

HERBAL TREATMENTS FOR LOW LIBIDO

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Sexual Dysfunction

- The sexual response cycle traditionally includes excitement (desire, arousal), plateau, orgasm and resolution. If any of these aspects are compromised, it is termed *sexual dysfunction*.
- Common:
 - 30% - 50% of women affected; distressing in 10%
 - 52% of men report ED, just one aspect of sexual dysfunction¹
- Libido refers to a person's desire for sexual activity, and includes the desire and arousal phases.
- Libido is complex; affected by biological, psychological, and social factors¹

Symptoms of sexual dysfunction

- Women
 - Inability to achieve orgasm
 - Inadequate vaginal lubrication before and during intercourse
 - Inability to relax the vaginal muscles enough to allow intercourse²
- Men
 - Inability to achieve or maintain an erection suitable for intercourse (erectile dysfunction)
 - Absent or delayed ejaculation despite adequate sexual stimulation
 - Inability to control the timing of ejaculation (premature or retarded ejaculation)²
- Both
 - **Lack of interest in or desire for sex**
 - **Inability to become aroused**
 - Pain with intercourse²

Causes of sexual dysfunction

- Physical
 - Diabetes, CVD, neurologic
 - Obesity, metabolic syndrome, chronic disease
 - Medication side effects: SSRIs
 - Hormonal imbalances
 - Neurologic, musculoskeletal disorders, loss of limbs
 - Alcoholism, drug abuse
- Psychological
 - Stress / anxiety about unrelated factors
 - Concern about performance
 - Relationship / intimacy problems
 - Depression
 - History of past abuse / trauma
- Social factors

Classification – DSM-IV

Sexual *Desire* Disorders (male and female)

- Low libido (799.81)
- Hypoactive sexual desire disorder 302.71
 - Most common
 - Deficiency of sexual fantasies, receptivity to sexual activity
 - Causes personal distress; not due to other factors
- Sexual aversion disorder 302.79
 - Extreme aversion to, and avoidance of, sexual contact
 - Causes personal distress; not due to other factors

Classification – DSM-IV

Sexual *Arousal* Disorders

- Sexual arousal disorder – female 302.72
 - Inability to attain or maintain sufficient sexual excitement
 - Diminished vaginal lubrication, decreased clitoral/labial sensation
 - Causes personal distress; not due to other factors
- Male Erectile Disorder / impotence 302.72
 - Inability to attain and/or maintain an erection until completion of sexual activity
 - Causes personal distress; not due to other factors

Physiology of Libido

- Sexual Desire

- Mediated by dopamine, both centrally and peripherally⁶²
 - Increases nitric acid, which is central to arousal/orgasm
 - Indirectly increases sex hormones (inhibits PRL)
- Oxytocin also has a role, especially in anticipation/associations⁶²
- In females, estrogen is important for arousal and lubrication
 - Estradiol increases dopamine and melanocortin synthesis in the brain
- Androgens are involved in females and males
 - Activate nitric oxide pathways that facilitate dopamine release

Physiology of Libido

- Sexual Arousal

- Understood to be due to autonomic activation; prepares the body for sexual activity⁶²
- Mediated by parasympathetic nervous system
 - Increases blood flow to genital and erectile tissue
- Interestingly, this may be less true for females
 - Sympathetic nervous system appears to be much more involved for females⁶³
- Central component: specific areas of the brain are activated by visual sexual stimuli, but these areas differ between males and females
 - Nearly identical areas are activated by odors/pheromones

BOTANICAL APPROACHES TO TREATMENT

Sexual Desire Disorders / Low Libido

- First, treat the cause
 - Physical
 - Vascular conditions
 - Metabolic conditions
 - Medication side effect
 - Etc..
 - Psychological
 - Mixed
- Don't just prescribe "aphrodisiac" herbs without determining and addressing the root cause!

Sexual Desire Disorders / Low Libido

- Botanical actions
 - Increase blood flow to genitals
 - Effects on nitric oxide, peripheral actions
 - Modulate dopamine and related neurotransmitters
 - Modulate hormones
 - Direct or indirect actions on estrogen, progesterone, testosterone, DHEA, and PRL

Sexual Desire Disorders / Low Libido

- Botanical actions
 - Decrease anxiety/depression associated with performance or due to other factors
 - Help address past issues of trauma, abuse, or intimacy issues
 - Increase vitality

HERBS

Tribulus terrestris (Puncture Vine, Gokshura)

- Family: Zygophyllaceae
- Part used: fruit, leaf
- Cooling, sweet, bitter; tridoshic
- Ayurvedic aphrodisiac and fertility tonic
 - *Balakrit* – provides physical and sexual stamina
 - *Vrishya* – improves quality and quantity of reproductive fluid
- Also used in TCM for sexual dysfunction



Tribulus terrestris (Puncture Vine, Gokshura)

- Actions: GU tonic, hormone modulator, aphrodisiac, adaptogen, diuretic, nervine, inflammation modulator, analgesic, antiurolithic, anticancer, hepatoprotective

Tribulus terrestris (Puncture Vine, Gokshura)

- MOA
 - Hormone modulating: increases FSH and β -estradiol in women; LH and testosterone in men
 - Increases testosterone and DHT,⁵⁰ accentuating nitric oxide synthase activity and NO release in the corpus cavernosa^{50,58}
 - May directly relax corpus cavernosa^{59,60}

Tribulus terrestris (Puncture Vine, Gokshura)

- MOA
 - Harmine inhibits MAO, thus increasing dopamine levels⁵⁸
 - Increased nitric oxide synthase in the brain (present in regions that regulate sexual activity)
 - Also increases production of RBC, increasing oxygen availability and thus overall health⁵⁸

Tribulus terrestris (Puncture Vine, Gokshura)

- Related actions
 - Increases sperm count^{50,60} and quality⁵⁹
 - Positively effected female fertility (use on day 5-14)⁶¹
 - Reduced hot flashes in menopausal females, slightly decreased FSH levels without other hormonal changes⁶¹

Tribulus terrestris
(Puncture Vine, Gokshura)

- Related actions
 - Does not stimulate endocrine sensitive tissues (prostate, seminal vesicle, uterus or vagina)⁶⁰
 - Terrestrosin D suppressed the growth of prostate cancer and endothelial cells⁵⁷

Tribulus terrestris
(Puncture Vine, Gokshura)

- My experience
 - Reliably improves libido, useful in fertility, calming and tonifying
- Safety
 - Ayurveda and TCM consider contraindicated in pregnancy; category B3
 - Lactation CC
 - Avoid use in those with significant kidney or CVD; caution in those with bradycardia
 - Watch for supplement quality – reports of adulteration

Epimedium spp
(Horny Goat Weed, Yin Yang Huo)

- Family: Berberidaceae
- Part used: leaf, herb
- Warming, drying
- Traditional use in TCM as an aphrodisiac, longevity tonic, for bone healing



Epimedium spp
(Horny Goat Weed, Yin Yang Huo)

- Actions: aphrodisiac, treats ED, hormone modulator, immune modulator
 - Kidney yang tonic; tonifies yin and yang
- MOA:
 - Icarin is a phosphodiesterase-5 inhibitor^{23,24} with possible neurotrophic effects²³
 - Phytoestrogen (flavonoids)^{25, 45}

Epimedium spp
(Horny Goat Weed, Yin Yang Huo)

- Other notable actions:
 - Immunomodulator activity^{26,41}
 - Icarin suppresses $\text{TNF}\beta^{27}$ (regulates bone remodeling^{28,46}); decreased bone loss without changes to endometrium or serum estradiol⁴⁶
 - Increased ER(+) breast cancer proliferation at low concentrations and yet inhibited growth at higher concentrations^{29, 47}

Epimedium spp
(Horny Goat Weed, Yin Yang Huo)

- My experience
 - Reliably helps as part of a formula for libido and hormone modulating effects
 - I'm interested in more studies on its use for preventing bone loss
- Safety
 - Avoid using in patients with yin deficiency
 - Occasional reports of dry mouth, stomach discomfort, nausea, and vertigo – resolves with discontinuation
 - Presumed safe in pregnancy and lactation

Panax ginseng
(Asian / Korean ginseng, Ren shen)

- Family: Araliaceae
- Part used: root
- Sweet, bitter, warm
- Traditional use:
 - TCM: Qi tonic; benefits kidney yang; tonifies shen
 - Eclectics: fatigue, infertility, ED, colds, menopause, anorexia, anemia, and liver diseases



Panax ginseng
(Asian / Korean ginseng, Ren Shen)

- Actions: adaptogen, immune modulator, inflammation modulator, insulin sensitizer, cardiostimulant, aphrodisiac, fertility enhancer, stimulant, anticancer

Panax ginseng
(Asian / Korean ginseng, Ren shen)

- MOA:
 - Ginsenosides (Rg1) induce NO synthesis in endothelial cells, augment smooth muscle sensitivity to NO, and increase cGMP in corpus cavernosum⁵¹
 - Relaxes clitoral cavernosal muscle and vaginal smooth muscle⁵⁶
 - Rg1 fed to rats (5%) increased testosterone levels
 - Rb1 fed to rats increased LH secretion via action on pituitary gland
 - *Panax ginseng* extract increased free and total testosterone, LH, and FSH levels

Panax ginseng
(Asian / Korean ginseng, Ren shen)

- MOA:
 - Hormone modulation: Rb1, Rh1 are phytoestrogens^{53, 54}
 - Decreases prolactin levels⁵⁵
 - Interacts with neurotransmitters dopamine, acetylcholine, and GABA, affecting the sexual response cycle
 - Ginsenoside Re increased extracellular dopamine and ACh⁵¹
 - Ginsenosides Rb1, Rb2, Rc, Re, Rf, and Rg1 are agonists of the GABA(A) receptor; Rc is also an agonist for the GABA(B) receptor⁵¹

Panax ginseng
(Asian / Korean ginseng, Ren Shen)

- Related studies:
 - Increased signs of libido in animals treated with Rg1⁵¹
 - Improved sexual arousal in menopausal women⁵⁶
 - Improved erectile performance (900mg TID for 8 weeks)⁵¹
 - Many studies show positive effects on male fertility⁵²

Panax ginseng
(Asian / Korean ginseng, Ren shen)

- My experience: reliable addition to libido formulas; excellent adaptogen when indicated
- Safety:
 - Generally very safe; side effects are usually from high doses for extended periods
 - Sleeplessness, nervousness, diarrhea, menopausal bleeding
 - Ginseng Abuse Syndrome – diminished importance
 - Monitor blood sugar in diabetics
 - Pregnancy category A; presumed safe in lactation

Ptychopetalum olacoides
(Muir Puama, Potency Wood)

- Family: Olacaceae
- Part used: bark
- Warming
- Traditionally used in Brazil for low libido, lassitude, and lack of motivation
 - Nerve stimulant
 - Thought to heighten sexual excitement



Ptychopetalum olacoides
(Muir Puama, potency wood)

- Actions: antidepressant, aphrodisiac, nerve tonic, nootropic
- MOA:
 - Interacts with dopamine and beta adrenergic receptors for antidepressant effect³⁰
 - Acetylcholinesterase-inhibitor
 - Anti-dementia³¹
 - Affects sensation, arousal, reward, and other NT
 - Plant sterols exhibit hormone modulating effect

Ptychopetalum olacoides
(Muir Puama, potency wood)

- Related actions:
 - Injections of Catuama (also including *Trichillia catigua* – catuaba, *Paullinia cupana* – guarana, *Zingiber officinale* – ginger) cause dose dependent relaxation of corpus cavernosum³²
 - Effective treatment for sexual dysfunction in women with combined with *Ginkgo* (after 1 mo)³³
 - Decreases stress response; adaptogen-like effects³⁴
 - Free radical scavenger, esp in brain³⁵
 - Memory improvement^{36,49}

Ptychopetalum olacoides
(Muir Puama, potency wood)

- My experience
 - Mildly stimulating, anti-depressant, vitalizing effects, effective for low libido; may increase lucid dreaming
- Safety
 - Overdoses can cause nervous tension, insomnia, restlessness
 - Best avoided in children, pregnancy, lactation

Lepidium meyenii (Maca)

- Family: Brassicaceae
- Part used: hypocotyl-root (underground parts)
- ENERGETICS
- Historically used by Quechua in Peru
 - Food that promotes mental activity, endurance, stamina, and physical vitality; enhances sexual desire and performance⁵



Lepidium meyenii (Maca)

- Actions: stimulant, aphrodisiac, tonic, fertility agent, hormone modulator, antioxidant, antidepressant, neuroprotective

Lepidium meyenii (Maca)

– MOA:

- Macaenes (unsaturated FA); *may* increase LH⁴; does not alter testosterone or estrogen levels⁵
 - Modulates hormone levels, perhaps due to overall vitalizing action
- Plant sterols (including β -sitosterol) have a mild hormone modulating function
- Nutritive 13-16% protein, fatty acids, amino acids; iodine, iron, magnesium, potassium⁵
- Macamides may inhibit endocannabinoid degradation: neuroprotective, analgesic, inflammation modulating⁶

Lepidium meyenii (Maca)

– Studies indicate:

- Increased sexual behavior of males and females (esp with the extract), increased number of offspring⁵²; increased sperm count/motility⁵; possible improvement in ED^{5,7}
 - Effects independent of mood improvements⁹
 - Does not interact with SSRIs⁸
- Improves mood, decreases sexual dysfunction¹⁰ in menopausal women and healthy adult men⁵²
 - In those (premenopausal) for whom the study failed to show positive effects, self-rated sexual desire score improved significantly⁵²

Lepidium meyenii (Maca)

– Related actions

- In males with mild ED, there was a significant improvement in subjective perception of general and sexual well being⁵²
- Improved school performance⁵
- Use associated with higher health status⁵, lower fracture rate (independent of estrogenic effects)⁵², lower rates of mountain sickness, lower BP and lower BMI⁵
- Reduced scores in depression and anxiety inventories⁵²
- Action as a mild hypotensive (ACE-I)⁵²

Lepidium meyenii (Maca)

- My experience
 - Improves libido and energy; decreases “brain fog”
 - Decreases hot flashes in many
 - Addresses vaginal dryness / dyspareunia in some
- Safety:
 - No adverse events in pregnancy - animal studies; no studies on lactation (likely safe)

Turnera diffusa (Damiana)

- Family: Passifloraceae
- Leaf, stem
- Warming, drying
- Long history of folk use as an aphrodisiac
 - Used as sexual stimulant by Aztecs 300 years ago
- Thought to increase energy to the pelvis



Turnera diffusa (Damiana)

- Actions: antidepressant, anxiolytic, aphrodisiac, antispasmodic, aperient, tonic
 - Specific for sexual disorders with an anxiety component
 - Consider for IBS, anxiety, debility
 - Aromatic; aids digestion
 - Often used for irritable bladder

Turnera diffusa (Damiana)

- MOA:
 - Interaction with NO pathway implicated in aphrodisiac activity³⁶
 - *Turnera* and its isolated compounds pinocembrin and acacetin suppress aromatase activity³⁸
 - Estrogenic activity: apigenin 7-glucoside, Z-echinacin and pinocembrin³⁸
 - Apigenin shows anxiolytic⁴⁰, antinociceptive effects³⁹

Turnera diffusa (Damiana)

- Studies indicate
 - Shortens ejaculation latency via effect on NO; anxiolytic activity also useful in addressing sexual dysfunction^{37,42}
- Related actions
 - Possible hypoglycemic effect⁴³
 - Gastroprotective – arbutin reduced ulcers, showed antioxidant activity, and immunomodulator activity⁴⁴

Turnera diffusa (Damiana)

- My experience
 - Excellent herb for promoting vitality, improving digestion, and improving a sense of well being
 - The above affects libido!
 - Especially indicated if stress or anxiety is contributing to the sexual dysfunction
- Safety:
 - Generally safe; avoid in 1st trimester of pregnancy.
 - Contains arbutin; very low amounts thought to be negligible in terms in safety.

Other Notable herbs

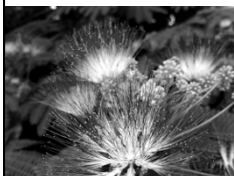
Rhodiola rosea
Relieves stress, balances sleep, depression⁵¹



Asparagus racemosus
Improves lubrication, fertility, increases vitality^{11-13, 20}
"A woman who has the capacity for 100 husbands"



Crataegus oxyacantha
Balances emotional heart



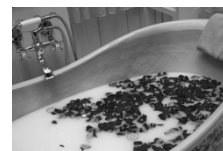
Rosa spp
Love, compassion, purity
Strength yet softness



Albizia julibrissin
Relieves stress, anxiety, depression
Helps relieve grief, past emotional trauma

Other considerations

- Create rituals!
 - Herbal baths
 - Sensual tea blends
 - Sensual foods
- Intention matters
- Use the herbs as a way to facilitate intimacy between partners
- Working on emotional "junk" will always be beneficial



Treating Low Libido

- Always ask!
- Find and treat the cause
 - For best results, individualize herbs or formulas based on your analysis of the *whole person*
 - Provide lifestyle suggestions as well as herbal treatments
- Intention matters
- Adaptogens and other treatments to *increase vitality* are always indicated



Thank you!

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Please email me for the citations in this presentation.