. DERMATOLOGICAL DISEASES

- Inflammatory and infectious disorders of the skin and mucosa
- Bruises, trauma- Psoriasis

4. QUALITY OF HERBAL

All PM, even considering the low toxicity having the active ingredients of many of them, can lead to health problems because: microbiological contamination, traces of pesticides and herbicides (not necessarily applied directly on it, if not from fumigations in nearby areas), traces of heavy metals, etc. Furthermore, medicinal species acquired in bulk, lack the minimum guarantees as to the authenticity of the same, to which is attached which may be accompanied by other species collected at par inadvertently, which at best cases, would lack of activity, may be the fact that these pollutants contribute plant toxicity MPs to be acquired.

4.1. POSOLOGY

The doses to be administered as well as the possibility of interactions with other concomitantly administered medications are circumstances which directly affect the effectiveness and safety of phytomedicinal. All this is compounded by the fact that, in many cases, the patient affected by a given disease, when questioned by the medication he receives, it does not include the phytomedicinal because not identified as drug and may lead the appearance of possible interactions, side effects and incompatibilities.

4.2. SECURITY

The long-term consumption of medicinal plants is exempt chronic toxicity, although there are exceptions to this rule; is the case, for example, those containing pyrrolizidine alkaloids, as with *Cynoglossum* (hound's tongue), *Tussilago* (coltsfoot, coltsfoot, coltsfoot), *Senecio* (ragwort) and *Symphitum* (comfrey), in anorexia, lethargy and abdominal pain, subsequent destruction of hepatocytes and damage the branches of the hepatic vein, with the risk of thrombosis: that after a latent period of weeks or months, various symptoms are detected. Similarly, the PM with anthracene derivatives (*Senes*, buckthorn, cascara, etc.), too profusely used as laxatives, can cause alterations in the intestinal mucosa as a result of prolonged use.

Besides the above, there are many other species used as medicinal, whose use in long term treatment can lead to the occurrence of significant side effects; this happens, for example horsetail: continuous use produces an increase in urinary excretion of calcium and phosphates, accompanied by decrease in uric acid.

Another important parameter to consider is the age of the patient, as there are certain PM whose therapeutic use is subject to strict dosage control in infants and early childhood : as in the case of species commonly used in cases of cold shaped of vapors with a decongestant intentionality and may lead to serious problems in young children (apnea in case of misuse of species rich in menthol and / or pulegone , as in different species of mint , vomiting and altered level of consciousness in the case of excessive use of eucalyptus, etc.) , as well as some of those used to facilitate the expulsion of gases (anise, fennel) in early childhood , whose content in anethole can cause liver problems when it is used at high doses of those species .

Here are the plants used to treat different diseases or symptomatology (Table 1).

Table 1. Indications of different medicinal plants

SYSTEM	PLANT	INDICATIONS
	Wort (<i>Hypericum perforatum</i>) Valerian (<i>Valeriana officinalis</i>) Passionflower (<i>Passiflora incarnata</i>)	Depression

CENTRAL NERVOUS SYSTEM	<p>) Lemon balm (<i>Melissa officinalis</i>)</p> <p>Hops (<i>Humulus lupulus</i>) Ginkgo (<i>Panax spp</i>)</p> <p>Eleutherococcus (<i>Eleutherococcus senticosus</i>) Rhodiola (<i>Rhodiola rosea</i>)</p> <p>Maca (<i>Lepidium meyenii</i>)</p> <p>Ginkgo (<i>Ginkgo biloba</i>)</p>	<p>Insomnia</p> <p>anxiety</p> <p>cognitive impairment</p> <p>stress</p> <p>sexual dysfunctions</p>
INFLAMACIÓN DOLOR	<p>Harpagofito (<i>Harpagophytum procumbens</i>)</p> <p>Sauce (<i>Salix alba</i>)</p> <p>Arnica (<i>Arnica montana</i>)</p> <p>Matricaria (<i>Tanacetum parthenium</i>)</p>	<p>Inflammation</p> <p>Articular pain</p> <p>Headaches, topically</p>
CARDIOVASCULAR SYSTEM	<p>Hawthorn (<i>Crataegus spp .</i>)</p> <p>Olive (<i>Olea europea</i>)</p> <p>Garlic (<i>Allium sativum</i>)</p> <p>Horse chestnut (<i>Aesculus hippocastanum</i>)</p> <p>Rusco (<i>Ruscus acculeatus</i>)</p> <p>Hammamelis (<i>Hamamelis virginiana</i>)</p> <p>)</p> <p>Red vine (<i>Vitis vinifera</i>)</p>	<p>Palpitations</p> <p>Hypertension</p> <p>Hyperlipidemia ,</p> <p>Venous disorders</p>

<p>METABOLISM</p>	<p>Artichoke (<i>Cynara scolymus</i>) Phytosterols Glucomannan (<i>Amorphophallus konjac</i>) Red yeast rice Java tea (<i>Ortosiphon stamineus</i>) Horsetail (<i>Equisetum arvense</i>) Bladderwrack (<i>Fucus vesiculosus</i>) Te (<i>Camellia sinensis</i>) Plantago (<i>Plantago spp.</i>)</p>	<p>Hyperlipidemia , cholestasis Water retention , demineralization Overweight , constipation</p>
<p>DIGESTIVE SYSTEM</p>	<p>Star anise (<i>Illicium verum</i>) Anise (<i>Pimpinella anisum</i>) Fennel (<i>Foeniculum vulgare</i>) Chamomile (<i>Matricaria recutita</i>) Mint (<i>Mentha spp.</i>) Licorice (<i>Glyzyrrhiza glabra</i>) Mary thistle (<i>Silybum Marianum</i>) Boldo (<i>Peumus boldus</i>) Sen (<i>Cassia spp.</i>) Frangula (<i>Rhamnus frangula</i>) Cascara (<i>Rhamnus purshianus</i>)</p>	<p>Flatulence, dispepsia, gastritis, ulcer, hepatitis, constipation cholestasis</p>
<p>RESPIRATORY SYSTEM</p>	<p>Mallow (<i>Malva sylvestris</i>) Ivy (<i>Hedera helix</i>) Echinacea (<i>Echinacea spp.</i>) Eucalyptus (<i>Eucalyptus globulus</i>) thyme (<i>Thymus spp.</i>) Malva (<i>Malva</i></p>	<p>Cold and respiratory disorders</p>

	<i>sylvestris</i>)	
GENITOURINARY SYSTEM	<p>Bearberry (<i>uva- ursi Arctostaphyllum</i>) Heather (<i>Erica spp.</i>) Cranberry (<i>Vaccinium macrocarpon</i>) Soybean (<i>Glycine max</i>) Black cohosh (<i>Cimicifuga racemosa</i>) Red clover (<i>Trifolium</i>) Chasteberry (<i>Vitex agnus- castus</i>) Evening primrose (<i>Oenothera biennis</i>)</p>	<p>Cystitis climacteric symptoms of menopause premenstrual syndrome, dermatitis</p>
SKIN	<p>Aloe gel (<i>Aloe spp.</i>) Oats (<i>Avena sativa</i>) Rosehip Oil (<i>Rosa aff. Rubiginosa</i>) Centella (<i>Centella asiatica</i>) Calendula (<i>Calendula officinalis</i>) Walnut (<i>Juglans regia</i>) Burdock (<i>Arctium lappa</i>) Melaleuca essential oil (<i>Melaleuca alternifolia</i>) Sage (<i>Salvia officinalis</i>)</p>	<p>Dehydration, irritation, swelling, scars, wounds, swelling, hyperhidrosis Acne Infections: skin, vaginal Infection, hyperhidrosis</p>

5. MEDICINAL PLANTS TO TREAT OVERWEIGHT

Once diagnosed overweight, it is important to start treatment quickly because excess weight is epidemiologically associated with numerous diseases that increase the risk of morbidity and mortality in individuals with the disease. Moreover, one can not forget that being overweight can be considered the threshold for obesity, hence the need to act against him, in order to prevent the individual from becoming obese. According to the American Obesity Association, the risk of death of obese people is between 50 and 100% higher than people with normal weight. Among the most frequent diseases are:

- Cardiovascular disease
- Hyperlipidemia (atherosclerosis)
- Cerebrovascular disease
- Arterial hypertension
- Diabetes
- Hyperuricemia and gout
- Musculoskeletal disorders (hips, knees, spine, ankles)
- Varicosis
- Difficulty breathing (apnea)
- Mental disorders: depression, anxiety, social isolation, low self-esteem, lower tolerance to pain, decreased sexual activity, etc.
- Malignant tumors: colon, rectum, prostate, breast, endometrial, kidney.

Medicinal plants can be used as aids in the treatment of overweight and its administration must be accompanied in all cases by an adjustment of food intake and an increase in spending by conducting daily exercise. Treatment with natural products must be individualized, using the clinician to suggest the most appropriate to each case , for each plant or natural product has a specific mechanism of action and a particular pharmacological characteristics, which should be counseled according to global patient characteristics (age, overall health , concomitant therapy , etc.) .

5.1. PHYTOTHERAPY IN THE OVERWEIGHT

Medicinal plants act causing decreased appetite, either by inducing satiety mechanisms physical type or inhibiting it by acting on centers in charge of regulating CNS.

MEDICINAL PLANTS THAT DECREASE THE ABSORPTION

The group of products with satiating activity is mainly composed of active ingredients with heterogeneous structure mucilaginous polysaccharides obtained from roots, bulbs, fruits and seeds of higher plants and some algae petals. These products when ingested with plenty of water swell, causing an indigestible gel that induces satiety. But also they act as absorption delaying of carbohydrates and fats (triglycerides and cholesterol) as softeners mucosal and, after passage through the gut, as regulators of intestinal transit. Effects that contribute, along with its satiating capacity, to reduce body weight.

Within this group are included among others: plantains, glucomannan and fucus.

PLANTS INHIBITORY APPETITE

They act on the centers responsible for controlling appetite centrally.

The process of regulating appetite is very complex and involves several areas of the brain, especially the hypothalamus through the release of various neuropeptides orexigenic (appetite - inducing) and anorectic (inhibitors). Other substances produced outside the CNS also involved, many also of peptide nature (insulin, leptin, etc.) that can cross the blood brain barrier, acting on such central structures

Among the orexigenic peptides, it was found that neuropeptide Y is a powerful appetite stimulant. His administration in experimental animals also causes hunger, reduced energy expenditure, stimulation of hepatic lipogenesis and increased adipose tissue. Among appetite suppressants (anorectic) insulin, cholecystokinin, leptin, intestinal peptide and peptide PYY, GLP, etc. are For example, activating them hypothalamic leptin acts on specific receptors and consequently creating satiety signal. However, in obese individuals leptin is elevated by what has been suggested that resistance phenomena may occur to this peptide.

Among the medicinal plants used to treat overweight and obesity are:

Bitter orange (*Citrus aurantium L. spp amara, Rutaceae*)

Hoodia gordonii (*Masson*) Sweet ex Decne , (Queen of Namibia, " Xhoba ")

Sumidad ephedra (*Ephedra spp . , Ephedraceae*) , known as Ma huang , is a gifted and highly regarded drug traditionally used in the treatment of bronchial asthma and other processes. For years there has been an increase in the consumption of ephedra with slimming purposes and as a drug of abuse (natural ecstasy). Today it is included in the lists for doping control

INHIBITING LIPOGENESIS

GARCINIA

Garcinia cambogia Desr., Known as Malabar tamarind, is an abundant species in the evergreen forests of Konkan (South India), where it is used since ancient times as a spice and in the treatment of various diseases, such as hepatitis, laryngitis, oral infections and rheumatism. For Ayurvedic medicine, *garcinia*, besides as a laxative and flattening of digestion, is traditionally used in the treatment of various intestinal parasites, as well as menstrual delays.

HERBAL THERMOGENIC ACTIVITY

There are some herbs that because it contains xanthan bases stimulate the process of fat consumption. Popularly they are known as "fat burning".

In this group they are guarana, matte, etc. are included. All have significant quantities of caffeine and a high concentration of polyphenol components with antioxidant activity by their different activities contribute to their beneficial health effects.

DEPURATIVE PLANTS AND PLANTS THAT IMPROVE HEPATOBILIARY FUNCTION AND DIGESTION

Sometimes it is also desirable to use in slimming preparations plants active against the liver and gallbladder, they can generally improve digestive and liver functions or to help reduce some of the risk factors associated with obesity , such as hyperlipidemia .

There are a variety of medicinal plants. Among which may be used as aids in treatments to reduce body weight is the artichoke.

OTHER USEFUL HERBAL IN PATIENTS WITH OVERWEIGHT AND OBESITY

This group includes a number of medicinal plants whose use must be closely supervised by a health professional, preferably a doctor because can cause adverse effects in some severe cases.

PLANTS WITH DIURETIC ACTIVITY

Sometimes it is overweight is associated with a slight fluid retention , which is recommended as an aid to slimming treatment , the use of controlled form of some diuretics. Phytotherapy plants has diuretic effect as in the case of tea or Java ortosifón [*Ortosiphon stamineus Benth.* , Lamiaceae (*Labiatae*)].

PLANTS WITH LAXATIVE ACTIVITY

Anthracene principles species: plants containing them as the sin (*Cassia spp*) , buckthorn (*Rhamnus frangula*) , cascara (*Rhamnus purshianus*) or rhubarb (*Rheum spp*) are safe and effective when used for short periods of time. Use without proper sanitary control can cause dependence, intestinal sluggishness or otherwise called "disease laxatives " (diarrhea , nausea , abdominal pain , etc.) . They may also cause electrolyte imbalances since, as part of their mechanism of action, inhibit the ATPase activity of Na^+ / K^+ enterocyte causing inhibition of the absorption of water, sodium and chloride, and increased potassium secretion level intestinal mucosa. These electrolyte imbalances can cause drug interactions with antiarrhythmic drugs.

The herbal laxatives with anthracene derivatives can be recommended only as timely treatment in the early days of starting the diet with calorie restriction in people with excess weight suffering from constipation and should be implemented at the same time the use of preparations of dietary fiber (plantains, glucomannan, ...) in order to promote intestinal transit and therefore a normalized defecation.

Phytotherapy is a form effective as an adjuvant for therapeutic weight loss, provided that it is used in combination with an adjustment of the diet and increased physical activity."

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