



Review Article

A SHORT REVIEW ON APHRODISIAC

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ABSTRACT

Aphrodisiacs can be categorized according to their mode of action into three groups: substances that increase libido (i.e., sexual desire, arousal), substances that increase sexual potency (i.e., effectiveness of erection) and substances that increase sexual pleasure. An aphrodisiac is a type of food or drink that has the effect of making those who eat or drink it more aroused in a sexual way. Some well-known aphrodisiacs are ginkgo, ashwaganda, oysters and chocolate. Ethnobotanical surveys have indicated a large number of plants as a aphrodisiac. This review summarizes the herbal plants with their experimental study, constituents and their potent aphrodisiac activity.

Keywords: Aphrodisiacs, Herbal plants, and Erectile dysfunction.

INTRODUCTION

An aphrodisiac is defined as any food or drug that arouses the sexual instinct, induces veneral desire and increases pleasure and performance. This word is derived from 'Aphrodiate' the Greek goddess of love and these substances are derived from plants, animals or minerals and since time immemorial they have been the passion of man. There are two main types of aphrodisiacs, psychophysiological stimuli (visual, tactile, olfactory and aural) preparations and internal preparations (food, alcoholic drinks and love portion).

Erectile dysfunction' (ED) or (male) impotence is a sexual dysfunction characterized by the inability to develop or maintain an erection of the penis. There are various

underlying causes, such as cardiovascular leakage and diabetes, many of which are medically treatable. The causes of erectile dysfunction may be physiological or psychological. Folk remedies have long been advocated, with some being advertised widely since the 1930s. The introduction of the first pharmacologically approved remedy for impotence, sildenafil (trade name Viagra), in the 1990s caused a wave of public attention, propelled in part by heavy advertising.

Most potent herbal aphrodisiacs are available and has less or very less side effects. Some of the herbs are listed below:

ONION (*Allium cepa*), Liliaceae (Active parts-bulb).

GARLIC (*Allium sativum*), Liliaceae (Active parts- bulbs)

SHATAVARI (*Asparagus racemosus*), Liliaceae (Active parts- roots).

CHINA ROSE (*Hibiscus rosasinensis*), Malvaceae (Active parts- Flowers)

NUX VOMICA (*Strychnos nuxvomica*), Loganiaceae (Active parts- seeds).

Other herbal plants with aphrodisiac activity are *Datura metel*, *Atropa belladonna*, *Hyoscyamus niger*, *Cannabis sativa*, *Eurycoma longifolia*, *Avena sativa*, *Ginkgo biloba*, *Psoralea coryifolia*. Here is the list of plants with their Description, Experimental study, Chemical constituents and conclusion about the aphrodisiac activity of plants ¹.

Phoenix dactylifera

The date palm pollen (DPP) is used in the traditional medicine for male infertility. The Effect of *Phoenix Dactylifera* Pollen on Sperm Parameters and Reproductive system of Adult Male Rats was studied and the results indicated that the consumption of DPP suspensions improved the sperm count, motility, morphology, and DNA quality with a concomitant increase in the weights of testis and epididymis. The date palm contains estradiol and flavonoid components that have positive effects on the sperm quality. Date palm pollen suspension seems to improve sperm quality, enhance fertility in the male adult rat. Therefore, it may be useful to solve infertility problems ².

Fadogia agrestis

The phytochemical constituents and the aphrodisiac potential of the aqueous extract of *Fadogia agrestis* (Rubiaceae) stem in male albino rats were evaluated. All the doses resulted in significant increase in mount frequency, intromission frequency and significantly prolonged the ejaculatory latency ($P < 0.05$) and reduced mount and intromission latency ($P < 0.05$). There was also a significant increase in serum testosterone concentrations in all the groups in a manner suggestive of dose-dependence ($P < 0.05$). Phytochemical screening revealed the presence of alkaloids and saponins while Anthraquinones and flavonoids are weakly present. The aqueous extract of *Fadogia agrestis* stem increased the blood testosterone concentrations and this may be the mechanism responsible for its aphrodisiac effects and various masculine behaviors. It may be used to modify impaired sexual functions in animals, especially those arising from hypotestosteronemia ³.

Chione venosa var. venosa

The Caribbean island of Grenada furnishes the popular aphrodisiac drug Bois Bande', which consists of the stem bark and the roots of *Chione venosa* (SW.) URBAN var. *venosa* (Rubiaceae), a native tree growing in the islands rain forest. The phytochemical investigation of dichloromethane and methanolic-aqueous extracts of the bark and the roots yielded three acetophenone derivatives described for the first time in plants – ortho-hydroxy-acetophenone-azine, acetophenone-2-O-[β -D-piofuranosyl-(1/6/)-O- β -D-glucopyranoside] and acetophenone-2-O- β -D-glucopyranoside – along with five known compounds, α -morroniside, sweroside, diderroside, daucosterol and β -sitosterol. Their structures were elucidated by 1D and 2D NMR analysis, UV-Vis and ESI-MS. They concluded that the study of the chemical composition of *Chione venosa* (SW.) URBAN var. *venosa* has revealed the presence of three acetophenones hitherto unknown in plants, three iridoids and two well-known triterpenes. These results not only enhance the knowledge of a traditionally used medicinal plant but also contribute to the Aphrodisiac potential of the plant ⁴.

Montanoa tomentosa

Cihuapatli, the Mexican zoapatle (*Montanoa tomentosa*) has an extensive ethnomedical history of use as a traditional remedy for reproductive impairments. Copulatory behavior of sexually active male rats receiving doses of 38, 75 and 150 mg/kg of the aqueous crude extract of *M. tomentosa*, was assessed. In addition, they evaluated the effect of the 75-mg/kg dose of the extract on males with anesthetization of the genital area and on sexual behavior of sexually inactive male rats (noncopulators). The exact constituents are yet to be discovered but the study provides evidence that the aqueous crude extract of *M. tomentosa* is a potent stimulator of sexual behavior, particularly of sexual arousal in male rats, and that it promotes the expression of masculine sexual behavior in previously sexually inactive animals. On these bases, this extract can be considered to possess aphrodisiac properties ⁵.

Butea frondosa

Koen. Ex Roxb (Papillionaceae), *B. frondosa* is traditionally claimed to possess aphrodisiac, expectorant, emmenagogue, diuretic and astringent properties. The study done by S.

Ramachandran, confirmed the claims of *B. frondosa* as an aphrodisiac agent. Sexually active and inactive animals showed increased and improved sexual performance, when *B. frondosa* extract (400 mg/kg body wt.) was administered for a period of 21 to 28 days. Mount latency (ML), intromission latency (IL), ejaculation latency (EL), mounting frequency (MF), intromission frequency (IF), ejaculation frequency (EF) and post-ejaculatory interval (PEI) were the parameters observed before and during the sexual behavior study. Monoamines were present as an active constituent and the extract reduced significantly ML, IL, EL and PEI ($p < 0.05$). The extract also increased significantly MF, IF and EF ($p < 0.05$). These effects were observed in sexually active and inactive male rats ⁶.

Myristica fragrans

Nutmeg is the dried kernel of broadly ovoid seed of *Myristica fragrans* Houtt. (Myristicaceae). It has been mentioned in Unani medicine to be of value in the management of male sexual disorders. The study was undertaken to evaluate the aphrodisiac effect of 50% ethanolic extract of nutmeg along with its likely adverse effects and acute toxicity using various animal models. The suspension of the extract was administered (100, 250 and 500 mg/kg, p.o.) to different groups of male rats daily for seven days. The female rats involved in mating were made receptive by hormonal treatment. The general mating behaviour, libido and potency were studied and compared with the standard reference drug sildenafil citrate. The nutmeg contains a volatile oil, a fixed oil, proteins, fats, starch and mucilage. The fixed oil contains myristin and myristic acid. Nutmeg yields 5–15% of volatile oil, which contains pinene, sabinene, camphene, myristicin, elemicin, isoelemicin, eugenol, isoeugenol, methoxyeugenol, safrole, dimeric phenylpropanoids, lignans and neolignans. The 50% ethanolic extract of nutmeg possesses aphrodisiac activity, increasing both libido and potency, which might be attributed to its nervous stimulating property. The study thus provides a scientific rationale for the traditional use of nutmeg in the management of male sexual disorders ⁷.

Ruta chalepensis

Ruta chalepensis has been used medicinally in many ancient cultures. In ancient Turkish and Chinese literature, its use as an abortifacient and uterine stimulant was reported. The plant

had a spermatrophic action demonstrated by Aly Abdullah Al Qarawi, by experimental study by the increase in sperm count, motility, living percent, and decrease in encountered sperm abnormalities. The hormonal profile was also influenced by the *R. chalepensis* extract. The testosterone and FSH levels were significantly increased with no change in the LH and prolactin levels. The naturally occurring coumarins, only the 3-phenylcoumarins have been present in *Ruta chalepensis* to possess potent estrogenic activity. The stimulatory effects of *Ruta chalepensis* mediated through a pituitary-testicle axis participating in the physiological events of spermatogenesis⁸.

Satureja khuzestanica

Satureja khuzestanica Jamzad is an endemic plant that is widely distributed in the Southern part of Iran. It is famous for its medical uses as analgesic and antiseptic in folk medicine. The genus *Satureja* belongs to the family Lamiaceae, subfamily Nepetoideae and the tribe Mentheae. The study was undertaken to study the effect of *Satureja khuzestanica* essential oil (SKEO) in male rat fertility. SKEO was administered orally at doses of 75, 150, and 225 mg/kg/day for 45 days through drinking water. Treated and control rats were allowed to mate with female on day 45 of treatment. SKEO significantly improved all the parameters evaluated such as potency, fecundity, fertility index, and litter size. It contains more than 0.5% of essential oil. The concentrations of FSH and testosterone were significantly increased in SKEO-treated groups. Also the weights of testes, seminal vesicles, and ventral prostate weights were increased by SKEO (225 mg/kg). Histopathological analysis showed that in male rats treated with SKEO (150, 225 mg/kg) the number of spermatogonium, spermatid cords, Leydig cells, and spermatozooids was increased ⁹.

Lepidium meyenii

Lepidium meyenii (Maca) is a Peruvian hypocotyl that grows exclusively between 4000 and 4500 m in the central Andes. Maca is traditionally employed in the Andean region for its supposed fertility-enhancing properties. Adult male rats were exposed for 21 days to an altitude of 4340 m and treated with vehicle or aqueous extract of Maca (666.6 mg/day). The lengths of the stages of the seminiferous epithelium and epididymal sperm counts were obtained at 0, 7, 14 and 21

days of exposure. The stages of the seminiferous tubules were assessed by transillumination. A dose–response study was also performed at sea level to determine the effect of Maca given to male rats at doses of 0, 6.6, 66.6 and 666.6 mg/day for 7 days on body weight, seminiferous tubule stages and epididymal sperm count. Dry Maca hypocotyls have 59% carbohydrates, 10.2% proteins, 8.5% fiber, 2.2% lipids and a number of other compounds, including most of the essential amino acids. Arginine, a constituent of Maca, has been clinically proven to play a role in male fertility. Maca also contains sterols, such as campesterol, stigmasterol and sitosterol that enhances fertility. G F Gonzales concluded that treatment of rats with Maca at high altitude prevented high altitude-induced spermatogenic disruption¹⁰.

Eurycoma longifolia

Eurycoma longifolia Jack commonly known as Tongkat Ali, is well known among various ethnic groups in Malaysia for treating disease and enhancing health and as such, it is sometimes referred to as 'Malaysian ginseng'. The effects of *Eurycoma longifolia* Jack were studied on the sexual qualities of middle aged male rats after dosing them with 0.5 g/kg of various fractions of *E. longifolia* whilst the control group received 3 ml/kg of normal saline daily for 12 weeks. Phytochemical screening revealed the presence of alkaloids, lactones and phenolics. The study shows that *E. longifolia* Jack enhanced the sexual qualities of the middle aged male rats, and as such, further studies should be conducted to determine if this plant has the above property in middle aged men¹¹.

CONCLUSION:

All the herbal plants in this review have exhibited significant pharmacological activity. The potency of the herbal plant drug is significant and they have no side effect. The herbs can be an effective treatment of erectile dysfunction (ED); moreover isolation and identification of active from these plants can bring a dynamic change in the modern world.

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