



## Herbs as an Alternative Treatment for Climateric Symptoms

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*Herbs;*  
*Climateric;*  
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*Women health.*

### **Abstract**

There is a period in the life of the woman marked by the transition from the reproductive to the non-reproductive phase a woman's life, beginning with the decline of the ovarian function and the announcement of the menopause, to this period is called Climaterium. Conventional treatments based on hormone replacement therapy (synthetic hormones) have shown a decline in the relation of this to the development of diseases such as breast cancer, so there was a greater search for new forms of treatment, such as the use of phytohormones that have propagated in recent times in Brazil. Considering the above and

the research carried out through a questionnaire applied to climacteric women in the city of Mossoro-RN, and through bibliographic reviews, this work aims at the development of a compound based on medicinal herbs marketed in the city of Mossoró that have properties the most recurrent symptoms of the climacteric, and with that providing an improvement in the quality of life of these women.

## Introduction

Nowadays, it is known that life expectancy in most parts of the world has increased, and just as, in Brazil, as people of both sexes are living longer. The life expectancy of Brazilians, which in 1950 was 43.2 years in the 90s, passed 64 years, and no last sense passed 77.32 years (IBGE, 2010). However, with a perspective of women's life surpassed by men, this way of evidencing or increasing the rate of acclimatization that in this sense, acquires an increasingly greater meaning (FREITAS, 2008).

It is noticed that the climacteric period physiological changes impact heavily on women's lives,

affecting even their mental health. As it is a natural process, women cannot be prevented from passing through the climacteric, however, they can be helped by conventional and alternative means, in combating the symptoms of this period.

In order to alleviate the symptoms, Hormone Replacement Therapy (HRT) has been used, which is the conventional treatment, the basis of the use of synthetic hormones. This type of therapy originated in 1942 when the Food and Drugs Administration (FDA) approved estrogens to treat climacteric symptoms. In the 1960s, Robert Wilson released "Feminine Forever", popularizing the idea of young women forever with the use of this treatment, at the time several studies suggested several benefits in relation to women's health. In the year 1990, HRT reached its peak, where approximately 15 million American women were using HRT (BORGES *et al.*, 2015).

HRT can be performed with estradiol or estrone compounds. The drugs are available in the form of oral pills, transdermal patches,

percutaneous and vaginal cream. The form of use (doses and type of hormone used) varies according to each patient. Among the adverse effects of using HRT, weight gain, fluid retention, irritability, lumps on the body and muscle nodules in the uterus, swelling in the breasts, overload of the liver, high blood pressure, thrombosis, and embolisms can be seen the increase in breast cancer development (MENEGHIN; BORTOLAN, 2012).

The dissemination of studies of randomized trials (Heart and Estrogen / Progestin Replacement Study (HERS) in 1998 and Women's Health Initiative (WHI) in 2002 and 2004 as best-known examples) demonstrated a double incidence of venous thromboembolic events and a 26% increase in the incidence of invasive breast carcinoma in patients treated with HRT (BORGES *et al.*, 2015).

Due to the large number of unwanted events in conventional HRT, there is a greater search for women for alternative treatments with the use of plants to combat these symptoms.

The ingestion of medicines containing Synthetic Hormones

(HS) has given way to the ingestion of substrates obtained through the vegetable route containing the bioidentical hormones of the vegetable route that is, three-dimensionally shaped molecules equivalent to human endogenous hormones (MENEGHIN; BORTOLAN, 2012).

This therapy has shown good acceptance, in the United States, 34 million women left conventional HRT in a period of 2 years (2001 to 2003). In Brazil, about 64% of gynecologists have prescribed alternative therapy with the first treatment option (MENEGHIN; BORTOLAN, 2012).

One can also verify how positive the use of medicinal plants is for users, professionals, managers, and researchers through the creation of the National Program for Medicinal Plants and Herbal Medicines, an initiative that expresses the adoption and encouragement of the practice by the Ministry of Health (BRASIL, 2009).

The use of medicinal herbs also fits into this treatment modality, through the action of phytohormones present in its composition, it has also proved to be of

great use with regard to the lack of medicines and the difficulty of patients' access in some places in the country. Another factor that contributed to the adherence to alternative treatments was greater ease of access, through the implementation of herbal medicine programs in primary health care (SILVA *et al*, 2006).

This paper aims to explain herbs with therapeutic potential against the main symptoms of climacteric. Thus, through a search for information, and observation of attitudes and behaviors of climacteric women, we developed this study in order to enable the benefit of improving the quality of life of women in the climacteric.

## Methods

There were several stages for the elaboration of this work. First, a bibliographic review was carried out to increase knowledge and obtain a theoretical basis for the construction of a questionnaire to evaluate in practice what were the most common symptoms in women. The following descriptors were used in the research: Meno-

pause, Climacteric, use of herbal medicines in the climacteric, medicinal herbs of the climacteric, and medicinal plants for menopause, conventional and alternative treatment in menopause. The search was possible through the online platforms Google Scholar, PubMed, and Scielo, without period restrictions and in Portuguese.

After reading the materials, the group prepared a questionnaire for the application of this to women who are in the climacteric period, in order to select herbs that can help control the symptoms of this period. The application took place at the CRAS Alto de São Manoel (Social Assistance Reference Center), and at the RN's Pharmacy, in the city of Mossoró-RN, for a total of 15 days.

Four medicinal plants found in the city of Mossoró were chosen to be studied, from this selection a more in-depth search of them was carried out in the Google academic online search engine, using the following descriptors: Rosemary and climacteric, Passion leaf in climacteric, blackberry in the climacteric.

## Development

Due to physiological changes, climacteric symptoms often become more intense near menopause (ANTUNES, 2003). Hormonal replacement is indicated for the relief of these symptoms. However, scientific research has turned to a new form of treatment that combines a balanced diet and the use of concentrated phytoestrogens (CARVALHO, 2013). It is observed the presence of these phytoestrogens capable of showing improvement about the remission of the climacteric symptoms, mainly concerning hot flushes and the change of mood in some medicinal herbs. Usually the use of these herbs has a popular origin, and can be found at trade fairs or planted at home (FRANCE, 2008).

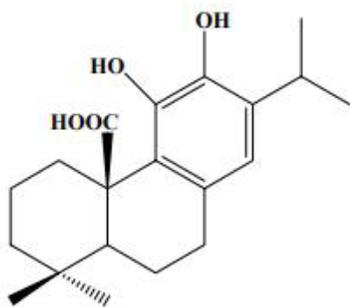
Currently, it is possible to verify the governmental and professional interest in associating technological advances with popular knowledge, thus providing sustainable development, which aims at a more effective, comprehensive and humanized health care policy (FRANCE, 2008).

It highlights the following plants with medicinal properties in menopause treatment marketed in the city of Mossoró - RN.

*Rosemary - Rosmarinus officinalis*

*Rosmarinus officinalis* it is the scientific name given to the shrub that measures roughly five feet, very branched and possibly brought by the European Catholic clergyman centuries ago to be used as incense in religious rituals, popularly known as Rosemary. This is the cousin of a wide range of other plants with a very characteristic aroma, such as Mint, Mint, Lavandula, Sage etc. In the Northeast region of Brazil, the leaves of *Rosmarinus officinalis* Linn. has been used popularly with antihypertensive, digestive and soothing properties. Such calming property occurs with the presence of phenolic compounds, such as carnolic acid (Agra *et al.*, 2007).

**Figure 1.** Chemical structure of carnosic acid. SOURCE: Google Images.



The properties of antioxidant phenolic compounds such as carnosic acid are extremely wide, extending from diabetes, cardiovascular disease and even depression. Carnosic acid is a phenolic compound belonging to a class of molecules called terpenes.

The climacteric period is marked by reduced levels of estrogen and progesterone interferes with the release of neurotransmitters essential for the harmonious functioning of the central nervous system. As a consequence, complaints of irritability, emotional lability, uncontrolled crying, depression, anxiety disorders, melancholy, memory loss and insomnia increase (FREITAS, 2008).

According to FAROOQUI *et al.* 2012, neurological diseases are accompanied by an increase in oxidative stress and induction of inflammatory signaling in brain tissue. In cases like this, it is perceived that the use of rosemary extracts would be of great importance in the prevention of various disorders related to the CNS.

#### *Blackberry – Morus nigra L.*

*Morus nigra*, is a species belonging to the genus *Morus*, family Moraceae. This plant can be found throughout Brazil and is well known to the population for its medicinal properties. *Morus* spp is part of the National List of Medicinal Plants of Interest to SUS (RENISUS), consisting of plant species with the potential to advance in the stages of the production chain and to generate products of interest to the Ministry of Health of Brazil. It has several therapeutic properties for being rich in isoflavones, standing out in the prevention of vaginal and uterine atrophy (CHIECHI, 1999; MACKAY; ÉDEN, 1998).

Isoflavones are a type of glycosylated flavonoids that have therapeutic properties, in addition to being considered phytoestrogen, which are compounds of the Plant Kingdom that have a molecular structure similar to the hormone estrogen. For the treatment of existing symptoms during the climacteric, tea from the mulberry leaves (*Morus nigra* L.) is consumed, in which it may be related to the presence of these flavonoid constituents (NOTELOVITZ, 1989). However, these constituents have not yet been identified in the leaves of *M. nigra* L., just as there is no scientific evidence for the use of tea of the species as a hormonal repository.

In summary, the use of blackberry stimulates several therapeutic actions, based on sample preparation. For example, fruit syrup is useful in the treatment of pharyngitis and inflammatory diseases of the gastrointestinal tract (LORENZI; MATOS, 2008; SENGUL; ERTUGAY; SENGUL, 2005). Fruits, leaves and peels are cited as laxative, sedative, expectorant, refreshing, emollient, soothing, diuretic, hypoglycemic,

anti-inflammatory, emetic, tonic, anthelmintic and tenifuge (ERCISLI; ORHAN, 2007; LORENZI; MATOS, 2008).

Also, these substances, when ingested, are hydrolyzed in the intestine by intestinal glycosidases, releasing aglycones, such as daidzein, genistein and glycitein, which are biologically active forms and behave like estrogens in most biological systems (PICHERIT *et al.*, 2000; SETCHELL, 1998; TANEE, 2007). Then, the active form of isoflavone will enter the bloodstream, going through the estrogen receptors.

Although isoflavones can positively contribute to the quality of life of women in menopause, there is no scientific evidence to allow the replacement of hormone replacement therapy (VIEIRA *et al.*, 2007). In contrast, the consumption of this herb in addition to conventional therapy has become effective. Therefore, the description of the use of plants with effects on the climacteric symptoms becomes relevant so that new scientific studies can be grounded.

### *Passion leafs – Passiflora incarnate*

*Passiflora incarnata* is a botanical genus of about 500 species of plants, belonging to the Passifloraceae family. They are, for the most part, vines, but there are also shrubs and few species are herbaceous. The passionflower is best known for its fruit, the passion fruit. It has good amounts of flavonoids. They have several biological and pharmacological effects, including antibacterial, antiviral, anti-inflammatory, anti-allergic and vasodilatory activity (COSTA, 2005).

Likewise, it contains substances in the herb's constitution, such as saporinas, which have an action on the central nervous system, helping neurotransmitters and providing a sense of relaxation, for example. The plant also has glycosyl phenols and cyanogenic compounds (COSTA, 2005).

It is important to note that its therapeutic activities also include preventing depression, improving concentration, good against infection, against Parkinson's disease and controlling blood pressure (COS-

TA, 2005). The parts used for the consumption of *Passiflora* are its flowers, leaves and stems. They are used to make teas, tinctures and capsules (CRIASAUDE, 2019).

Attention should be paid to consumption-related care, for example avoiding the use of this plant in high concentrations during pregnancy, as it has substances in its extract that cause increased uterine contraction. Children, patients with a history of hypersensitivity and allergy to any component of the plant, and women who are breastfeeding should only use *passiflora* after medical advice. It is not recommended for patients using other medications with a sedative, hypnotic or antihistamine effect. *Passionflower* is recommended for people with a higher level of stress, insomnia and anxiety (CRIASAUDE, 2019).

### *Mulungu - Erythrina mulungu*

*Erythrina mulungu*, is the scientific name of *mulungu*, popularly known as pocketknife, parrot's beak and cork, it is a medicinal plant very effective in the treatment of psychological problems related to stress, leaving the person more rela-

xed to perform daily tasks, due to its calming, tranquilizing and sedative action. It is worth mentioning that, according to research carried out on the ANVISA website, no record is currently valid and there is no record for herbal medicines containing only *E. mulungu* (CARVALHO, 2008).

The main parts used in the extraction are the shells and the inflorescences. However, studies have been found with other parts of the plant as well, such as stem, stem bark, root, root bark, leaves and branches (leaves and inflorescence). There is a description of the presence of flavonoids (homohesperidine, phasolin), prenylated phenolics (phasolidine), pentacyclic triterpenos (lupeol, erythrodiol), phytosteroid (betasistosterol, stigmasteroel) and alkaloids in the shells (BATITUCCI, 2012).

Among the main popular uses of different parts of *E. mulungu*, the use for insomnia disorders of the central nervous system stands out, being used by Brazilian Indians for the same purpose. It is also popularly used to calm agitation, as an anticonvulsant, antidepressant, sedative, hypnotic,

for pain in general, migraine, as an anti-inflammatory, tranquilizer, to treat bronchitis, such as hypotensive, analgesic and antipyretic. The most popular method of extraction is decoction of the bark and flowers (SCHLEIER, 2016).

Most preclinical studies describe activities related to the Central Nervous System (CNS). However, its effectiveness has not been demonstrated in any clinical study. *E. mulungu* is described in RDC 10 of 2010, which provides for the notification of vegetable drugs with ANVISA, which has already been revoked, with indication for adult use in mild cases of anxiety and insomnia, as a mild tranquilizer (BRAZIL, 2010).

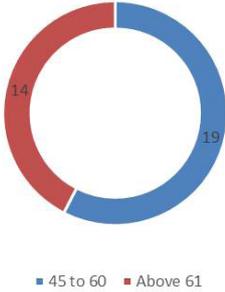
### *Graphics*

After the questionnaire was applied, about 33 women were interviewed, being obtained as data that most of the interviewees (57.58%) were between 45 and 60 years old, according to Graph 2.

In addition, information was collected on weight and height (graphs 3 and 4, respectively), as well as on the interviewees'

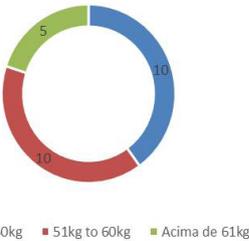
professions, where the largest share currently works at home (51.51%) without a job, as shown in Graph.5.

Age range



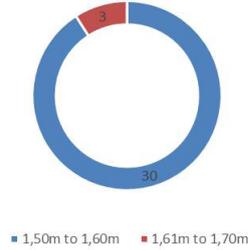
**Graph 2.** Illustrates the percentage of age of the women interviewed. Prepared by the authors.

Weight in kg



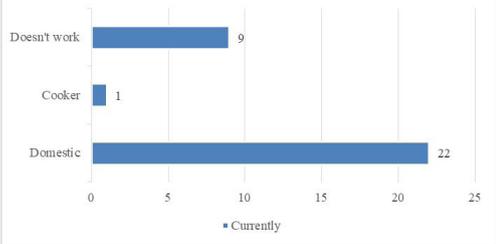
**Graph 3.** Illustrates the percentage according to the weight in kg of the women interviewed. Prepared by the authors.

Average height



**Graph 4.** Illustrates the percentage based on the height in meters of the women interviewed. Prepared by the authors.

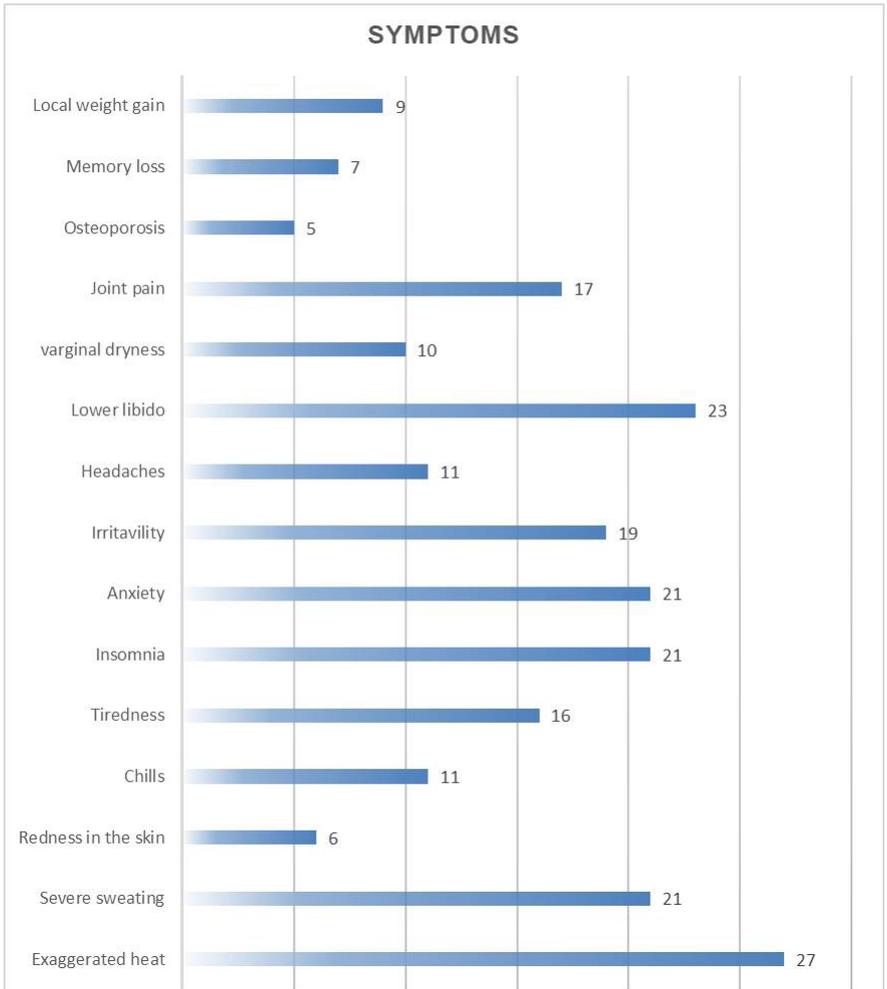
Current profession



**Graph 5.** Illustrates the percentage of women who have a profession with their proper functions / exercises. Prepared by the authors.

Then, it was asked whether the interviewee had symptoms during the climacteric and which were the most frequent. As a result, it was possible to highlight, among them, the most prevalent, such as exag-

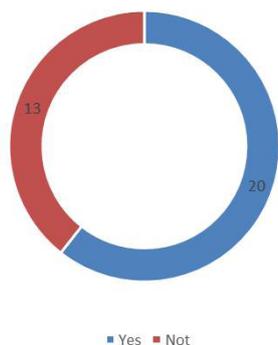
gerated heat (81.81%), followed by lower libido (69.69%) and 63.63% for intense sweating, insomnia, and anxiety (data available in table I).



**Table I.** List of symptoms reported by climacteric women. Data found in field research in pharmacy and CAPS, symptoms on the left and number of patients presenting it on the right. Prepared by the authors.

Finally, the use of natural compounds for the treatment of climacteric symptoms was analyzed and there was good acceptance (61%) among the women interviewed (graph 6).

Teas and herbs



**Graph 6.** Illustration of the use of natural compounds by climacteric women. Prepared by the authors.

## Final Considerations

The four plants analyzed in this paper have evident therapeutic potential to control the symptoms of the climacteric period. We as pharmacists should try our best to offer safer treatments with less and less adverse effects in order to contribute to the population's quality of life.

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