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Review Article

Natural aphrodisiac and fertility enhancement measures in males: A review

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ABSTRACT

Infertility is a big problem in present scenario as around 8–12% of couples are experiencing infertility worldwide. A nationwide survey of Indian council of Medical Research projected infertility rate around 15–18%. Statistical data suggest that all over world 40% infertility is due to male factor. More than 90% of male infertility problems occur due to poor sperm counts, poor sperm quality, or both. The remaining cases of male infertility can be caused by a variety of conditions involving anatomical problems, hormonal imbalances, and genetic defects.

The objective of this review is to focus about 70 most popular natural aphrodisiac and fertility-enhancing herbs and plants, effective in improving sexual behavior and can be further formulated for the drug development.

Approximately 70 herbal plants that met the selection criteria, published in various journals included in this review. The articles were analyzed under key points: plant taxonomy, dose level, duration of the experiment, effects on fertility with their medicinal uses. This review enlightens about the uses of natural aphrodisiac for fertility enhancement in a male with their possible mechanisms of action.

Usually, the available medical treatments and drugs have limited efficacy and obnoxious side effects, on the other-hand, these plant remedies acts as a better fertility enhancer without any nasty side effects.

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1. Introduction

Infertility refers to an inability to conceive after having regular unprotected sex. Infertility can also refer to the biological inability of an individual to contribute to conception, or to a female who cannot carry a pregnancy to full term. Infertility affects 13–18% of married couple and clinical and epidemiological studies suggest the existence of increasing evidence of male reproductive problems.¹ Majorly two reasons of male infertility can be diagnosed as abnormal semen quality and other erectile dysfunction (ED, male impotence). Erectile dysfunction is defined as the inability of a man to achieve and maintain an erection sufficient for naturally satisfactory intercourse. According to WHO guidelines, the sperm count less than 12 million/ml is considered as oligospermia.² Biological and organic factors of ED include diabetes mellitus, peripheral vascular disease, hepatic failure, pelvic (i.e. prostatic) surgery, chronic renal failure, penile anomalies or diseases, spinal cord injuries, etc. Generally prescribed medication in ED are for hormonal imbalance such as Human chorionic gonadotropin (HCG), Recombinant Follicle Stimulating Hormone (FSH) and GnRH for hypogonadotropic, hypogonadism, bromocryptine for congenital adrenal hyperplasia (CAH) and prednisolone in Immunologic disease.³ Alprostadil, prostaglandin penile injections also exist beside oral drugs such as tamoxifen and kallikerein⁴ Sildenafil or Viagra,⁵ Vardenafil or Levitra, Tadalafil or Cialis⁶. The available drugs and treatments have limited efficacy, unpleasant side effects and contraindications in certain disease conditions. Sildenafil Citrate (Viagra) is a successful drug that modifies the hemodynamics in the penis.⁷ But side effects of this drug are a headache, flushing, dyspepsia and nasal congestion is reported to this treatment.⁸

Several natural aphrodisiac potentials and Fertility enhancers are involved in the treatment of ED. Fertility enhancers are

products that increase semen volume, sperm concentration and motility, the percentage of normal sperm morphology along with the alleviation of testosterone level. An aphrodisiac is described as any substance that enhances sexual pleasure.⁹

Vajikaran as a concept has been defined in the *Rig Veda* and the *Yajurveda*, the first written texts of medicine, in Ayurveda. Practitioners of Ayurveda the traditional system of medicine in India recognized the vital importance of virility and formulated Vajikarna therapy.¹⁰ Modern day concept for the term “aphrodisiac” can be considered close to the Vajikarna concept defined in traditional texts of Ayurvedic medicine.

The present review is an attempt to accomplish the available scientific information on various herbal drugs and their formulations, which have been evaluated for their aphrodisiac potential and fertility enhancement activity. On the basis of a literature survey, possible mechanisms of action of natural aphrodisiac are also discussed in the review. The review also discusses ROS (Reactive oxygen species), its generation and the potential problems associated with it on male reproductive parameters. It also focuses the emerging concept of using phytoconstituents in degeneration of these free radicals, which may directly or indirectly associate with aphrodisiac potential or may be a contributory factor in fertility enhancement activity of medicinal plants. The review contains an experimental summary of some medicinal plants having aphrodisiac potential and some other plants are also briefly summarized in a tabulated form.

2. Mechanism of aphrodisiac potential

Aphrodisiacs are products that can arouse sexual drive or libido.¹¹ These products stimulate the hypothalamus to release nitric oxide, which eventually dilates the blood vessels of corpus carvenosum and activates enzyme guanylate cyclase (GC) that

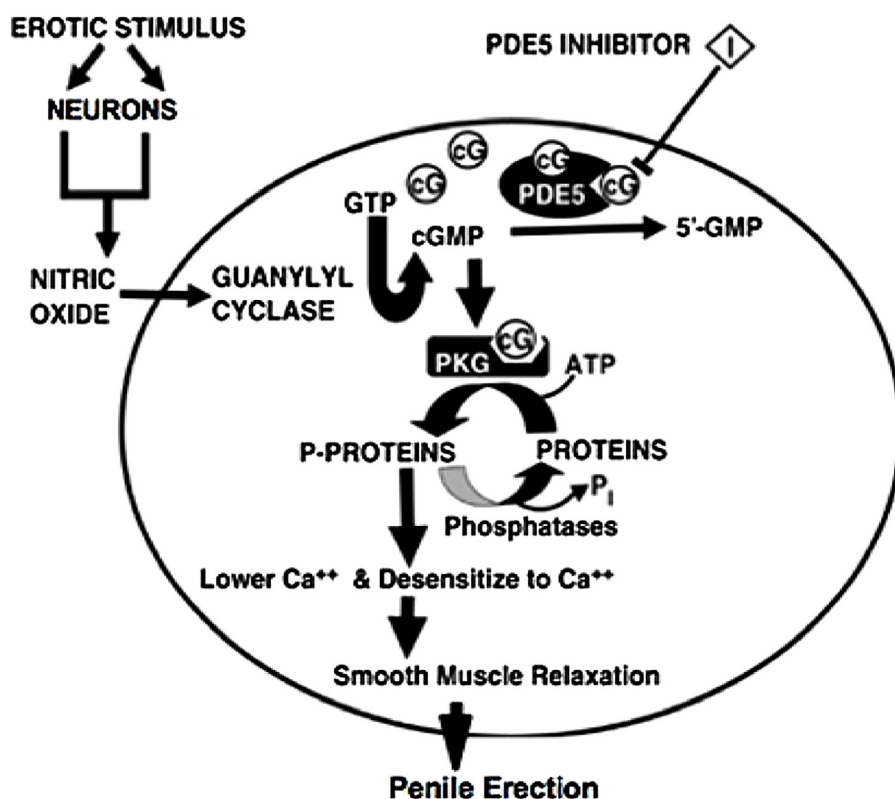


Fig. 1. A possible mechanism of action of aphrodisiac agents.

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