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Review on Ayurved Remedies and Regimen in Male Infertility

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[doi: 10.33472/AFJBS.6.Si3.2024.2544-2552](https://doi.org/10.33472/AFJBS.6.Si3.2024.2544-2552)**ABSTRACT:**

Infertility is typically characterised as a couple's failure to conceive while engaging in regular, unprotected sexual activity. According to WHO, infertility affects about 1 in 6 adults globally demonstrating critical need to provide treatment for individual that are in need with increasing in change in lifestyle the prevalence of this disease is also increasing, Male infertility constitutes 40-50% and affects around 7% of all males. Recent research studies shown that an increased risk of certain malignancies is linked to infertility also advances in paternal age, capacitation, and DNA fragmentation have illuminated certain unexplored areas of male infertility Still nearly one-third of cases are still idiopathic despite recent improvements. There is a limited treatment protocol for male infertility in modern medicine; more emphasis should be focused on Ayurved & alternative medicines system so that as many people as possible benefit from them. Evidence of a global reduction in human sperm quality has been emerging in the past few years. Environmental, occupational, and modern-day lifestyle variables may all play a role in this reduction. Various Ayurved remedies include herbs, food, panchakarma therapies has beneficial effect on male infertility. Different type of herbs, food recipes, panchakarma therapies and ayurved regimen for male infertility has been outline in present article.

Keywords: Ayurved, Alternative Medicine, food, Infertility, Lifestyle, Panchakarma, Sperm Count.

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1. Introduction

Infertility is a condition with psychological financial and medical consequences that may cause distress and strain, especially in a society like ours where having offspring is valued significantly. Over the last few decades, there has been increasing evidence of a global reduction in the quality of human sperm. Because of limited medical resources, high treatment costs, cultural stigma, and taboos the impact of infertility is typically greater in developing nations. According to Ayurved texts, the formation of shukra (semen) dhatu is the result of an extended chain of metabolic processes that start with digestion and synthesis of blood tissue, muscle, fat, bone, and bone marrow and finally sukra dhatu¹. Improper formation of these dhatus may produce poor quality of sukra (sperm). Although many factors might affect male fertility, a factor for the declining pattern would be that environmental or occupational

conditions, as well as lifestyle choices, contribute to the lower semen quality. Male infertility is discussed extensively in Ayurvedic texts.

Causes of male infertility according to the types²

1. **Beejopaghata (congenital defect):** The following genetic disorders are found as a result of parental genetic abnormalities in current times. Kallmann syndrome, Klinefelter's syndrome, Young syndrome, Sertoli cell-only syndrome, gene deficiencies, chromosomal anomalies, Y chromosome microdeletion, AR mutations.

2. **Sukra Kshaya (Depletion of Shukra dhatu)** – The following are the causes of shukra dhatu depletion.

a) **Improper Food Habits:** - Due to consuming food that is cold, dry, incompatible, and undercooked this condition can be correlated to the present condition of consuming fast food, packed food, ready-to-eat food, frozen foods, and bakery items. Intake of dry, bitter taste, astringent, salty, sour taste. It dries up the dhatus (major structural components of the body) dryness increases which is opposite to that of the Shuddha Shukragunas like Snigdha (unctuousness), sliminess which leads to vitiation of shukra. Consumption of an excess quantity of bitter taste food for a longer duration causes emaciation, loss of strength, and vitiation of shukra. Excessive intake of astringent taste food leads to constriction of Shukravahasrotas (semen-carrying channel) followed by obstruction. Shukra has Saumya (gentle) guna and Lavana rasa has opposite qualities like Ushna (hot), and Teekshna (sharpness). Hence when taken in excess quantity for a longer period it leads to vitiation of shukra dhatu. When sour rasa is consumed in excess quantity for a longer period it vitiates Rakta (blood), Mamsa dhatu (body component that denotes flesh and includes muscular tissue) so proper shukra dhatu is not formed³.

b) **Improper lifestyle:** - Excessive fasting, Excessive sexual indulgence, absolute sexual abstinence, Excessive exertion, Suppression of Natural Urges due to hectic schedules, Suppressing the urge of ejaculation. Results in an increase in Raksha (dryness), laugh (light), khara (rough), of vata (air element) which results in hamper agni (digestive fire) and shukra produced become defective. Excessive sexual intercourse leads to depletion of shukra dhatu which is one of the causes of infertility it also does Ojakshaya which are the Sneha of the body leads to the aggravation of Vatadosha which is responsible for movement and cognition which further leads to Pratiloma Gati(opposite direction) diminution of the remaining dhatus which may further disturbed the production of shukra(semen)⁴. Excessive exposure to heat for longer duration for today time it can be correlated with electromagnetic radiation such as longer exposure to laptops, and mobiles it can aggravates the Pitta dosha (responsible for regulating body temperature and metabolic activities) resulting in diminished Dhatus(tissue) by its Agneeya (hot) guna, due to which Shukravaha srotas (channels carrying reproductive tissues) can be affected leads to vitiation of sukra dhatu⁵. In today's world alcohol consumption is common which has been found to harm both sperm quality and levels of male reproductive hormones⁶. Cigarette Smoking habits are also on the rise these days. According to Vine MF et al research study, the general effect of cigarette smoking on male fertility may result from the combined roles of elevated oxidative stress, DNA damage, and cell apoptosis, which could explain not only the reduction in spermatogenesis, sperm maturation, and sperm function reported to be present in smokers compared to non-smokers⁷.

c) **Psychological Factors:** - Sadness, worry, dread, and terror result in vitiation of rakta (blood tissue) and pitta dosha (responsible for regulating body temperature and metabolic activities) which leads to depletion of Shukra⁸.

3) Dhvajabhanga (Erectile Dysfunction): Similarly, coitus with female children and other than the vagina of women, coitus with unwell women, and injury to the penis also cause a lack of strength of the penis. There could be swelling, pain, and redness in the penis, abnormal growth, and ulcers on the penis with discharge. Such an individual has a fever, and if the illness is not appropriately managed, it might lead to testicular necrosis and serious inflammation.

4) Jarasambhava (Impotency due to old age): Impotency due to old age is due to deficiency of rasa dhatu, gradual reduction of strength, energy, sense organs, and motor organs.

Characteristics of abnormal

- Appearance- Phenila (frothy), Tanu (diluted), Ruksha (rough), Picchila (slippery), Grathita (excess viscosity),
- Quantity- Prabhuta (excess quantity), Alpa (less quantity),
- Symptoms -Dahalinga (Burning sensation at penis), Toda (prickling pain), Bheda (shooting pain), Vicchina (disconnected), Chirata (comes after a long time), Vibadha (obstruction),
- Colour- Vivarna (discoloration), Puyabha (mixed with yellow discharge), Aruna (red colored), Krishna (black),
- Smell- Mutragandhi (smell of urine), Majjopasansrista (mixed with bone marrow), Visragandhi (bad odor), Purishgandhi (smell of stool), Kunapgandhi (smell like blood), Putigandhi (foul smell)

Herbs for the enhancement of male fertility

Kapikacchu (Mucuna pruriens): It has an Aphrodisiac effect, it was seen that Kapikacchu seed powder drastically raised mount frequency, mount latency, intromission frequency, and intromission latency, in the male albino rats¹⁰. Also, it has shown notably improved dopamine, adrenaline, and noradrenaline levels and reduced levels of FSH and PRL and enhances semen quality in infertile men¹¹.

Gokshur (Tribulus terrestris): It is considered as Vajikar (aphrodisiac). It is responsible for increasing sexual desire, attraction, pleasure, or sexual behavior. In a study, T. terrestris showed enhancement in plasma testosterone and spermatogenesis and it is also seen that, it increases the levels of testosterone, luteinizing hormone, dehydroepiandrosterone, dihydrotestosterone, dehydroepiandrosterone sulphate of male lambs and rams. Administration of T. terrestris to rats resulted in an increase in androgen receptor positivity and NADPH-d positive neurons in the PVN region. It is well known that androgens either directly or by their conversion to oestrogen enhance both androgen receptor and NADPH-d positive neurons^{12, 13}.

Ashwagandha (Withania somnifera): According to Ayurved, the drugs that enhance the production of sperm and improve sperm metabolism are called Sukrajanan (promote semen production), these drugs mainly act on Shukra dhatu. Aqueous extract of ashwagandha shown to improve spermatogenesis, with the stimulation of nitric oxide synthase and elevated interstitial cell-stimulating hormone and testosterone, it has been seen that elevated levels of reactive oxygen species (ROS) in semen have been shown to induce oxidative stress in sperm and are associated with anomalous sperm traits that may lead to infertility. Ashwagandha also inhibits the production of ROS in infertile males^{14, 15}.

Bala (Sida cordifolia): This herb is called Vrishya (aphrodisiac) and is advised to treat male erectile dysfunction and premature ejaculation. It acts as a tonic to improve male fertility, encourage spermatogenesis, and restore sexual arousal¹⁶.

Arjun (Terminalia arjuna): The extract has the potential to be utilized as a natural antioxidant and to increase the amount of phytosterols in clarified butter. Supplementing with antioxidants significantly increases sperm motility and count ¹⁷.

Recipes for enhancement of male fertility ¹⁸.

Godhuma Churna ladduka (kshe. ku 10/20): The wheat flour should first be roasted in ghee and then it is added to sugar syrup. The whole mixture should be rubbed or kneaded with a strong palm, and then this mixture is converted into balls of the desired size. It acts balya, shukrakar (promoting semen).

Masa ladduka (kshe.ku 10/29-30): The grains (pulse dehusked) masa (black gram) are soaked in water and ground to make a dough then with the ladle having minute holes should be employed for making seva by following the dropping of dough putting in hot ghee for deep-frying them then fried seva put in sugar syrup and by hands ball laddus should be prepared as usual. Its medicinal properties are strengthening, promoting semen, aphrodisiac.

Lalita lapsika (kshe.ku 10/88-90): The fine wheat flour should be fried in hot ghee and sugar is mixed. Subsequently, the priyala (*Buchanania cochinchinensis*) and other small pieces of dry fruits are added. It should be cooked further after adding milk. Finally, the powder of black pepper and ela (lesser cardamon) is mixed or sprinkled. Its medicinal properties are nourishing dhatus(tissues), aphrodisiac, and increasing semen quantity.

Masaphenika (kshe.ku10/11-14): The pulse of black-gram is firstly soaked in water and the grains are dehusked, and subsequently, the whole pulse material is fine to make a nice dough which is mixed well with navanita (butter) Further, this material is filled in a cloth bag provided a (narrow) whole (in bottom/base) for enabling its gradual flow (expulsion and constantly dropping) need fully. Now, the pouch (bag made of leather or thick cloth) full of thin dough (or in a semi-liquid state) is firmly held in a hand and one should manually begin to make a circle/round by pouring/dropping stream/ flow (of dense liquid material coming out from the pouch/bag) in the hot ghee in cooking pan he cooked/fried lot of phenika is put immersed in pakvakhanda (sugar cooked in water till consisting of desirable level) so that sweet (dense) liquid enters anointed entirely in phenika. Its medicinal properties are Sukra sthulatvakara (Making semen thick dense-improving quality of semen).

Koravatak (dahi vada) (kshe.ku 9/31-33): The vataka/vada is prepared with the masapista (black gram-dough) after for mixing selected spices additives like jiraka (cumin seeds), ardraka (fresh ginger), saindhav lavana (rock-salt), tvak (cinnamon-bark), asafoetida-roasted, and then the same material moulded in round vada /vataka form is subjected for deep-frying in the hot sesame oil. Subsequently, the fried vatakas are immersed in yogurt. Its medicinal properties are Sukrakara (promoting semen), Balya (strengthening body as a whole) ¹⁹.

Panchakarma in male infertility

Snehapana (Internal oleation) - Snehapana is a therapeutic intake of medicated unctuous substance. Ghrita (clarified butter fat) is mainly sweet has Brimhana (nourishing), Yogavahi (catalytic), Agniideepaka (carminative) properties and pacify Vata and Pitta dosha in nature. In this, acharyas advised different ghrita like Mahakalyanakaghrita It has Deepana pachana (digestive and carminative), Vrshya (aphrodisiac) and Rasayana (rejuvenative) property. Majority of its contents are Tridoshasamana (pacify all the 3 humor). Virechaka (purgative) nature of drugs like Haritaki, Amalaki, Vishala and Danti help to remove Srothorodha. It causes regulation of Dhatwagni and Bhutagni (metabolic energy) rectifying the cellular metabolism

finally leads to the right formation thus correcting the cellular metabolism, resulting in proper formation of Uttarotara dhatus (succeeding tissues) ultimately the Sukra dhatu (semen). Sukumara ghritha is Vata-pitta samana (pacify Vata and Pitta) in nature. Its contents have Raktasodhaka (blood purifier) properties. Brimhana (nourishing) and have Sukravardhana properties (increasing semen) which is beneficial in sukrakshaya condition. Brihat Ashwagandha ghritha it is beneficial in males for Shukra vikara (disorders of the Shukra dhatu), Oligospermia, Spermatorrhoea, Sexual weakness, Sterility²⁰.

Abhyanga (External oleation)- Abhyanga means massaging the body with oil in this condition taila lika bala taila, dhanvantar taila, ksheerbala taila is beneficial as their dose pacify vata and increase strength²¹.

Swedana /Sudation- It is a therapeutic procedure for inducing diaphoresis. In these, different types of swedana like steam bath, parisheka (sudation is done by a sprinkling of pre-warmed liquid), pradeha (a type of lepa (anointment) which is hot in quality) it is beneficial in dhvajabhanga condition²².

Basti- There are different types of basti which are beneficial in male infertility.

a) Niruha Basti - (Enema with medicated decoction) – It eliminates vitiated Dosha and nourishes the body. Chaga mamsa rasa siddha niruha, Drakshadi niruha, Hapushadi niruha basti are beneficial in male infertility²³.

b) Anuvasana Basti (oil enema administered after food) –Anuvasana Basti is enhancer of Agni and treats the infertility (Punsavashakti) as it bestows child to the childless parent Jeevaniya c) Yamaka basti, best enhancer of Shukra and Agni, best in treating semen related disorders and alleviates Vata-Pitta, Vidangadi taila are beneficial in male infertility²⁴.

d) Yapan Basti (Medicated enema containing milk, meat etc.) – It leads to purification (shodhan) and nourishment (brihman) at same time. It is promoter of Bala, (strength) Mamsa and Shukra. It Also acts as Rasayana (improve health and longevity) it is also advised in Impotency due to old age²⁵.

e) Uttarabasti – Uttarabasti is defined as the procedure by which administration of drugs (e.g., oil, decoction, or Ghritha) through the urethral route in males in this Balaashwagandhatailam, Ashwagandha ghrutam, Phalaghrutam, Kalyanaka ghrutam can be used²⁶.

Virechan Karma (Therapeutic Purgation)-Virechana increases the quantity level of Shukra. Virechana karma promotes the bio-availability of drugs by opening channels and improves the nutritional assimilation which may lead to an increase in luteinizing hormone level²⁷.

Vajeekara Chikitsa: Rasayana and Vajikarana Chikitsa were done to enhance the sperm count and Motility. Vajikaran rasayan is a specific type of rasayan that boosts sexual function and the reproductive system. They affect the limbic and hypothalamic systems, which are higher brain centers. In addition, Vajikaran asserts to have anti-stress and adaptogenic properties that lessen anxiety related to sexual desire and performance. Vrihani Gutika, Vrishya Gutika, Vajikaranam Ghritam are some formulations mentioned in Ayurvedic texts for vajikaran action²⁸.

Regimen & diet²⁹

Pathya (Wholesome)

Aahar(Diet): Milk, Rice, Barley, Wheat, Ghee, Butter, Curd, Kulattha (Dolichos biflorus), Ikshu rasa (sugarcane juice), Sugar, Kilata (caseous milk), Kurchika (cheese), Narikelodaka (Tender coconut), Masha, Athmagupta (Velvet bean), Meat soup, Kukkuta Mamsa (chicken), Kushmanda (Cucurbita pepo), Lashuna (Allium sativum), Draksha (Vitis vinifera), Priyala

(Buchanania latifolia), Saindhava lavana (Rock-salt), Pippali (Piper longum), Shunti (Zingiber officinale), Dadima (Punica granatum L.)

Vihar (lifestyle): Proper Sleep, Snana (Bath), Hygiene, Mind relaxing exercises.

Apathya (Unwholesome)

Aahar (Diet): Kusumba Beeja (seed of Carthamus tinctorius), Sarshapa Taila (Mustard oil), Kshara (Alkali)

Vihar (life style): Untimely sexual intercourse, suppression of natural urges and Intercourse must be avoided with menstruating lady, wearing uncomfortable clothes.

2. Conclusion

Male infertility has been mentioned in ayurvedic texts since ancient times and can be managed with Ayurved remedies and adhering to an ayurvedic regimen. Efforts should be taken to lower the stigma associated with infertility owing to religious and cultural views, so that sufferers may open up and discuss their issues. Additional research into the underlying aetiology and therapy of male infertility is still vitally required.

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