



Ayurvedic concepts of female fertility- A Review

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ABSTRACT

Infertility is defined as a failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse. Reasons such as weight, diet, smoking, medical conditions, other substance abuse, environmental pollutants, medications and family medical history, infections might have an effect on conception in couples. Infertility can arise from either of the partners. Infertility is usually because of low numbers or poor quality of sperm in men whereas in woman, it occurs when she is not able to produce eggs regularly or because her fallopian tubes are damaged or blocked and the sperm cannot reach her eggs. This article presents infertility from the lens of Ayurveda, discussing the ayurvedic concepts and practices that are followed in case of infertility in females.

KEYWORD: Infertility, Ayurveda, Diet, Herbs

INTRODUCTION

Ayurvedic view of Infertility

As per Ayurveda, infertility occurs when a healthy couple is unable to achieve pregnancy after years or more or fail to conceive for several years after the first delivery. [1] Ayurveda has been successful in treating infertility since several thousand years without the help of modern advances in medicine as it gives the ability to the infertile women or couples through treatment to become fertile, to improve the overall health of the women to be able to conceive naturally without the aid of western medicine [2] Ayurvedic medicine originated in India several thousand years ago. "Ayurveda" is an amalgamation of two Sanskrit words- "Ayus", meaning life and "Veda", meaning pure knowledge or science. Therefore, the term "Ayurveda" thus means 'the knowledge of life' or 'the science of life' [3] As per Charaka Samhita, an integration and balance of mind, senses, body and the spirit is called "Ayus", [4] which is believed to prevent illness and promote wellness. [5]. It defines a healthy person as one who is established in the Self (higher-self), who has, balanced Agni, balanced Doshas, properly formed Dhatus, proper elimination of Malas [wastes], well-functioning bodily processes, and whose mind, senses and soul all are full of bliss.

According to ayurveda, the key foundations of health are :

- Universal interconnectedness (relationship among people, their health and the universe)
- Prakriti (person's unique combination of physical and psychological characteristics and the way the body functions to maintain health), and
- Doshas (life force- that control the activities of the body).

Ojas is the essence of all of the bodily tissues and directly influencing physical, emotional, mental, and spiritual life of a person. If Ojas is low, perfect and positive health is impossible – it is difficult for a person to let go off disease, or attain the higher states of bliss and consciousness. [6]

Ayurvedic interpretation of the female reproductive system

Ayurveda identifies the female reproductive systems as follows:

‘Shroni’ means the pelvis. Female pelvis is 24 Angulas and is heavier than the pelvis of the male. There are three Srotas (also called capillaries) in women’s body –

□ Rajovaha Srota - includes uterus, cervix and vagina along with their blood supply.

□ Artavaha Srota - includes ovary and fallopian tube along with their blood supply

□ Stanyavaha Srota - includes breast tissue along with its blood supply [7]

‘Ashaya’ means any recipient viscus. ‘Garbhasaya’ means uterine cavity, situated behind the ‘Bhagasthi’ (symphysis pubis) and a little above the bladder which is surrounded by coils of intestines and is placed between small intestine (‘Pittashaya’) and large intestine (‘Paquashaya’). ‘Yoni’ consists of all the female genital organs.

‘Vajikarana’ is the ayurvedic medicine that deals with issues of infertility. The word “Vaji” means “horse,” so Vajikarana means “to make one potent like a horse.” Guhyaroga is used for the diseases of the female reproductive system. Garbharoga is the term for the diseases of the uterus. Yoni Vyapat refers to the diseases of the vagina [1]. Ayurveda states that, conception is the result of healthy sperm, healthy ovum, and a healthy uterus. Reproductive health of both men and women depends on the health of the Shukra Dhatu, (reproductive tissue). In women, the ovum is produced by Shukra tissue as a part of the monthly cycle, and in men, sexual stimulation is responsible for semen formation [8]. The Shukra Dhatu itself is created as part of a long chain of metabolic transformations, starting with the food digestion including the transformation of food to nutrient fluid, blood, muscle, fat, bone, bone marrow and finally, to Shukra tissue. Healthy Shukra Dhatu, then, depends on the health of all the other tissues in the body [9]. In order to conceive a healthy child, one should be fully healthy oneself (swastha). This optimum state of health provides the fertile ground for the embryo to implant and grow [10].

Types of infertility as written in classical texts

Vandhya

absolute sterility and incurable

Apraja

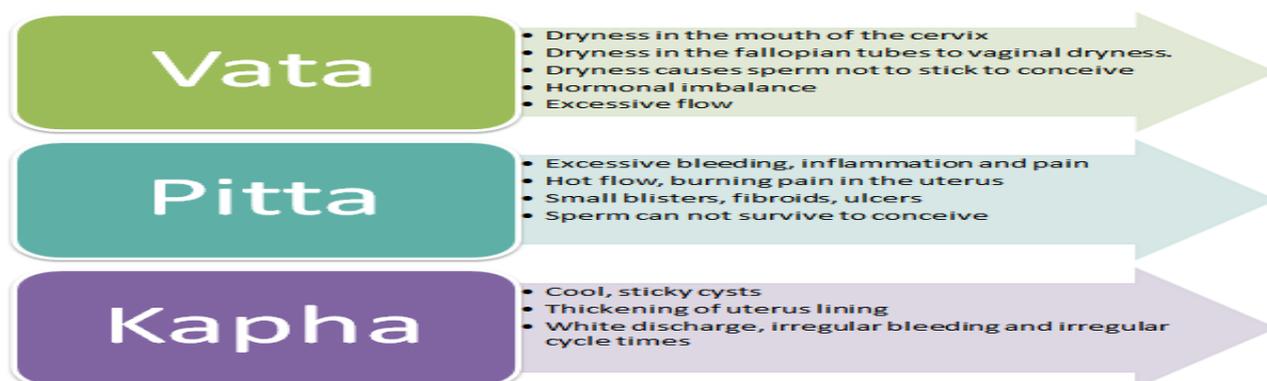
women can become pregnant and curable

Sapraja

women who become inflicted with infertility during her childbearing years after already conceiving one or more children

Menstrual cycle (an indication of the state of the health of the female) can be affected by many factors, such as diet, emotional instability, excessive physical exercise, life-style, and stress [8] responsible for creating an imbalance of the Doshas (control the activities of the body-Vata, Pitta and Kapha).

Figure 1 : Anatomical co-relations of causes of infertility by Doshas:



The most easily disturbed Dosha is the Vata which causes functional defects in the egg, difficulties with implantation and is often responsible for infertility. An excessive bout of exercise, fear, anxiety or stress due to trauma, excessive fasting as is the case in eating disorders or diet including cold, light and dry substances can cause imbalance of Vata [8]. However, infertility rarely involves only one Dosha. People with Pitta nature may experience infertility resulting in scarring of the fallopian tube, inhibiting the ascent of the sperm or descent of the ovum. Excess heat may also be responsible for depletion of Shukra Dhatu [11]. On the other hand, Kapha people because of the dominant water element in their constitution that supports Shukra Dhatu experience the healthiest and the strongest reproductive system. Infertility in those with Kapha is initiated by a cold, heavy and oily diet along with a sedentary lifestyle. When Kapha Dosha is predominant, fallopian tubes may thicken; uterine fibroids may develop, and often involves Pitta and Vata displacement. Scar tissue is due to Pitta pushing Kapha.

The Ayurvedic approach to Infertility

“Ayurveda supports health by strengthening body’s own self-healing and balancing mechanisms” and doesn’t rely on intervention by any outside or foreign substance to replace or correct the hormones in the body [12] It focuses on the treatment of infertility holistically with an aim of improving the overall health and quality of life of the individual [13]. According to the Charaka Samhita, “the single most important factor in the buildup of Ama (toxin created when undigested food forms in the stomach) is the Agni and all the disease occurs due to imbalance in Agni (the power of digestion). Therefore, the treatment of Ama must always include the treatment of Agni, including the use of digestive herbs and spices, eating meals timely following a proper schedule and elimination of cold foods and drinks” [12] Panchakarma (Ayurvedic deep internal cleansing procedure), can also be utilized to eliminate Ama. Healthy Agni will also contribute to healthy Ojas. Evaluation of person’s Dosha is very significant for prescribing the treatment and any blockages and weaknesses in body parts for which the treatment includes appropriate diet, body therapies, herbs, sensory therapies, and lifestyle and yoga therapies [15]

Dietary management

Diet plays a crucial and vital role in the prevention and cure of diseases and in maintenance of good health. Food has been compared to God, in the ancient Indian scriptures,(Annam Brahman) since it is the main factor for sustaining and nourishing life [12] As per Ayurveda, food affects the mind also by causing either an increase or decrease in the three qualities of mind, i.e., Rajoguna, Satvaguna, and Tamoguna [15]. It was believed in the ancient Indian literature that if dietetics is properly followed, medicine is not required but if dietetics is not observed, even medicines are not useful [16]. Dietary management involves strict compliance and adherence to Ojas-building foods and to avoid the substances which diminish the Ojas. This is important to regulate ovulation and enhance fertilization [17] Eating whole foods provides all nutrients for the health of the body in addition to fiber that influences hormonal levels provides. Foods such as processed carbohydrates, excess starch, antibiotic and hormone laden meat and milk and canned produce destroy fertility [15]

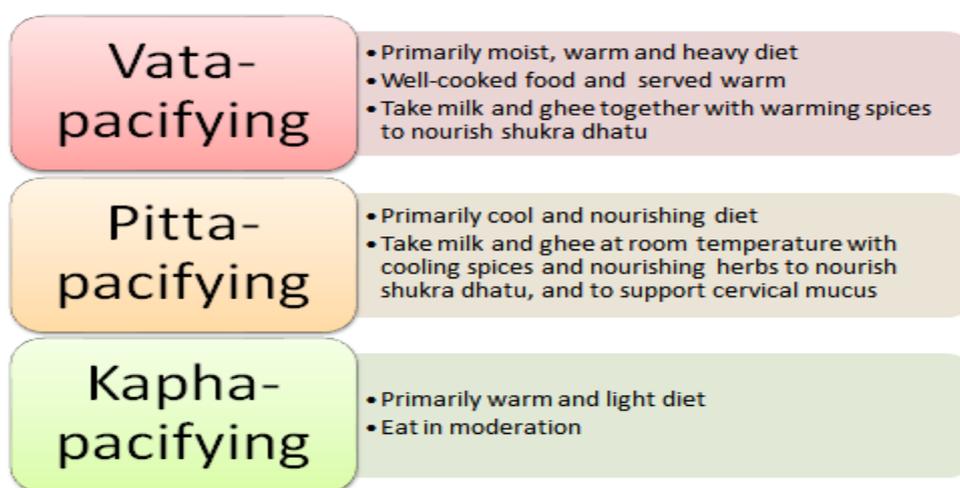
Ojas building food include as milk, ghee, nuts, , sesame seeds, dates, pumpkin seeds, honey, saffron and avocados [18] Fresh, organic fruits and vegetables, protein from plant sources like beans, and peas, sweet, whole grains, juicy fruits such as mangoes, peaches, plums, and pears, asparagus, broccoli, spices such as ajwain powder, turmeric (improves the interaction between hormones and targeted tissues), cumin (purifies the uterus in women and the genitourinary tract in men) and black cumin boost fertility. Foods such as grains, root vegetables, watercress, , garlic, onions and chives improve circulation and nourish the blood [19]

It is believed that urad dhal which is cooked with equal parts turmeric, coriander, cumin and fennel or banana cooked in ghee, cinnamon and cardamom build Shukra Dhatu. Jaggery and Black sesame seeds are both rich in Iron and seeds are rich in vitamin E and the phyto-chemicals in the seeds modulate hormones causing changes in the female body [20]. Diet should be free from Trans-fats as they block arteries, threaten fertility and harm the heart and blood vessels and therefore, must be avoided. Foods such as beans, Spinach,

pumpkin, tomatoes, and beets, boost iron and promote fertility. It is of utmost importance to keep the body well-hydrated by drinking warm water and digestive teas. It is believed that cooking and eating vegetables such as Colocasia with old-garlic improve progesterone and fertility chances in women [21]

The following foods increase and exacerbate female infertility, and must therefore be avoided- foods containing preservatives and other chemicals, like artificial sweeteners, Monosodium Glutamate (MSG), diet high in fat and other artificial flavoring and coloring (Nutra Sweet etc.), excess alcohol and caffeine, tobacco, soda, smoking, red meat, refined carbohydrates, such as pasta, white bread and rice. It is vital to include a wide range of foods in the diet to ensure the body is getting all the nutrients it needs to aid conception. Eating small, regular and well balanced meals builds overall health. Ayurveda recommends trying new vegetables and fruits as often as possible, breaking the monotony by not eating the same thing every day [21]

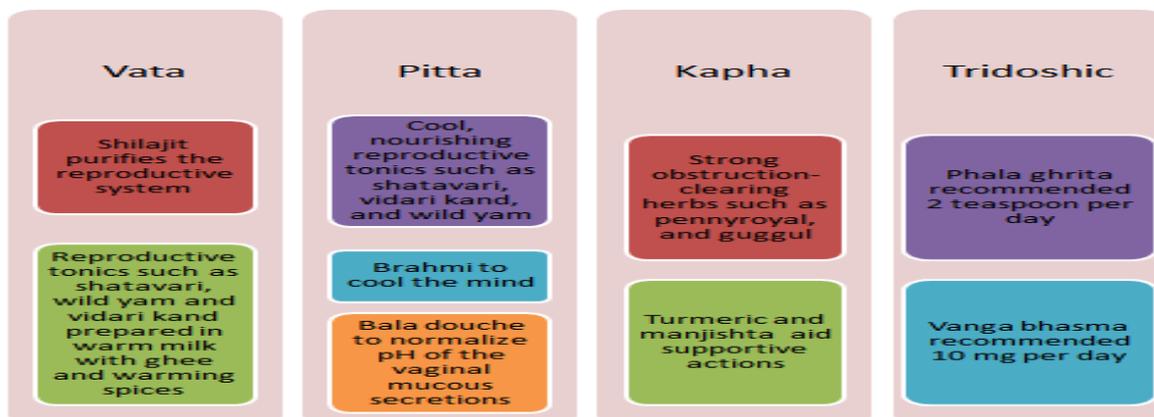
Figure 2: Diet as per Dosha to treat infertility



Ayurvedic herbs

As infertility is not a disease by itself but a manifestation of some disease, the herbs used in the treatment are directed towards eradicating the underlying cause [22] The most commonly known and used herbs such as Ashwagandha (Withania Somnifera), Shatavari (Asparagus Racemosus), Amlaki (Emblca Officinalis) and herbal formulas such as Mensu and Chyavanprash are extremely useful formulations which help create the synergistic hormonal balance between the Follicle Stimulating Hormone (FSH) and the Luteinizing Hormone (LH) [23]

Figure 3: Herbs as per Dosha



The following medicinal herbs increase fertility in women and also improve chances of conception.

Table 1: Fertility boosting herbs

Vitex	Boosts fertility; alleviates symptoms of premenstrual syndrome; regulate irregular menstrual cycle and heavy bleeding
Red raspberry	Excellent source of calcium, magnesium and Iron, strengthens the uterus
Nettles	Nourishes reproductive and adrenal systems; prevents birth defects and aids in implantation and cell division
Oatstraw	Hormone balancer; Nervine; aphrodisiac; nourishing herb
Damiana	Balances irregular menstrual cycle; nourish reproductive system; boosts fertility
Maca	Boosts libido; regulate hormones and improves the health of egg
Alfaalfa	Nourishes reproductive organs
Red Clover	Fertility booster; blood purifier
False Unicorn	Promotes healthy menstrual cycle and help in correcting recurrent miscarriages
Saw Palmetto	Nourishes reproductive system; boosts fertility

No individual herb alone is considered useful for promoting fertility. Therefore, a combination of herbs is used in the treatment of infertility with the purpose of correcting a organic or functional problem that caused infertility [24]

Table 2: Ayurvedic herbal treatment for infertility

Condition	Compound Formulas	Simple herbs
Ovulation disorder	Chandraprabha Vati, Yograj Guggulu, Ashokarishta and Dashmoolarishta	Ashoka, Dashmool, Shatavari, Aloe vera, Guggulu, Hirabol and Harmal
Ovulation problems caused due to polycystic ovarian syndrome (PCOS)	Latakaranj, Varun, Kanchnaar Guggulu, Arogya Vardhini, Punarnava Guggulu	Guggulu
Premature ovarian failure (POF)	Chandraprabha	Ashoka, Dashmool, Shatavari, Guduchi, Jeevanti
Blocked fallopian tubes, adhesions (scar tissue) and pelvic inflammatory disease	Kaishor Guggulu, Triphala Guggulu	Guduchi, Kutki, Punarnava
Cervical mucus		Vata, Ashwatha, Udumbara, Plaksha, Shirisha, Haridra, Yashtimadhuk, Saariva and Manjishtha
Underweight women or those that have a small, undeveloped uterus or cervix		Shatavari, Ashwagandha, Vidarikand, Ksheeridari, Bala, Samudrashok, Nagbala, Shrungatak and Yashtimadhuk
Some women do conceive, but are unable to retain the pregnancy till full-term		Guduchi, Kantakari, Brihati, Gokshura, Bhrungraj, Yashtimadhuk, Pippali, Bharangi, Padmakashtha, Rasna and Manjishtha

Medicated ghees and oils such as satapushpa tailam, narayana tailam, phala sarpis, kalyana ghrita, kalyana gulam, dadimadi ghrita and commonly used [25] The right combination of herbs helps in regulating menstrual cycles, enhancing general health and wellness, invigorating sperm (enhancing a man's sperm count, morphology and motility), reducing stress, enhancing sleep controlling anxiety and increasing energy level, balancing the endocrine system, increasing the chance of pregnancy for women undergoing in-vitro fertilization (IVF) and improving blood flow in pelvic cavity, thereby promoting fertility [26]

Body therapies

Ayurvedic body therapies such as Shirodhara, Abhyanga, marma therapy, Nasya, Basti, chakra balancing Pinda, Visesh and vedana help in releasing tension, impurities and trapped energy within the body. They nourish the body, revitalize the mind and strengthen the immune system. Rejuvenation therapies are beneficial in reducing stress, nourishing all dhatus of the body and pacifying Vata. [27]. Panchakarma is usually prescribed for infertile couples. Rejuvenative therapies are basically recommended for Vata Dosha, and cooling light therapies for pitta Dosha. Shodhana chikitsa helps in uterine hostility, and non-ovulatory cycles. To remove local disorders, to remove obstructions in passage and to facilitate proper coitus, and to increase receptivity of the genital tract to the entry of the sperm, Basti is recommended.

Massaging the body reduces stress, rejuvenates the entire body, and pacifies the underlying Dosha. Female infertility is sometimes caused by blocked tubes, pelvic adhesions or other types of trauma or inflammation in the reproductive organs [28] While long believed that surgery procedures were the only way to even partially decrease these problems, Ayurvedic experts have founded a deep tissue work can not only decrease mechanical blockages, but also reduce pelvic pain and improve sexual arousal and orgasm for women [29].

Figure 4: Benefits of Fertility Massage



A sedentary lifestyle results in believed to stagnant lymph flow. If the body is too active, the body may not be able to carry away all the waste that is produced. Therefore, the deep tissue massage work to stimulate the flow of lymph. This bodily fluid carries wastes and impurities away from tissues and needs muscle contractions to move efficiently throughout the body. The massage can help in increasing the chances of conception by clearing blocked fallopian tubes. [30]. Reflexology, is an effective technique of interrupting stress and returning the body to a state of equilibrium which involves massaging different areas of the hands and feet (to establish the tension level for the rest of the body) corresponding to those internal organs that may cause infertility [31]

Acupuncture is yet another option that can be done on its own or along with other assisted reproductive technology (ART) procedures. Studies have proved the effectiveness of acupuncture for infertility [30]. A

2004 study conducted by the Reproductive Medicine and Fertility Center in Colorado found that 51% of women who underwent both IVF and acupuncture treatment at the same time became pregnant, while only 36% of those who only underwent IVF did. The latter group also had higher rates of miscarriage stillbirth (20%) compared to those women who had received acupuncture (8%) [32]

CONCLUSION

Infertility has increased tremendously in the past decade and this is due to the result of a combination of social, environmental, psychological, and nutritional factors. Today, the modern medicine has the ability to find out the causes of infertility in an individual through several diagnostic tests and examinations. Using these tests, the treatment focuses on correcting and treating the dysfunction. Infertility is managed by looking at the reproductive system components. Ayurveda pays attention to each individual body types, enhances the body systems participating in the process of fertilization and therefore serves as an excellent alternative for reaching fertilization. Ayurveda addresses the internal balances and external influences contributing to the problem by building the Ojas, improving the overall health of the individual, stimulating the hypothalamus and pituitary glands thereby indirectly inducing the ovaries to ripen and release eggs. Ayurveda provides a noninvasive, low cost and non-iatrogenic alternative and complement to modern western medicine in the treatment of female infertility. Because ayurveda focuses on rebalancing individuals rather than just treating diseases, its treatments are have low potential for side effects. Additionally, they tend to promote the systemic health and well-being of the individual. Firstly, it makes an attempt to correct infertility through Ayurvedic treatment and then, if that fails, to subsequently employ the more forceful but also more risky treatments of modern Western medicine. It is also possible to use the high tech diagnostic tests of modern Western medicine and its patho physiological specificity in tandem with the holistic, benign, but nonetheless effective therapies of Ayurveda. Ayurveda guides us to connect to our inner wisdom and grace and heal from within. Although a number of treatments are available to treat infertility, their large costs to make it important to consider alternative approaches such as, homeopathy, assisted reproductive technologies, allopathy, ayurveda, aromatherapy etc.

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