AN OVERVIEW OF SOME POTENT INDIAN HERBAL APHRODISIAC PLANTS
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ABSTRACT
Ayurvedic medicinal system is well known for using plants or plant-based products to increase sexual desire and to improve sexual performance. Recent research and investigations reviewed active crude extract of certain medicinal plants which are reported to be useful for treating sexual dysfunction, and found to be improving sexual performance. Reviewed medicinal plants are reported as fertility booster and known for improving spermatogenesis. In this review, we will discuss about Aphrodisiac activity of potent Indian medicinal plants that are found in various local areas.

Keywords: Aphrodisiac, Spermatogenesis, Erectile Dysfunction And Libido.

I. INTRODUCTION
An aphrodisiac is defined as any food or drugs which increase sexual desire and increases pleasure and performance. This word is derived from ἀφροδιτή, the Greek goddess of sex, love and beauty. These substances are derived from plants, animals, minerals sources. There are two different types of aphrodisiacs activity:
- psychological stimuli (visual, tactile, olfactory and aural)
- food intake (food, alcoholic drinks and love portion). [1]

Sexual Disorder in Males - Sexual disorders can affect men of all ages, but it is especially common in younger age. The most common problems related to sexual disorder includes ejaculation disorders, erectile dysfunction and decreased libido. These issues can often be corrected by treating the mentioned causes.

The main types of male sexual dysfunction are:
- Erectile dysfunction (difficulty getting/ keeping an erection during intercourse)
- Premature ejaculation (reaching orgasm too quickly).
- Delayed ejaculation (reaching orgasm too slowly).
- Low libido (reduced sex desire).

Root causes of sexual dysfunction in males

- Physical causes of overall sexual dysfunction
- Low testosterone levels
- Antidepressant and antihypertensive Drugs.
- Blood vessel disorders such as atherosclerosis (hardening and thickening of the arteries) and high blood pressure.
- Stroke due to diabetes or surgery.
- Excessive smoking.
- Alcoholism and drug abuse.
- Psychological causes might include
- Concern about sexual performance.
- Marital or relationship status.
- Depression, feelings of guilt.
- Effects of past sexual trauma.
- Work-related stress and anxiety.
- Fear
II. PHARMACOLOGICALLY ACTIVE POTENT APHRODISIAC INDIAN MEDICINAL PLANTS

In the current scenario most of the allopathic drugs are used to treat male sex dysfunction but all allopathic drugs have lots of side effects. But in Ayurveda, the treatment is available without any harmful side effects. There are lots of herbal plants described in Ayurveda which are used to enhance Aphrodisiac activity since ancient time. Many Indian medicinal plants have been used as an Aphrodisiac and treat to low libido problem.

Ashwagandha- Ashwagandha (*Withania Somnifera*) family Solanaceae having many common names is an ancient medicinal herb with multiple health benefits such as Indian Winter cherry or Indian Ginseng. Ashwagandha is an Indian Aphrodisiac and known as fertility booster herb. It improves the reproductive functions and assures a healthy reproductive life. Ashwagandha contains alkaloids, amino acids, steroidal lactones (withanolides, withaferins) and saponins etc. [2]

The root extract of this plant is also used for treating infertility of man. According to recent study, the normal dose of Ashwagandha root extract is 225 mg/kg. Continuous consumption of Ashwagandha root extract for 90 days is reported to induce spermatogenesis, improved sperm count and semen quality and regulated sexual hormone level in oligospermic male. [3]

![Fig No.1: Ashwagandha Plant](image1)

Saffron- The botanical source of saffron is known as *Crocus Sativus* family Iridaceae. Saffron is also used as an Aphrodisiac from ancient time in Ayurvedic medicine system. Moreover, saffron is reported to be very helpful medicinal herb showing diverse therapeutic effects for treating sleep problems (insomnia), cancer, “hardening of the arteries” (atherosclerosis), intestinal gas (flatulence), depression, Alzheimer’s disease, fright, shock, spitting up blood (hemoptysis), pain, heartburn, and dry skin, erectile dysfunction, low libido and other male sex disorder. Saffron contains crocin, picrocrocin and safranal. [4] Saffron is an immunity booster and used as a remedy for treating male sex disorder such as low libido, erectile dysfunction and premature ejaculation.

![Fig No.2: Saffron Plant](image2)
Shatavari - *Asparagus racemosus* (common name Shatavari) family *Asparagaceae* has been used in Indian Ayurveda system for many centuries. Shatavari known to have a bitter taste and serve as a powerful male tonic. It also acts as a blood purifier and known for treating certain liver diseases. Similar to Ashwagandha, it is reported to improve sperm count. [5]

*Asparagus racemosus* wild belongs to family *Liliaceae*. A hydro-alcoholic or aqueous extracts of concentration (400 mg kg$^{-1}$/day.) is reported to show significant aphrodisiac activity on male albino rats evidenced by increased mating performance. On the other hand, hydro-alcoholic extract at lower dose (200 mg kg$^{-1}$/day) and aqueous extract (400 mg kg$^{-1}$/day) are reported to show moderate aphrodisiac property. [6]

![Shatavari Plant](image)

Liqourice - *Glycyrrhiza glabra* family Leguminocae is also used as a common traditional medicine. [7] Liquourice contains phytoestrogen sterols, which is reported to affect production of sex hormones (estrogen and testosterone). It is also reported as an antioxidant, anti-inflammatory and antimicrobial. In the reported studies aqueous extract of *Glycyrrhiza glabra* (Leguminocae) roots and rhizomes had shown considerable aphrodisiac activity. According to reported literature dose of *Glycyrrhiza glabra* is 150-300 mg kg$^{-1}$/day orally for 28 days. Parameters reported are Mount Latency (ML), Intromission Latency (IL), Mounting Frequency (MF), Intromission Frequency (IF), weight of animals (g) are the parameters reported before and during the sexual behavior study at 0, 7, 10, 14, 21 and 28 day.

The extract is reported to show significant reduced and increased ML and IL, MF and IF respectively. These effects were observed in sexually active male rat. [8]

![Liqourice Plant](image)

Garlic - *Allium sativam* family Liliaceae is obtained from the bulb and has been used as a medicine from the ancient time. [9] The main chemical constituents of garlic is Diallyl tetrasulphate and has antioxidants property.
*Allium sativum* comprises chemical constituents vitamins, flavonoids and fructans etc. [10] Garlic is not only reported to be good for health it also reported to improve sex power. This reported activity is found to be due to the presence of allicin in garlic and increased blood flow to sex organs in both male and female. In a reported experiment 220 gm albino rats fed with 10%, 20% or 30% extract of *Allium sativum* with normal diet and examined after 20 days. Results were reported to increase the no. of seminiferous tubules in testis although it also showed the decreased testosterone level. [11]

![Garlic Plant](image1)

**Fig No.5:** Garlic Plant

**Gokhru-** *Tribulus terrestris* family *Zygophyllaceae* is widely distributed around the world. Certain common names of this annual plant such as Gokhru, Gokshur and Gokshura are quiet popular names. Literature studies reported raise body's libido level and helps improving sex desire. It also reported to improves kidney functions, relieves urinary disorders, promotes cardiac functioning and helps to improve digestion.

The major reported biochemical constituents of Tribulus terrestris (TT) are steroidal saponins like protodioscin, ruscogenin, hecogenin and diosgenin, alkaloids, phytosterols, namely beta-sitosterol, stigmasterol, cinnamic amide derivatives and many flavonoids such as rutin, kampferol and quercetin.

*Tribulus terrestris* is reported to found various tannins, fatty acids, calcium, magnesium, potassium, and iron components. [12]

In reported studies, administration of Tribes tans a commercial product containing 250 mg of TT to humans and animals for a period of 60–90 days were found to improve testosterone levels, libido and spermatogenesis. Clinical studies of TT reported to improve reproductive function and increase concentration of hormones such as estradiol but reported a slight influence on testosterone thereby improved reproductive function, libido and ovulation [13] Thus, known for a wonderful properties for a healthy sex life.

![Gokhru Plant](image2)

**Fig No.6:** Gokhru Plant

**Sandal wood-** *Santalum album* of family *Santiacaeae* is a small Indian medicinal tree. The native of southern India and South-East Asia[14] also known as a traditional source of sandalwood oil. The whole plant of Santalum is reported to exhibit medicinal properties since ancient times. Santalum is used to heal some conditions like sunburn, acne, rashes, fever, herpes, sores and ulcers. Sandalwood oil is found to be remarkably beneficial in...
promoting the reproductive system, nervous system, muscular system and improving the circulatory system health. α-Santalol and β-santalol and santenone are main constituents of sandalwood oil.[15]

According to the reported studies, alpha-santalol is a major compound found in sandalwood essential oil, which is reported to improve person’s attention and mood. Moreover, it is reported to provide relief from stress, anxiety, and depression too. Regular use of sandalwood oil is well known for boosting blood flow to the penis.

Indian Sandalwood is known as a natural aphrodisiac and its essential oils are reported to increase libido, improve mood and increased sex desire. The oil has known for a long for effectively improving blood flow. This is one of best stated reasons why it is touted as a viable treatment for Erectile Dysfunction.

Cannabis - *Cannabis sativa* is an annual herbaceous flowering plant belongs to family *Cannabinaceae*. Cannabis is known by many popular common names such as Indian hemp, Ganja, and Marijuana. In India, cannabis considered as a local plant but some states like Maharashtra, West Bengal and Madhya Pradesh cultivates cannabis.

*Cannabis sativa* is found to be used as traditional medicine and used since ancient time. Cannabis known to be therapeutically active for the following purposes such as analgesic, improving lungs capacity, regulating and preventing diabetes, losing weight, fighting cancer, treating depression, regulating seizures and treating inflammatory bowel disorder. Cannabis sativa is also reported as a herbal aphrodisiac with libido-boosting powers.

Use of Cannabis as an aphrodisiac in Indian medicine systems is reported since 7th century AD. Moreover, Chinese texts, Germanic tribes and African cultures also mentioned its use for improving sexual health. Cannabis constitutes volatile terpenes and sesquiterpenes. It also comprises α- pinene, myrcene, linalool, limonene, trans-β-ocimene, α-terpinolene, trans-caryophylleneetc.[16] These chemical constituents are known for having beneficial effect on sex power

**Fig No.7:** Sandalwood Plant

**Cannabis**

*Nutmeg* - *Myristica fragrans* is a tropical evergreen tree belongs to family *Myristicaceae*. The fruit of Nutmeg is a well-known Indian cuisine and also used as Flavoring agent. Nutmeg contains 7-14% essential oil comprising pinene, camphene, and dipentene. Nutmeg has a distinctly strong fragrance, nutty flavor and sweet taste.[17]
According to the USDA report beneficial components include dietary fiber, manganese, thiamine, vitamin-B6, folate, magnesium and copper.

Nutmeg extracts also found to be a part of traditional medicines of South Asia (Unani medicine system) to treat sexual disorders in males. Ayurveda medicinal system also mentioned its use for treating male sex dysfunctions.

Nutmeg also reported to exhibit certain health benefits like relieving pain, smoothening indigestion, strengthening cognitive function, detoxifying body, boosting skin health, reducing insomnia, boosting immune system, preventing leukemia and improving blood circulation.

Fenugreek- The fenugreek is known as *Trigonella foenum-graecum* belongs to family Leguminosae. The most common name of fenugreek is Methi in Hindi language. The traditional Ayurvedic medicine Fenugreek comprises carbohydrates, proteins, tryptophan, pyridine, choline, gentianine, carpine, flavonoids, apigenin, quercetin, orientin, isovitexin, vitexin, 4- hydroxyisoleucine, histidine, arginine, lysine, calcium, iron, saponins, glycosides, cholesterol, sitosterol and vitamins A, B1 and C and nicotinic acid etc.[18,19], Fenugreek used as a medicinal herb to treat diseases such as loss of appetite, upset stomach, constipation, inflammation of the stomach (gastritis). Fenugreek is also reported to treat diabetes, painful menstruation, polycystic ovary syndrome, and obesity. The seeds extract of fenugreek is known for preventing the cytogenic damage and enhancing the oxidation process. It suppresses the oxidative stress and lipid peroxidation.[20] Fenugreek used as an Aphrodisiac since ancient time. A reported study showed

In a reported experiment continuous dose of seed extract to rabbits for 3 months significantly increases male testis weight (~25%) and sperm concentration (~43%).[21]
Summary of Indian Aphrodisiac plants represented in Table 1.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Plant</th>
<th>Family</th>
<th>Common Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Withania somnifera</td>
<td>Solanaceae</td>
<td>Ashwagandha</td>
<td>Root, Leaves</td>
</tr>
<tr>
<td>2.</td>
<td>Crocus sativus</td>
<td>Iridaceae</td>
<td>Saffron</td>
<td>Stigmas</td>
</tr>
<tr>
<td>3.</td>
<td>Asparagus racemosus</td>
<td>Liliaceae</td>
<td>Shatavari</td>
<td>Root</td>
</tr>
<tr>
<td>4.</td>
<td>Glycyrrhiza glabra</td>
<td>Leguminaceae</td>
<td>Liquorice</td>
<td>Root</td>
</tr>
<tr>
<td>5.</td>
<td>Allium sativam</td>
<td>Liliaceae</td>
<td>Garlic</td>
<td>Bulb</td>
</tr>
<tr>
<td>6.</td>
<td>Tribulus terrestris</td>
<td>Zygophyllaceae</td>
<td>Ghokru</td>
<td>Entire plant</td>
</tr>
<tr>
<td>7.</td>
<td>Santalum album</td>
<td>Santiacae</td>
<td>Sandal wood</td>
<td>Wood, Leaves</td>
</tr>
<tr>
<td>8.</td>
<td>Cannabis sativa</td>
<td>Cannabinaceae</td>
<td>Bhang</td>
<td>Leaves</td>
</tr>
<tr>
<td>9.</td>
<td>Myristica fragrans</td>
<td>Myristaceae</td>
<td>Nutmeg</td>
<td>Fruit</td>
</tr>
<tr>
<td>10.</td>
<td>Trigonella foenum-graecum</td>
<td>Leguminaceae</td>
<td>Fenugreek</td>
<td>Leaves, Seeds</td>
</tr>
</tbody>
</table>

III. CONCLUSION

Sex hormones are responsible for the Aphrodisiac activity. In India, various types of traditional herbal medicines are reported to be used to improve the male sex power consequently, and to treat male sexual dysfunction as well. Some Ayurvedic plants like Ashwagandha, garlic, Shatavari, Fenugreek etc, are well known for their aphrodisiac property and for enhancing the quality and quantity of semen. These herbs known to provide better nourishment to reproductive tissues. In this review, we studied the phyto-medicines that have showed the positive effects on reproductive system. The herbal drugs have been discussed in review shown potent aphrodisiac activity. Various medicinal herbs have been used by people of different cultures and different medicine system to treat conditions of male infertility or for treatment of sexual disorders. They reported to show improved sexual desire, sexual performance and reduced erectile dysfunction, increased testosterone level, brain monoamines, and improved effect on pituitary-genital axis, and so forth are suggested mechanism of action of these herbs. [22]

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Conflict of interest-
Conflict of interest declared none.

IV. REFERENCE


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