

Hormonal Imbalance Caused by the Palm of Mary herb (*Vitexagnus-Castus*): A Review

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Abstract: Mary's palm, chaste berries, monk's pepper, or wild lavender are all different names for one herb known for its ability to balance hormones in the body. During the Middle Ages, it was associated with the Greek goddess Hera, the protector of home, marriage, and fidelity, and Demeter, the goddess of harvest and fertility. It was believed to be able to curb sexual desire, so the monks used to eat it. Maryam herb indirectly affects many hormones such as Prolactin, progesterone, and estrogen. It treats menstrual symptoms, infertility, and menstrual syndrome because it involves some hormones in the female reproductive cycle. It works by activating the dopamine release in the brain, which leads to a decrease in the prolactin hormone in the pituitary gland, thus reducing the symptoms of PMS. Prolactin also causes a reduction in estrogen in women and testosterone in men. In addition to its role in promoting breast growth and milk production.

Keywords: Mary's palm, hormones, menstrual symptoms, Prolactin.

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INTRODUCTION

The plant of Maryam's palm (in English: Vitex or *Vitexagnus-castus*), or what is also known as the chaste tree (in English: Chaste Tree) is a small shrub that bears purple flowers in addition to its fruits called chastity berries or monk's pepper. This name calls it because it reduces the sexual desire of men.

Given the many benefits of Maryam's palm, many nutritional supplements are currently being sold that contain the extract of the fruits and seeds of Maryam's herb, which are used to treat many gynecological diseases, including premenstrual syndrome, menstrual disorders, and menopausal symptoms [1].



Figure 1: A-Vitexagnus-castus Tree B- flowers [1]

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It is believed that the benefits of Mary's herb are due to its effect on the levels of several sexual hormones. It is possible that this herb promotes the secretion of luteinizing hormone and thus increases progesterone levels. It is also believed that chasteberries can affect levels of the hormone prolactin [2].

Taxonomy of *Vitexagnus-castus*

As of the most recent plant classification, there are 223 species in the genus *Vitex* [3]. *Vitexagnus-castus* is a low tree or tall shrub that grows up to 3–6 m tall. It can be found in L. as a standard, upright shrub or as a prostrate, creeping habit with a height of less than 1 m. Older trunks have light gray bark with a hint of pink that cracks into roughly rectangular shapes with edges that curve up. The young shoots are gray and have a slight four-sided shape. The leaves are opposite, thin, palmate, and 8 to 12 cm long and 12 to 14 cm wide. Each leaf has three to seven leaflets. White hairs cover the underside of the leaves. The paniced, terminal or axillary inflorescence is 15-20 cm long and 6-8 cm wide.

Several flowers are there. The corolla has two lips, one on top and one on the bottom. The bottom lip has three teeth and the top lip has two teeth. The petals can be lilac, purple, white, light pink, dark pink, or dark purple. The lobes inside the lower lip are hairy, where the stamens stick to the lower lip. Long, shaggy hair grows in patches all the way to the base of the cut in the middle earlobe, which is much bigger than the other two. The ovary is round and up to 0.1 cm in diameter. It has four stamens and a pistil that is bigger than the petals. The fruit is round, dark brown or black, with a blue bloom and a shiny drupe. It is 3–4 mm in diameter and almost completely covered with fuzzy calyx. Because the fruits of the prutnyak look like black pepper and have a spicy flavor, they are sometimes used in place of black pepper. The fruits are ripe from June to October and hang on the tree until December or January [4].

In the past, the size and color of the flowers, the degree of leaf blade dissection, and the degree of leaf blade serration were used to tell the difference between different kinds and forms of chaste trees. But modern taxonomy considers *V. agnus-castus* L. to be the same as all ancient infraspecies ranks.

Chemical Structure

The fruits of the chaste tree contain terpenoids, flavonoids, iridoids, and phenol carboxylic acids. Terpenoids make up most of the secondary metabolites in the essential oil. Using chromatography and spectroscopy, scientists have been able to find more than 60 different compounds in the fruits of the chaste tree. When it comes to the kinds and amounts of chemicals they have, chaste tree fruits mostly have flavonoids and iridoids.

The two most important flavonoids are catechin and luteolin-7-glycoside. Other chemicals include luteolin, 3,3'-dihydroxy-5,6,7,4'-tetramethoxyflavone, 3,7-tetramethoxyflavone, 3-methylquercetin, 3-methylkaempferol, and 5,3',5'-tetrahydroxy-5,6,7,4'-tetramethoxyflavone. attempting, vitexin, orientin, isovitexin, isoorientin, trihydroxymethoxyflavanone, dimethyl quercetin, 3-O-methyl kaempferol, 3-hydroxy 5,6,7,4- 5,7,3',5'-tetrahydroxyflavanone, kaempferol, pendulation, and eupatorine [5].

The main iridoid of the chaste tree is diagnosed. Aucuba, 6-O-p-hydroxybenzoylmussaenosidic acid, aucuba, 10-p-coumaroylaucubin (eurostoside), aucubin, 6-O-p-hydroxybenzoylmussaenosidic acid, and aucubin are some of the other iridoids [6]. focused, and the acid mussaenosidic [7]. Because of scientific research, we now have access to a few more phenolic compounds. Here are some examples: p-hydroxybenzoic acid, p-hydroxyphenyl ethanol-p-coumarate, myzodendrone, chlorogenic acid, 3,4-dihydroxybenzoic acid, 5-hydroxy-2-methoxy benzoic acid, vanillic acid, caffeic acid, ferulic acid, p-hydroxybenzoic acid, methylisovanillate, and methyl3,4-dihydroxybenzoic acid. Dihydroxybenzoate [8].

Vitexilactone, Vitexilactone B, Vitetrifoline C, Vitetrifoline D, Vitetrifoline I, Rotundifuran, and Spatulanol, In the lipophilic fraction, you can find 8-Epi Manoyl Oxide, Aromadendren-4, 10-Diol, 3-Epi-Corosolic Acid, 3-Epi-Maslinic Acid, and Ilelatifol D [9]. The pharmacological qualities of many medicinal plants come from their essential oils. Because essential oils are different in how they are studied, how they are used in medicine, how they look and behave, and how they are made, it is best to talk about these things separately.

According to a lot of research, the main part of the essential oil made from the chaste tree's fruit is a molecule called a terpenoid. Gas chromatography with a mass detector is the most common and useful way to look at the chemical and physical makeup of essential oils. Researchers used water vapor distillation to separate the following compounds from the essential oil of mature, air-dried fruits of the chaste tree: essential oils from the pine, sabinene, pine, myrcene, p-cymene, and limonene families, 1,8-cineole, cis-p-ment-2-en-1-ol, trans-p-ment-2-en-1-ol, Dihydroaromadendren, curcumen, viridiflorene, -bisabolene, -basanite, trans—caryophyllene, trans—bergamotene, cis—farnesene, and trans—farnesene are the remaining substances.

Maryam's palm For the health benefits

Here comes a statement of the health benefits of the herb Maryam's palm in some detail: Reducing breast pain Eating the herb may help relieve breast pain in English (Mastalgia). Herb extracts Maryam's palm

can be effective and beneficial in relieving breast pain, but this effectiveness needs further evaluation and scientific studies to prove it in reducing symptoms of premenstrual dysphoric disorder [10].

Some scientific research indicated that Maryam's palm herb can relieve physical symptoms of dysphoric disorder. Premenstrual dysphoric disorder, such as: swelling, breast pain, and cramps, is better than its effect on psychological symptoms: Premenstrual syndrome), especially breast pain, constipation, irritability, depression, mood changes, anger, and headaches in some women, but it may not affect the bloating caused by this disorder [11]. For the possibility of using the palm of Mary herb to reduce the cycle and get rid of the symptoms of premenstrual syndrome.

Enhancing fertility

The effect of the herb Mary's palm in enhancing fertility is not clear [12], A systematic review of 43 studies published in the Electronic Physician in 2017 indicated that the herb Maryam's palm may be useful in cases of infertility in both women and men, as it The fruits of this herb contain linoleic acid, which is able to bind to estrogen receptors, causing induction of some estrogen genes, and it also contains phytoestrogens that are particularly selective for estrogen receptors. The herb chasteberry contains a variety of compounds that bind to dopamine D2 receptors in the brain, which can reduce the secretion of the hormone prolactin (in English: Prolactin) [13], it's important enough to bring up. Indirectly, elevated prolactin levels may dampen the production of luteal phase progesterone. Infertility has been linked to this condition [14], therefore, it is plausible that the herb improves fertility in women by lowering prolactin levels and normalizing menstrual periods, however further research is needed to establish this [15].

As for males, a study indicated. Laboratory studies published in the Pakistan Journal of Biological Sciences in 2007 indicated that chasteberry extract can be beneficial for male infertility, by increasing luteinizing hormone (in English: Luteinizing hormone) or the stimulating hormone of the corpus luteum, and testosterone [16], But the effectiveness of this benefit still needs more studies.

Reducing menorrhagia

The palm of Maryam herb can help relieve menorrhagia (in English: Menorrhagia); A preliminary study published in the Scandinavian Journal of Caring Sciences in 2013 indicated that chasteberry is effective and useful in relieving bleeding caused by the intrauterine device (in English: Intrauterine device [17] but many studies showed that the consumption of this herb did not have any effect. A clear and significant effect in relieving menstrual bleeding [18].

Alleviating menopausal symptoms Many women have a wide range of symptoms throughout menopause due to the normal reduction in female reproductive hormones like estrogen and progesterone, including irregular menstruation, vaginal dryness, chills, night sweats, hot flashes, and dry skin [19]. Essential oil derived from Maryam's palm fruits and leaves was shown to significantly reduce menopausal symptoms in a 2003 study published in Complementary Therapies in Nursing & Midwifery [20]. However, the current body of scientific evidence does not support the use of chasteberry herb for the relief of menopause symptoms, and more extensive research are required to corroborate these early findings [21].

Reducing symptoms associated with menopause

Many women have a wide range of symptoms throughout menopause due to the normal reduction in female reproductive hormones like estrogen and progesterone, including: irregular menstruation, vaginal dryness, chills, night sweats, hot flashes, and dry skin [22]. Essential oil derived from Maryam's palm fruits and leaves was shown to significantly reduce menopausal symptoms in 2013 study published in Complementary Therapies in Nursing & Midwifery [23]. However, there is not enough data to suggest using chasteberry herb to alleviate menopause symptoms at this time, and more extensive research are required to corroborate these early findings [24, 25].

CONCLUSIONS

- Diseases and plant extracts with many different parts can both change how hormones work in the body.
- Vitex extract stimulates important parts of the body, such as the hypothalamic-hypophyseal, opioid, and immune systems.
- These systems have receptors in every part of the body, and they all work together to have the therapeutic effect that was intended without causing any unwanted side effects. If these interactions are studied in a planned way, it could lead to the creation of new kinds of medicines.
- The chaste tree is a unique medicinal plant in words pertaining to pharmacology There have been numerous clinical controlled investigations.

RECOMMENDATIONS

- ✓ Given the extensive spectrum of pharmacological effects caused by its chemical constituents and the potency of the extract.
- ✓ Additional research on Vitex is necessary to find synergistic interactions and strategies for controlling female reproductive function, this will make it possible for women to receive current treatments for concerns such as premenstrual syndrome and infertility.

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