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Medicinal Plants Effective In Treatment of Sexual Dysfunction: A Review

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Inability to achieve normal sexual intercourse called sexual dysfunction, which include premature ejaculation, retrograded, retarded or inhibited ejaculation, erectile dysfunction, arousal difficulties (reduced libido), compulsive sexual behavior, orgasmic disorder, failure of detumescence in males and Desire disorders, Arousal disorders, Orgasmic disorders, Sexual pain disorders in females. Sexual dysfunction is very serious problem in human being. There are variety of plants which capable to cure and treat these diseases. Among them some plants have been discussed in this article which includes *Corynanthe yohimbe*, *Terminalia catappa L.*, *Eurycoma longifolia*, *Ginkgo biloba*, *Turnera diffusa*, *Panax quinquefolius*.

Keyword: Sexual Dysfunction, Female sexual dysfunction (FSD), Arousal (plateau phase), Hypoactive sexual desire.

1. Introduction: A medicinal plant can be described as any plant in which one or more of its organs contain substances that can be used therapeutic purposes or which are precursors for the synthesis of useful drugs ¹. Enhancing healthy sexuality is possible with the use of natural plants and nutrients. Some of these plants were discussed below:

a) *Corynanthe yohimbe*

Family of *corynanthe yohimbe* is Rubiaceae ². Orally, yohimbe is used as an aphrodisiac, for impotence, exhaustion, angina, hypertension, diabetic neuropathy, and postural hypotension. *Yohimbe* is also used for general sexual dysfunction in men and women, sexual

dysfunction caused by selective-serotonin reuptake inhibitors (SSRI), and as an adjunct to conventional antidepressants for refractory depression. *Yohimbe* bark is also smoked or snuffed for its hallucinogenic effects.



Fig 1: *Corynanthe yohimbe*

Common Use: Yohimbe contains an active compound called Yohimbine, this compound has now been isolated and synthesized by a pharmaceutical company and is prescribed in the treatment of impotence. It has traditionally been used as an aphrodisiac and in fact Yohimbine is the only thing you'll find in the Physicians' Desk Reference where the word aphrodisiac is used. Indicated in Parkinson's disease, impotence and lack of libido, yohimbe is a rich source of alkaloids which can block the uptake of neurotransmitters at Alpha-2 receptor sites and has also been used in dieting and weight management programs. 5 to 15 drops 2-3 times daily for 2-4 weeks and 1 hour before needed. Not recommended if nursing or pregnant. May be contraindicated in vascular disease, kidney disease and diabetes 3.

b) *Terminalia catappa L.*

Family of *Terminalia catappa L.* is Combretaceae. A tall, semi-deciduous, erect, medium to large sized tree 10 to 25 m tall. Trunk is usually straight and more or less cylindrical but it may also be crooked and leaning. Bark is grey brown coloured, smooth in young trees, rough with age. In younger trees branches are almost horizontal and erect and arranged in tiers, giving the tree a pagoda like shape, which becomes less noticeable as the branches elongate and droop at the tips. Leaves are single, alternate, obovate in shape, large (15 to 36 cm long and 8 to 24 cm wide) and spirally clustered at the tips. Leaves are dark green above, pale below, leathery and shiny; before dropping leaf colour changes to yellow and red. Flowers are small, white or cream coloured, five lobed and arranged on long axillary spikes. There are no petals. Majority of the flowers are male and bisexual flower are located towards the base of spikes. Fruit is a sessile, laterally compressed, oval-shaped drupe. Fruit colour changes from green in young to dark purplish red at full maturity. Rind of the fruit is light, pithy or corky tissue and float in the sea and thus dispersed by ocean currents. Each fruit contain a cream-coloured seed, which encloses the kernel (nut) 4.



Fig 2: *Terminalia catappa L.*

Terminalia catappa L. have aphrodisiac action (prolongation of ejaculation latency) 5.

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c) *Eurycoma longifolia*

Eurycoma longifolia Jack, also known as Tongkat Ali in Malaysia, is a shrub-tree that grows in Malaysia, Burma, Indochina, Thailand, Sumatra, Borneo, and the Phillipines⁷. It is traditionally used primarily as an aphrodisiac and for improving general health. Other traditional uses include treatment of aches, persistent fever, malaria, dysentery, glandular swelling, bleeding (as a coagulant), edema, hypertension, syphilitic sores, and ulcers.



Fig 3: *Eurycoma longifolia*

A large variety of constituents have been identified, including quassinoids, canthin-6-one alkaloids, beta-carbolines, tirucallane-type triterpenes, squalene derivatives, and biphenylneolignans⁸.

Uses: Tongkat Ali is primarily used as a male aphrodisiac. In Malaysia, it used to increase virility and sexual prowess and is claimed to improve strength and power during sexual activities. Many animal studies, both in rats and mice, have found administration of *E. longifolia* extracts to increase sexual arousal and motivation and frequency of sexual activity. These effects are similar to those caused by administration of testosterone, although the effect of Tongkat Ali is

not as strong. There are no human studies published in peer-reviewed journals yet, although there are many anecdotal reports that would indicate that the aphrodisiac qualities are retained in humans.

A related property that Tongkat Ali is reputed to have is a testosterone-increasing effect. Tongkat Ali does have androgenic effects in male rats, either directly or indirectly, such as increasing the weight of sexual accessories. In vitro, ethanolic extracts of *E. longifolia* increase hCG-induced production of testosterone by rat leydig cells. There are many anecdotal reports on the internet where people indicate that they had testosterone levels tested before and during Tongkat Ali supplementation, and it caused an increase. The present evidence indicates that this is a likely property of this plant, but how great the effect is, dose-dependency, and whether or not it contributes significantly to the aphrodisiac qualities of Tongkat Ali can only be established with more research. Until then, Tongkat Ali should not be treated as a reliable way to increase testosterone levels. Many other possible benefits have been identified in experimental studies. An animal study found that Tongkat Ali had anxiety-reducing effects in the open field, elevated plus-maze, and antifighting tests. It also has antimalarial activity in vitro, an effect which is due to multiple constituents of the plant, and which multiple studies have replicated. In an animal study, Tongkat Ali had the ability to improve survival in infected animals, but the effective dose was near-toxic. It was commented that the history of human use as an antimalarial agent may be explained by differences between rodents and humans which causes the toxic effect to be reduced in the second group, but studies are needed to confirm this. Tongkat Ali also has an anticancer effect against multiple cancer cell lines and is effective against multiple parasites in vitro⁹.

d) *Ginkgo biloba*

The *Ginkgo biloba* (GB) tree, also known as maidenhair tree is the sole representative of once flourishing botanical division, that of the so called Ginkgophytes. The leaves are recommended as being beneficial to the heart and

lungs; inhalation of decoction of leaves is used in bronchial asthma¹⁰. Extracts of the leaves of GB have been used for cerebral insufficiency due to degenerative or vascular causes, to improve learning and memory, peripheral vascular diseases, as cardioprotective and many other diseases. GB exhibits a variety of interesting pharmacological properties such as oxygen free radical scavenging activity, cyclonucleotide phosphodiesterase inhibition, membrane stabilising effect, increase in blood fluidity and improvement in cognitive function.



Fig 4: *Ginkgo biloba*

In an open trial ginkgo biloba, an extract derived from the leaf of the Chinese ginkgo tree and noted for its cerebral enhancing effects, was found to be 84% effective in treating antidepressant-induced sexual dysfunction predominately caused by selective serotonin reuptake inhibitors (SSRIs, N = 63). Women (n = 33) were more responsive to the sexually enhancing effects of ginkgo biloba than men (N = 30), with relative success rates of 91% versus 76%. Ginkgo biloba generally had a positive effect on all 4 phases of the sexual response cycle: desire, excitement (erection and lubrication), orgasm, and resolution (afterglow). This study originated from the observation that a geriatric patient on ginkgo biloba for memory enhancement noted improved erections¹¹.

e) *Turnera diffusa* (Damiana)

Family of *Turnera diffusa* is Turneraceae.

Damiana, original from Central America, is a small perennial shrub; growing up to 3 – 6 feet (1 – 2 meters) tall. The leaves are serrate and aromatic; smooth on the top side, glabrous with a few hairs on ribs underneath. The stems are erect with the small yellow flowers rising from the leaf axils which produce small sweet smelling fruits. The seed capsule is one-celled splitting into three pieces, exposing 3 to 6 kidney-shaped seeds. Leaves from this plant are used as a tea substitute and as a flavoring in liqueurs. Damiana is on the FDA list for GRAS (generally recognized as safe) and is often used as a food flavoring. It is claimed that smoking this herb induce a marijuana-like legal "high" and euphoria. When smoked, the effects last up to 90 minutes; taken as a tea, the effects are more milder, but last longer.



Fig 5: *Turnera diffusa*

Constituents Leaves contain up to 1% volatile oil consisting of 1,8-cineole, p-cymene, alpha- and beta-pinene, thymol, alpha-copaene, and calamene. Dry matter of the leaf includes a bitter substance (damianin), tannins, flavonoids, beta-sitosterol, and glycosides (gonzalitoin, arbutin, and tetraphyllin B)¹².

Uses: Damiana has been used for improving sexual function.

f) *Panax quinquefolius* L. (American ginseng)

Family of *Panax quinquefolius* L. (American ginseng) is Araliaceae¹³. The American Ginseng is a plant which is grown in the East of North America and Canada. Its active components are similar to the Korean Ginseng. However, its principal active component is the ginsenosid Rb1 which lacks the sesquiterpenic alcohols of the Korean ginseng and has a sweet, slightly different taste.



Fig 6: *Panax quinquefolius* L. (American ginseng)

This plant is well known and recognized for its revitalizing physical, mental and sexual properties, and is considered a primary adaptogen which helps the system to adapt to physical, chemical and biological stress.

Active Components: The active components responsible for its medicinal effects are triterpenic saponins, 25 different types of which have been identified. They have the denomination ginsenosids R (Japan) or panaxosids A-F (Russia). They also contain watersoluble polysaccharides (panaxanos A-U), essential acids (panacene, limonene, terpineol, citral) and polyacetylenes (ginsenoines A-K, panaxinol and panaxitriol). Furthermore, phytosterols like beta-sitosterol. The principal active components - the ginsenosids - exist only in all kinds of ginseng. The Korean panax ginseng is the one which

contains major concentrations of five of these ginsenosids, while panax quinquefolium contains principally two of these 5 ginsenosids.

Cardiovascular Activity: The ginseng root has a hypotensory and hypertensive action which depends of the proportion of the different types of ginsenosids it contains, due to the fact that some show hypotensory and others hypotensive actions.

2. Conclusion:

Treatment of sexual disease are very challenging, medicinal plants have variety of chemical constituents to treat any specific disease. So, researchers should try to explore more potency of medicinal to treat sexual disease. Further study of these plants may be helpful in field of effective treatment of sexual dysfunction.

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