Female Tonic Botanicals to Enhance Reproductive and Menopausal Health

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Discussion

MENOPAUSAL TRANSITION

A woman experiences multiple phases throughout her life from onset of menses (menarche), which represents the start of her reproductive phase, through the menopausal transition to the post-menopausal time of life. Each phase is characterized by intricate, fluctuating hormonal and physiological interactions and changes. Factors that influence menstrual, reproductive, and menopausal health include genetic, epigenetic, nutritional, exercise, and lifestyle. Women most often enter menopause between the ages of 45 to 55. The post-menopausal phase begins when a woman has had no menstrual flow for 12 months in a row, though about 10% of women will experience some menstrual bleeding after this time.[1-3]

Menopause is a natural life transition during which women may experience a variety of mild to severe symptoms. During the peri-menopausal phase, which can begin in the mid-40s, women begin to experience hormonal shifts that cause changes in their menstrual cycle, menstrual flow, sleep pattern, and metabolism. Women can also experience vasomotor symptoms, urogenital atrophy, tissue dryness, mood changes, and decreased libido. Osteoporosis is most commonly associated with the menopausal and post-menopausal phases during which estrogen levels are decreased. Characterized by reduced bone mass and deterioration of the microarchitecture of the bone tissue, osteoporosis results in increased susceptibility to bone fractures due to skeletal fragility.[1-3]

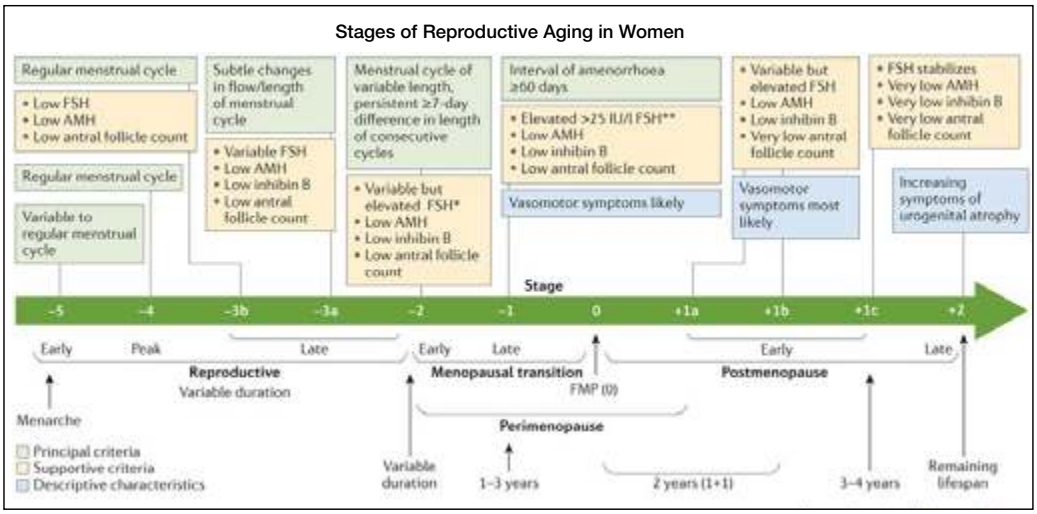
HERBAL APPROACHES TO MENOPAUSE

Historically women have utilized herbal medicines to support and enhance their well-being throughout their entire life cycle. Many women today have concerns about the potential side effects of hormonal treatments during the menopausal transition, or simply choose to take a natural herbal route to support their well-being. Herbs have been safely used for thousands of years in cultures worldwide to support women's health through their reproductive years, menopausal transition, and beyond. Researchers are studying many of these herbs to discover their possible mechanisms of action and efficacy, and these studies most often validate their traditional usage.

Medical herbal traditions, including European, North American, Eclectic, Ayurvedic, and Chinese, have long histories of respected use for women's health. Black Cohosh, Vitex, Hops, and Red Clover are examples of highly valued herbs in European and Eclectic traditions as well as in some North American indigenous cultures, prized for their role in supporting women's reproductive health throughout their life cycle.

Chinese medicine uses many herbs to enhance the peri-menopause years and menopausal transition, including Rehmannia, Eucommia, Dioscorea, and Polygonum, which are nourishing, supportive, and rejuvenative tonic herbs. These time-proven herbs enhance overall health throughout the reproductive cycle and promote healthy aging. Shatavari is revered in both Chinese and Ayurvedic medicines as a profoundly restorative, moistening, and rejuvenative tonic especially for women. Licorice is renowned in all of these traditional medicines for its nourishing, soothing, and moistening qualities.

Many of these herbs have been combined together in traditional formulas for thousands of years. The application of herbs used in specific combinations is documented by modern research. For example, since Red Clover and Black Cohosh are both found to significantly reduce intensity and frequency of hot flashes in menopausal women, they are often combined together to enhance this influence.[2,3]



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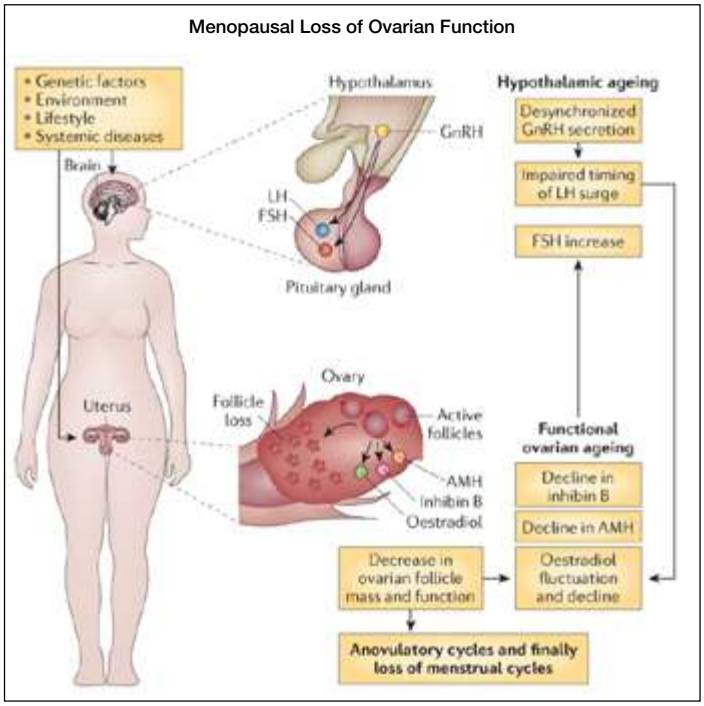

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Shatavari (*Asparagus racemosus*)

Shatavari is highly valued as a premier female tonic in Ayurvedic and Chinese medicines due to its powerful nourishing and moistening properties. It is a primary ingredient in anti-aging formulas because of its potent restorative and rejuvenative qualities. Chinese medicine uses Shatavari to moisten dryness and clear Yin-deficiency heat. As such, it is highly valued to relieve many peri-menopausal and menopausal symptoms, and to enhance longevity when combined with herbs appropriate for the individual.[4,5]

In Ayurvedic medicine, Shatavari is a primary herb for women's reproductive health throughout all stages of life. Shatavari means "one who possesses a hundred husbands" because of its profound restorative qualities and use as the premier female tonic to promote vitality and sexual health. It is a restorative tonic for conditions of dryness, including vaginal dryness, which is often prevalent during menopausal years. It is traditionally used to increase libido, enhance reproductive health, and as a post-partum tonic to help normalize the uterus and modulate hormonal balance.[4,5]

Ayurvedic medicine classifies Shatavari as an Ayurvedic rasayana herb – a special group of herbs utilized to prevent aging, promote longevity, and to support immune response, mental activity, vigor, and vitality. As such, it is considered an adaptogenic herb that modulates multiple physiological systems.

Traditionally valued for nervous disorders and to calm inflammation, Shatavari is found to improve mood, calm irritability, and to enhance both nervous and immune function. Research find that Shatavari exerts antioxidant, anti-diabetic, and immuno-modulatory influence. Shatavari extracts are shown to inhibit pro-inflammatory cytokines.[4-7]

Shatavari contains a wide range of phytochemicals including steroidal saponins (known as shatavarins), alkaloids, isoflavones, polysaccharides, flavonoids (including quercetin and rutin), and sterols (including sitosterol), along with trace minerals. It contains zinc, manganese, copper, cobalt, calcium, magnesium, potassium zinc, and selenium. It also contains proteins, essential fatty acids (gamma linoleinic), along with carotenoids and diosgenin. The saponins known as shatavarin I-IV are found to support the body's own natural hormonal system.[4,5,8]

Chinese Yam (*Dioscorea oppositifolia*)

Dioscorea contains over 600 species, many of which are used for food or medicine in cultures around the globe. *D. oppositifolia* is traditionally used in China as a food and a powerful tonic to enhance vitality and energy. Included in many traditional formulas for this purpose, it has been used safely for thousands of years. *D. oppositifolia* is a key ingredient in several renowned Chinese herbal formulas used to support women's health particularly during the menopausal transition.[9]

The tuber is rich in starch and protein along with naturally-occurring steroid saponins. Studies find that diosgenin, an abundant saponin in yams, influences numerous biochemical pathways. It demonstrates anti-inflammatory, anti-hyperlipidemic, anti-diabetic, and immuno-modulatory actions. In the liver, diosgenin is found to influence enzyme metabolism and signal-transduction pathways.[9-11] It exerts antioxidative and anti-aging activity and is found to increase superoxide dismutase and glutathione activity.[12]

The glycosides of diosgenin and diosgenin itself are shown to exert bone protective influence. It is found to modulate bone density and help prevent bone loss.[13-16] One possible mechanism of action is its influence on estradiol levels and inhibition of high bone turnover. Diogsenin is also thought to influence bone loss through regulation of the hormonal and immune system.[17]

Diogsenin is found to benefit the adrenal glands (in menopause-induced hypertrophy) and the hormonal system.[12] Studies report it improves epidermal thickness in ovariectomized rats and benefits collagen metabolism. Estrogen-stimulating bioactive proteins have been isolated from diosgenin.[18]

Chaste Berry (*Vitex agnus-castus***)**

Chaste Berry is one of the valued plants of antiquity, mentioned in the works of Greek physicians Hippocrates, Dioscordes, and Theophrastus. Today, it is widely used in Germany to address menstrual issues including dysmenorrhea and premenstrual syndrome.[19]

Traditionally, Chaste Berry is valued to regulate the menstrual cycle and relieve both premenstrual and menopausal symptoms including amenorrhea, dysmenorrhea, cyclic breast distension, and others. It is often used to relieve tension and anxiety related to the hormonal cycle or menopause and to address hormonally-induced acne. Researchers postulate that it influences prolactin since elevated levels cause many of these symptoms.[20]

Chaste Berry is found to modulate hormones and to increase progesterone levels while decreasing estrogen levels through

influencing the corpus luteum. Studies indicate that it exerts a dopaminergic influence that reduces elevated prolactin levels. Chaste extract is shown to inhibit FSH (follicle-stimulating hormone) release and to promote LH (luetenizing hormone) release. This leads to increased progesterone levels with a concurrent reduction in estrogen levels. It can also reduce prolactin secretion from the pituitary gland. It is found to contain diterpenoids, essential oils (including limonene), and flavonoids, among other compounds.[19, 21]

Rehmannia (*Rehmannia glutinosa*)

Rehmannia root, highly valued in Chinese medicine as a female tonic for thousands of years, is a main ingredient in many famous traditional women's formulas. The traditionally prepared/cooked form of Rehmannia is used to nourish and restore deep, foundational energy (as a Kidney Yin tonic in Chinese medicine) during a woman's reproductive years. It is especially used as a restorative after childbirth, during peri-menopause, and through the post-menopausal time of life. Rehmannia is one of the earliest known herbs in East Asia.[4,22]

Rehmannia root is rich in saccharides (including polysaccharides and oligosaccharides), flavonoids, and contains over 20 amino acids. Mineral-rich, it contains over 20 microelements including iron, zinc, manganese, and chromium. It also contains iridoid compounds including catalpol and dihydrocatalpol, along with glycosides, flavonoids, amino acids, inorganic ions, and microelements.[22,23] The iridoid glycosides in Rehmannia are found to be hepato-protective. Catalpol, an iridoid monasaccharide glycoside, is considered to be the main active principle of Rehmannia root.[24,25] Studies find it exerts anti-tumor, anti-stress, anti-thrombic, and anti-hypoglycemic influence.[22]

It is found that Rehmannia exerts influence on multiple systems including blood, endocrine, immune, cardiovascular, and nervous systems. It is shown to exert inhibitory influence on the central nervous system and is thought to alleviate the action of glucocorticoids on the HPA (hypothalamic pituitary adrenal) axis.[23]

Used for treatment of joint diseases in China, Rehmannia root extract is found to significantly inhibit bone density loss in ovariectomized rates without influencing hormonal pathways.[25] Studies find that steamed Rehmannia root modulates bone metabolism as it both stimulates the proliferation of osteoblasts and inhibits the generation and resorption actions of osteoclasts.[22]

Black Cohosh (*Cimicufuga racemosa*)

Black Cohosh root, highly-regarded by Eclectic physicians and indigenous North Americans alike, is found to exert multiple physiological influences. It relaxes the nervous system, modulates the reproductive system, and is also traditionally used for neuralgia, digestion, and cardiovascular health. Black Cohosh root is valued in North American and European herbal medicines as a tonic for the reproductive system. It is traditionally used for amenorrhea, dysmenorrhea, irregular menses, and to enhance contractility of the uterus.

Black Cohosh has been researched for over 30 years and is widely recognized for its benefits to relieve menopausal symptoms. The World Health Organization recognizes its use to relieve menopausal symptoms including hot flashes, night sweats, sleep disorders, and nervous irritability. Research suggests that Black Cohosh works through non-hormonal influence.[2]

Black Cohosh root is recognized by the German Commission E for its ability to regulate the menses and to offer support during menopause. It is found to alleviate the hot flashes, nervousness, irritability, sleep disturbance, sweats, and depression experienced during the menopausal years. It also helps relieve premenstrual discomfort. Black Cohosh root exerts antispasmodic activity and is used as a reproductive, uterine, and ovarian tonic.[26,27]

Black Cohosh is found to inhibit leutenizing hormone secretion in menopausal women. Multiple clinical studies show Black Cohosh exerts a beneficial influence to decrease difficult symptoms during peri-menopause and menopause. It is found to contain many triterpene glycosides along with tannins, phytosterols, alkaloids, and fatty acids.[27-31]

In placebo-controlled studies, those taking Black Cohosh extract show significant improvement and lessening of vasomotor symptoms than those in the control group.[32,33] Vasomotor symptoms are directly related to the decrease in estrogen that occurs naturally during menopause. Research suggests that Black Cohosh influences dopaminergic and serotoninergic systems.[33]

Hops (*Humulus lupulus*)

Widely known for its use in making beer, Hops was traditionally used in Europe and in other areas of the world as a calming sedative. Ayurvedic and European traditional medicines used Hops to relieve nervous tension, headaches, and indigestion. German Commission E finds

that Hops are calmative and help promote sleep.[34] Eclectic physicians valued Hops flowers for its tonic and sedative capacity. Hops is also a stomachic and benefits dyspepsia.[35]

Hops contains bitter resins, including bitter acids (humulones and lupulones), tannins, volatile oils (mainly monoterpenese and sesquiterpenes), flavonoids (kaempferol, quercetin, rutin), phenolic acids, and amino acids.[34,35]

Studies find prenylflavonoids including 8-PN (8-prenylnaringenin), help relieve menopausal symptoms.[35-38] 8-PN is reported to be a potent phyto-estrogen.[37-39]

Eucommia (*Eucommia ulmoides*)

Eucommia is a traditional Chinese herb highly revered as a restorative tonic for the liver and kidneys and for its ability to strengthen the bones and sinews. In Chinese medicine, the inner bark of Eucommia is often used for lower back pain during menstruation and pregnancy. It is valued as a Kidney Yang tonic used for reproductive disorders and to support healthy pregnancy when combined with herbs appropriate for the individual. Eucommia is cultivated on a large scale in China because of its medical importance.

Eucommia bark is widely studied and found to possess a wide array of influence that affirms its traditional usage. It is found to be adaptogenic, exerting a normalizing influence. Modern studies find that Eucommia bark exerts a sedative effect on the central nervous system and functions as a uterine relaxant. It possesses anti-hypertensive and anti-inflammatory properties.[5]

Over 112 compounds are found in Eucommia including lignans, iridoids, phenolics, steroids, terpenoids, and flavonoids, among others. Rutin and quercetin are the main flavonoids. Lignans constitute the main component. It includes several steroids including B-sitosterol. The polysaccharides in Eucommia are found to exert kidney protective influence. Eucommia also contains amino acids, microelements, vitamins, and fatty acids.[5,40-43]

Traditionally used as a cardiac tonic, Eucommia is found to act as a vaso-relaxant in human and animal studies. It also demonstrates anti-hyperlipidemic and powerful antioxidant properties. Extracts of Eucommia are found to increase superoxide dismutase, catalase, glutathione peroxidase, and to reduce the concentration of hydrogen peroxide and lipid peroxide in erythrocytes, the liver, and kidneys. It also increases levels of other antioxidant enzymes in the blood. Studies report that Eucommia decreases pro-inflammatory cytokine production including TNF (tumor necrosis factor), interleukins, and COX-2 (cyclooxygenase-2) enzyme levels. The bark is neuro-protective against beta-amyloid protein.[5,40-43]

Found to benefit bone health and help control osteoporosis, Eucommia extract is found to engage in mechanisms that initiate osteoblasts, enhance osteogenesis, decrease osteoclasts, and help prevent osteolysis. Eucommia bark extracts are found to increase release of growth hormone secretagogue and to increase estrogen receptor signals that influence bone growth. Animal studies find that Eucommia minimized bone loss in ovariectomized rats.

Eucommia bark contains isoflavonoids, which bind to human estrogen receptors, and demonstrates phytoestrogenic and androgenic properties. The bark is shown to exert bimodal phytoandrogenic and hormone-enhancing influence. Androgen receptors play a key role in female physiology including bone density, skeletal muscle health, and libido.[5,40-43]

Eucommia is found to exert anti-aging properties and to be cardio-protective, neuro-protective, and hepato-protective.[40] Eucommia extracts are found to inhibit the formation of advanced glycation end-products, which are associated with age-related diseases.[44]

Red Clover (*Trifolium pratense*)

Red Clover, a member of the Legume family, is traditionally used in many cultures for multiple purposes. This powerful herb is highly valued in European herbal traditions and by the American Eclectic physicians who used it to support healthy function of the lymph and blood.[45,46]

Red Clover flowers, a rich source of isoflavones, also contain minerals (calcium, chromium, magnesium, phosphorus, and potassium) and vitamins (niacin, thiamine and vitamin C).[47] Several controlled trials found that the isoflavones from Red Clover are effective at reducing hot flashes in women.[2,3] Red Clover is found to exert significant influence on estrogen status with slight influence in FSH (follicle-stimulating hormone), LH (leutenizing hormone), testosterone, and SHBG (sex-hormone binding globulin).

Studies find it helps decrease hot flash frequency and intensity and to significantly decrease night sweat incidence. Red Clover isoflavones are found to decrease menopausal symptoms and to benefit vaginal cytology in menopausal women. The isoflavones showed anti-proliferative influence on endometrial levels.[3,48] Red Clover extract is found to decrease vasomotor and menopausal symptoms and benefits mood.[49,50]

Polygonum (*Polygonum multiflorum*)

Polygonum root, known as He Shou Wu, is a profound revitalizing and longevity tonic in Chinese medicine that works as a restorative for the deep Kidney (root energy). He Shou Wu means "black-haired Mr. He", referring to its ability to act as a profound tonic restorative to the extent that it can turn graying hair black again.[4] Combined with herbs appropriate for the issue being addressed, Polygonum is a profound adaptogenic herb which is used as both a liver and kidney tonic. Considered a moistening herb, it nourishes the blood and alleviates dryness.

More than 100 compounds have been isolated from Polygonum root including stilbenes, quinones, flavonoids, phospholipids, coumarins, lignans, and others. Polygonum root extract is found to significantly inhibit lipid peroxidation. It is found beneficial for anti-aging and for its lipid-modulating and anti-inflammatory influence.[51-53] Polygonum is hepato-protective and reported beneficial for atherosclerosis, neurodegnenerative diseases, and diabetes. Studies find it to exert anti-tumor, anti-inflammatory, and antioxidant influence. It is also found to be kidney protective, to help prevent neurodegenerative and cardiovascular disease, and to reduce hyperlipidemia.[53] Polygonum exerts mild estrogenic and anti-proliferative influence.[55-57]

Licorice (*Glycyrrhiza glabra*)

Licorice acts as a synergist to moderate and harmonize the characteristics of other botanicals in a formula. Valued as a Qi tonic, it is considered a special herb in Chinese medicine that carries other herbs throughout the body and harmonizes their influence. Licorice is known for its moistening qualities and as a demulcent (soothing to the mucus membranes of the body). It is also noted for its anti-inflammatory, immune-modulating influence.[58,59]

Constituents of Licorice include saponins (mainly glycyrrhizin), flavonoids, coumarin, alkaloids, polysaccharides, sitosterol, and amino acids. Glycyrrhizic acid, considered to be a major active constituent of licorice, is a triterpene glycoside found to exert numerous physiological activities. It is found to be anti-inflammatory and hepato-protective.[60]

Licorice extract is shown to increase immune function including production of interferon and NK (natural killer) cells.[59] Multiple flavonoids have been isolated from licorice, many of which show broad-spectrum antibacterial effects.[61,62] Licorice is hepato-protective,[63] enhances adrenal function, and supports the stress response through multiple pathways.[64-66]

For more information on any of the ingredients listed here, including extensive research or individual monographs compiled by Donnie Yance, please email info@naturaedu.com.

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