

EFFECT OF YOGASAN IN THE INFERTILITY

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ABSTRACT

Infertility is the most common gynecological problem which many couples in 21st century are facing. According to Mayo Clinic USA about 20% of cases of infertility are due to the problems in the men. About 40 to 50% of the cases of the infertility are due to problems in both men & women. Increasing rate of infertility has become challenging for gynecologists. As the allopathic treatment developed upon hormone supplementation, surgical procedure & artificial reproductive technique, it's the turn of *ayurved* & *yog* to give solution & active conception by natural method to give healthy offspring. *Yoga* is one among oldest system of health care in the world which uniquely perceived an intimate relationship between lifestyle of an individual to its health & disease. In *Yogasutra*, *Achary Patanjali* explained various *asanas*. These *asanas* are very helpful in controlling the mind as well as other element of the body. By the regular practicing the *asanas* the reproductive organs get strengthen & the neuro-muscular co-ordination improve. Also hormonal imbalance gets corrected. Review study concluded that modern life style stress is mainly responsible for abnormal condition like infertility and *yogasanas* a part of *yoga* therapy place significant effect in treating infertility.

Keywords: infertility, *yogasanas*, reproductive organ, mind, *yogshastra*, stress.

INTRODUCTION

Reproduction is one of the most important biological functions for all life forms. For most couples having children is a somewhat primal need & inability to reproduce can be divesting individuals and couples. There are certain myths about infertility. One of them is that infertility is not a problem in countries with high fertility rates. Paradoxically countries with higher fertility rate also have

high prevalence of infertility. Another myth is the common belief that infertility is a women's problem. However, research evidence indicates that the best result for infertility treatment are obtained when both partners are investigated together. Another myth is the belief that infertility neither preventable nor treatable. Infertility is a major reproductive health concern. It affects an estimated 50 to 80 millions² couples globally.

Generally world wide it is estimated that one in seven couples have problems concaving with incidence similar in most countries independent of the level of countries development roughly half of fertility problems with the men & half due to women. However about one in five cases of infertility have no clear diagnosed cause. Male factor infertility accounts for 25% of infertile couple, while 25% remain unexplained 50% are female cause with 25% being due to anovulation & 25% tubal problems. Infertility is the most common gynecological problem which many couples in 21st century is facing. The increasing rate of infertility has become challenging for the gynecologists. As the allopathic treatment develop upon hormone supplementation, surgical procedure & artificial reproductive technique it's the turn of *Ayurved* & *yoga* to give solution and achieve the conception by natural method to give healthy offspring. In today's era *yogashstra* gives us a helping hand, With the help of certain *asanas*, *bandha*, *mudras* nerves are stimulated results in activated nerve work co-ordination. It improves physiological cleaning process blood congestion is removed by various positive pressure, local circulation in region where the sex organs & sex glands are situated improves. Hence the reproductive system function well.

Aims & objectives:

1. To study the concept of infertility according to *ayurved* & modern science.
2. To evaluate the role of *yogasanas* in infertility.

Material & method:

Only textual material has been used for this study, from which various references have been collected. *Ayurvedic text* & available

commentaries on it, modern text & related websites have also been searched.

Concept of female infertility in *ayurved* :

In *ayurvedic* classics majority of the gynecological disorders have been described under the heading of *yonivyapad*. All the classics have given the number of *yonivyapad* as twenty. However, there exists much differences of opinion regarding causative *doshas*. In *Sushrut samhita* (Su.U.38/10,11) *vandhyatva* has been included in twenty *yonivyapad*. *Achary Charak* (Ch.Sha.4/30) & *Vagbhat* (Ash.Sanh.Sha.2/48) has referred *vandhyatva* seen due to abnormality of *beej*. *Achary Harit* (Ha. *Trutiyaasthan* 48) has classified *vandhyatva* in detail & six types of *vandhyatva* has mentioned. *Madhavnidan* & *Yogratnakar* have followed *Achary Sushrut*. In *Rasratnasamuchhaya*, nine types of *vandhya* have been described (R.R.S / A/ 32) In *Vandhya kalpdruma* eight types of *vandhya* have been described. (*Stri. Chiki.* 46-50)

Vandhya is a woman who lost her *artav* (menstruation). Some of the recent writers interpreting 'artav' as ovum consider *vandhya* as unovulatory menstrual cycle. Ovum is a microscopic structure, its presence during those days was imagined due to its role in conception. Here, instead of infertility a clinical feature of anovulatory cycle, amenorrhea has been described. Though distraction of *artav* denotes that *artav* was present, which finished afterwards, thus it should be considered as secondary amenorrhea. The word *nirartav*. (without menstruation) used in *Bhavaprakash* hints towards primary amenorrhea. *Acharya Charak* & *Vagbhat*, while describing *beejmans dushti* chromosomal, genetic abnormalities have mentioned that if part of *beej* responsible for the development of

uterus defective then born child would be *vandhya*. *Achary Chakrapani* has included abnormalities of the part of *beej* responsible for the development of *artav* & *garbhashay* both. If description of *Achary Charak* & *Sushrut* are considered together, then *vandhya yonivyapad* would appear to be identical to primary amenorrhea due to congenital absence or marked abnormalities of uterus & ovaries.

Concept of male infertility in Ayurveda:

In Ancient times, probably because there was no microscope, sperm and seminal fluid were not known as separate entities both were known as *shukra dhatu*. The *shukra dhatu* is the last of hierarchical tissue and therefore it's quality is influenced by the quality of prior tissues. further any abnormality in the *shukra dhatu* leads to either infertility or congenital anomalies in the child. Ancient physician have described characteristic features of fertile *shukra dhatu* thus, the semen should be produced in large quantities ,should be thick and viscous in consistency, sweet in taste with sweet honey like odor and white in colour. *Achary Charaka*, has described four main causes of infertility namely-

1. *Bijopaghat*– Anatomical or quantitative abnormalities in sperm
2. *Shukra-Sankshay*– Deficiency in seminal fluid
3. *Dhwajopaghat*– Defect in penile function (either in erection or ejaculation)
4. *Jara* – senility or old age.

In Similar fashion *Achary Sushrut* has also described different types of abnormalities in semen including

1. *Kshin*– Congenitally less in quantity
2. *Alpa* – Decreased quantity due to any disease
3. *Dusht*– Acquired pathology in quality

4. *Vishushk*– Decreased quantity due to age
Interestingly, *Achary Sushrut* has also emphasized the importance of the psychological component in fertility and penile function.

Concept of infertility in modern science:

Infertility is generally defined as failure to conceive, after twelve months or more of normal sexual practice without contraception. Approximately 85% of couples conceive within twelve months ,93% of couples within twenty-four months 8% remain infertile by the end of twenty-four months. Causes are identified in 90% patients pregnancy results in 40% of those.

Types of infertility

1. Primary infertility: It denotes those patients who have never conceived. Prevalence of primary infertility is 3% in India.
2. Secondary infertility: It indicates previous pregnancy but failure to conceive subsequently. Prevalence of secondary infertility in 8% in India.

Etiology according to Ayurveda: *Acharya Charak* has clearly described the *nidan* of *vandhyatva* which are almost similar to causes of infertility according to modern science.

According to *ayurved* disorders of factors of conception related to (i) *Rutukal e.g kaphapradhnya* (ii) *Kshetra e.g. vyapanna yoni* (iii) *Ambu e.g garbhsravi* (iv) *Beeja e.g. artav dushti*.

A. Yonipradosha (abnormalities of reproductive organs): All twenty *yonivyapad* if not treated properly causes infertility. (*Su. Sha. 2/3*)

Without *vata* the *yoni* never gets spoilt, *vandhyatva* has also been described in eighty types of *vata vyadhi* (*ca . ica . 28*) so *vata* as the prime.

B. Mansik Abhitap (Psychoological abnormalities): Normal psychology of the couple as very important for achievement of pregnancy. Fear of doing sex, marital disharmony and infrequent coitus affect the fertility. (ca.Saa.2 /5)

C. Shukra dushti (Abnormalities of shukra): Quantitative & qualitative abnormalities of sperms along with seminal fluid causes infertility. (sau. Saa. 2/5) Causes of male infertility are *akaaal yonigaman, nirghat* (suppression of urge coitus), *atimaithun* (over indulgence), *asatmyanam cha sevan* (eating improper food) & other causes like fear, sorrow, stress.(ca . iva .5/19)Also cases of *shukrakshay* has described by *Achary Charak i.e. jara, chinta* etc (ca . ica . 2/4,42,43)

D. Asruk dosha (Abnormalities of asruk): The word *artav* refers to ovum, menstrual blood and ovarian hormones.Abnormalities of ovum and ovarian hormones produce infertility (sau. Saa. 2 4/)

E. Abnormalities of diet: For maintenance of normal health the balanced diet is essential. Dietetic abnormalities influence nourishment of the body or cause loss of *dhaus* which influences normal secretion of hormones resulting into failure to achieve pregnancy. *Samyaj* and *rasaj bhawas* included under *sadbhawas* and *ambu* or nutrient, one of the four factors of conception come under this heading. Abnormal diet is one of the important cause of vitiation of *doshas*, which if vitiated, influence fertilization by producing gynecologic disorders, diseases of *vat*, chronic illness and *udavarta* etc. The fertilized egg is nourished by the exudates of epithelial lining of fallopian tubes and endometrium, these exudates are derived from the *ras dhatu* formed from maternal diet; for

implantation of zygote, the endometrium is prepared by the hormones, which are also formed with the help of maternal diet, if fertilized egg is not nourished properly, then either fails to develop or after getting implanted in endometrium may get discharged with menstrual blood and the woman will never know that she ever conceived and consider herself as infertile. In short dietetic abnormalities cause infertility in three ways i.e. (i) by producing loss of *dhatus*, thus influencing hormones (ii) by vitiating *doshas* which cause various gynecologic diseases, thus infertility(iii) by hampering nourishment of fertilized egg or implantation of zygote.

F. Abnormalities of mode of life: Abnormal mode of life and suppression of natural urges aggravate *doshas*, which influence impregnation by producing various gynecologic abnormalities. Coitus with the woman in her hump-back or lateral posture, discharge of semen over *samirana nadi* or outside the vaginal canal, all come under defective practice, in all these conditions probably semen is not properly deposited inside the vaginal canal, thus sperms fail to enter uterus causing infertility. In short, abnormalities of mode of life also produce infertility in two ways i.e. (1) by vitiating *doshas*, thus causing gynecologic disorders (2) by preventing proper entry of sperms due to faulty deposition of seminal ejaculation.

G.Akal yog (coitus in improper time)

Word *kal* (time or period) refers to period of age and *rutukal* both. In young or old ladies due to premenarcho and menopausal stage respectively and before or after *rutukal* due to absence or destruction of ovum respectively conception does not take place.

H. Loss of bal or strength

Bal refers to physical strength and capacity to become pregnant. Physical strength depends upon *dhatu*s, which has already been discussed under diet. Here probably *bal* refers to capacity to achieve conception. Few women fail to become pregnant during their active reproductive life or much before the normal age of menopause, others do not conceive with no apparent cause, probably only due to loss in the capacity to achieve pregnancy, thus loss of *bal* or strength refers to infertility due to unknown cause or premature aging

I. Abnormalities of *atma* & *satva*

This heading includes infertility due to influence of misdeeds done by the couple in their previous life as well as abnormalities of *atma* descending in this pregnancy. Misdeeds of previous life refer to idiopathic causes. *Atma* descending in the fertilized egg is encircled by *satva*, both these i.e. *atma* and *satva* are included under *shadbhawas* of embryo, conception is the result of union of *shukr*, *shonit* and *atma*, naturally its abnormality may cause infertility

Affliction by *jātahārini* refers to idiopathic cause of infertility. On the basis of clinical features, the *puspaghni jātahārini* (having infertility as cardinal symptom) seems to be infertility due to inadequate level of hormones. (*Ka.Revatikalpa/33*)

K. Curses of god or fate

This also refers to idiopathic causes of infertility.

L. Life style and environmental factors causing infertility

Age, stress, poor diet, obesity or underweight, smoking, drugs, alcohol, medication, environmental toxins, genetic conditions, other health problems such as STD & immunological. Since many women delay

child bearing on account of education & carrier. Fertility rates have been shown to decline with increasing age of spouse with duration of marriage, presumably secondary to decrease in sexual activity. Exposure to excessive heat at work places increasing risk of oligospermia & also affect the quality of sperm. Occupational exposures also have demonstrated increased risk of idiopathic infertility. Exposure to radiation which may be occupational, accidental, iatrogenic or therapeutic can contribute to infertility. Exposure to pesticides can link with poor sperm function in men. Unhygienic obstetrical practices & inappropriate gynecological practices leading to postpartum infections, unsafe abortion etc. may also cause infertility. Any psychiatric illness can cause hypothalamic dysfunction & an ovulatory infertility. Infertility as a major reproductive health concern. In many cultures the consequences of infertility can be devastating specially for women.

Etiology according to modern science:

A. Causes of female infertility

- Ovulatory dysfunction e.g. un- ovulation
- Tubal factors e.g. obstruction of tubal lumen
- Peritoneal factors e.g. endometriosis
- Uterine factors e.g. inadequate secretory endometrium
- Cervical factors e.g. chronic cervicitis
- Vaginal factors e.g. frequency & timing of coitus

B. Causes of male infertility

- Defective spermatogenesis
- Obstruction of the efferent duct system
- Failure to deposit sperm high in the vagina
- Defect in the sperm & seminal fluid

Essential Factors for fertility: Ayurvedic view

Achary Charak has mentioned both male & female after observing the advocated dietic regimen & ejaculated unvitiated *shukra* passing through healthy *yonis* reaches healthy *grahashay* & gets mixed with disease free *shonit*, then conception as definite. (ca. Saa. 8/17) According to *Achary Sushrut* four essential factors for the conception are similar as the germination of seed (sau.Saa.3/6)

- (a) *Rutu* (ovulation period) – fertile period
- (b) *Kshetra* – Reproductive organs in healthy state
- (c) *Ambu* – Proper nourishment, adequate hormonal level & proper nutrition to genital organs.
- (d) *Beej* – adequate ovum & spermatozoa

Essential Factors for fertility: Modern Science view

For an unassisted conception, both partners should be fecund.

Female partner’s requirement

- a. Functioning reproductive anatomy & physiology
- b. Adequate nutritional, chemical & health status to maintain nutrition & oxygenation of placenta & fetus
- c. Adequate sexual desire to permit coitus & its frequency.

Male partner’s requirement

- a. Normal spermatogenesis & ductal system
- b. Ability to transmit spermatozoa in the female vagina.
- c. Ability to achieve a normal ejaculation.

Importance of yog:

Health & fitness are essential for all persons. *Yog* is one among oldest system of health care in the world which uniquely perceived an intimate relationship between lifestyle of an individual to its health & disease. The concept of medicine & its approaches in recent years also has changed the medical pro-

fessional & is facing with the rapid growth of newer disorders whose roots lies in the society & modern way of life itself. An overview of current trends in western medicine too now shows increasing tendency of emphasis on the life style management in prevention & treatment of many modern diseases *Yog* deliberates the concept of *achar, vichar, ahar, vihar* as primary modes of care of human health.

A. Achar (Behavioral regimen)

In *yog*, *achar* includes *yam* & *niyam*. *Yam* is control of the body, speech & mind. It is classified into five subtypes; *Ahinsa, Satya, Asteya, Brahmacharya, Aparigraha*. *Niyam* is following the rules of good conduct. It is classified into 5 subtypes, *Shouchya* (cleanliness), *Santosh* (Contentment), *Tap* (Penance), *Swadhyay* (study of religious scriptures), *Ishwarpranidhan* (Remember God).

B. Vichar (Thoughts)

In *yog* *yaaogastu ica%tvaRi%t inaraoQa :E yaaogasaU~ 1/2*

Dharna is concentration of *chitta* on some object. *Dhyan* is perfect contemplation. It involves concentration upon a point of focus with the intention of knowing the truth about it.

C. Ahar (Dietary principles)

Satvik & vegetarian *ahar* mentioned in *yog*, which has a vital role in promoting ones total health. (*Hathyog pradipika 1/62*)

D. Vihar (Healthy life style)

In *vihar* *yog* contents *asanas, pranayam, shudhikriya such as dhauti, basti, neti, tratak, nauli, kapalbhati*. *Asanas* (posture); *yog* has prescribed various types of postures. These postures are very helpful in controlling the mind as well as other element of the body. In *Hathyog* an eight fold path viz *yam, niyam, asan, pranayam, pratyahar, dharana*

,*dhyana*, *samadhi*. *Yama*, *niyama*, *asana* and *pranayama* are clubbed together as *bahirang yoga* and are practiced for mental and physical health. *Dharana*, *dhyana*, *samadhi* are considered parts of *antarang yoga*. *Pratyahara* is considered by some as a bridge between *bahirang* and *antarang yoga*.

Role of *asanas* in infertility:

In the *Yogasutras*, *Patanjali* defines *asana* as to be seated in a position that is firm but relaxed. *Patanjali* mentions the ability to sit for extended periods as one of the eight limbs of his system known as '*ashtanga yoga*'. *Asanas* are also performed as physical exercise where they are sometimes referred to as *yoga posture* or *yoga positions*. Some *asanas* are regularly performed by many practitioners just for health purpose. *Asanas* do promote good health although in different ways compared to physical exercises placing the physical body in positions that cultivate also awareness, relaxation & concentration

Common practices:-

In the *Yogasutras* the only rule *Patanjali* suggests for practising *asana* is that it be "steady & comfortable." The body is head poised with the practitioner experiencing no discomfort. When the control of the body is mastered, practitioners are believed to free themselves from the duality of heat or cold, hunger or satiety, joy or grief which is the first step towards the unattachment that relieves suffering. Listed below are the traditional rules for performing *asanas*.

1. The stomach should be empty.
2. Force or pressure should not be used.
3. Lower the head and other parts of the body slowly, in particular, raised heels should be lowered slowly.
4. The breathing should be controlled. The benefits of *asanas* increased if the spe-

cific *pranayama* to the *yoga* type is performed.

5. If the body as stressed perform corpse pose or child pose.
6. Such *asanas* as *sukhasana* or *shavasana* help to reduce headaches.

The *asanas* which are useful for infertility are as follows.

1. *Vajrasana* (Thunderbolt pose): *Vajrasana* improves the blood circulation in the lower part of abdominal region and maintains the health of the genital area.
2. *Paschimottasana* (Forward bend pose): Unnecessary blood accumulation in the lower abdomen is eliminated. It eliminates the disorders arising from excessive indulgence in sex and thereby improves the health of the sex glands.
3. *Padmasana* (Lotus pose): The sex life of men and women become healthy and fulfilling. Seminal weakness and nocturnal emission in youths and problem of excessive menstruation in young women is eliminated by practicing over a period of time. It is one of the most important meditative *asana* posture. Blood is made to flow more towards pelvic region.
4. *Viparitkarani mudra* (Legs up the wall pose): This *mudra* specially benefits women, the tendency and possibility of displacement of the uterus is considerably reduced. For healthy gestation and smooth delivery, it is used. Keeps the muscles of abdomen and sex organs optimally elastic.
5. *Halasana* (Plough Pose): The functioning of thyroid & parathyroid glands is improved because of the pressure exerted on these throat glands. Due to this endocrinal harmony is maintained & improved, resulting in conception.

6. *Suptavajrasan* (Reclined Thunderbolt pose): It activates & tones up large group of nerves which arises in the lower lumbar region which supplies the buttock & back of the thigh.
7. *Bhadrasan* (Gracious or blessed position): It is useful in genito- urinary deformities. It is indicated in impotency. It is a purely meditative posture.
8. *Siddhasan* (Expert sitting position): It is purely meditative posture. Pelvic region gets larger blood supply.
9. *Kukutasan* (Cock Pose): It strengthens the pelvic organs.
10. *Sarvangasan* (Shoulder stand pose): It corrects the improper function of thyroid. Due to chin lock thyroid & parathyroid glands are well nourished & there will be an increase in blood flow through the body. It is indicated in mental distress.
11. *Naukasana* (Boat pose): It facilitates suitable stretching compressing & relaxation to the uterus and toned it. More or less, it strengthens the all the system of body like hormonal system.
12. *Shalabhasana* (Locust pose): It strengthens the abdominal organ & low back region. Thus increases the blood supply to the reproductive organs.
13. *Dhanurasana* (Bow pose): It strengthens the groins & abdominal organs. It cures menstrual disorders. It helps in stimulating the reproductive organs.
14. *Shirshasan* (Head stand pose): It stimulates & regulates the body system. It relaxes mind & releases anxiety.
15. *Sinhasana* (Lion pose): It stimulates the thyroid gland & also abdominal organs.
16. *Trikonasana* (Triangle pose): It is used for stress management. It strengthens the muscles of thighs, hips & back.
17. *Ushtrasana* (Camel pose): It stimulates the thyroid gland and also abdominal organs.
18. *Chakrasana* (Wheel pose): It strengthens the back & abdominal muscle. It tones the organs in the abdomen including the reproductive organs.
19. *Hastapadasana* (Standing forward bend pose): It is helpful to receive the menstrual problems.
20. *Janushirshasan* (Head knee pose): It calms the nervous system. The gentle abdominal squeeze in this stretch, aids increasing blood flow to the abdominal organs.

DISCUSSION:

Infertility is described in the *ayurved* in a very wide sense including the *nidans* and *chikitsa* Regarding treatments so many treatments have been given in *ayurvedic* texts but which type of infertility or on which factor like *rutu, kshetra, ambu, beej* it will act it is not mentioned clearly Yet treatment has been given according to the cause i.e. *yonivyapadas, shukradushti, artavadosha* etc. So it is very important to find out the cause. which is responsible for infertility.

Treatment of infertility without stress relief may not show any result. One of the key remedies for infertility is *yog*. *Yogasanas* encourage blood flow to pelvic area increasing the chances of conception. *Yogic asanas* & meditation relax the body & regulate sexual functions. The endocrine is soothed, anxiety is chucked out & calm sets in. *Yogasanas* like butterfly pose, child's pose, lotus pose & supported bridge pose are advised for reproductive health. Thus the maximum poses of *yogasanas* increases the blood flow to the pelvic region & also relax

the body, mind. So the chances of conception are better with more relaxed body & mind. For example in the supported head stand position that is mother of all poses, stimulation of head causes hypo-thalamus to release more hormones. In the supported shoulder stand position triggers thyroid gland when the sternum presses the thyroid region, relaxing pelvis increases the blood flow to the uterus. Uterus & ovary circulation increases in bridge pose. Also stimulation of hormone production in uterus in cobra position. *Yogic* sleep (*Shavasana*) is important in attaining the equilibrium in body & mind is optimistic health.

CONCLUSION

The incidence of infertility is increasing in the present era. A majority of infertile couples do not conceive irrespective of whether or not they were treated for infertility. For example 38% of infertile couples conceive before treatment began, another 27% conceived before completion of treatment. *Ayurvedic* & *yogic* management can be the better alternative. Usually *yog* seems to be associated more with the practice of *asanas* & *pranayam* without considering that there are two limbs of *yog* & work together with the others. *Yogasan* has effect on the whole personality. By doing *yogasanas* one gets better functioning of all the systems of the psychosomatic structure. It brings integrity in these functions & develops the wholeness. By doing *yogasanas* nerves are stimulated & the activated nerves work in coordination. This strengthens the conscious mind & improves the balancing of the parasympathetic & sympathetic nervous system resulting in the harmony amongst the various endocrinal glands. On account of pressure manipulation, the blood circulation in

the region where the sex organs & sex glands are situated improves, hence the reproductive system functions well. Hence we can conclude that *yogasanas* can be very effective in infertile couples. Modern science has given many treatments for infertility, but it may cause side effects & costly, whereas *ayurved* & *yog* has mentioned many treatments like *basti*, various drug combinations, *yogasanas* with minimum side effects & are cost effective. So can be used as first line of treatment. Review study concluded that modern lifestyle and stress are mainly responsible for abnormal conditions like infertility. Review suggested that *yogasanas* a part of yoga therapy plays a significant role in treating the infertility. It acts on body as well as mind as it relieves stress, a main causative factor for infertility. Review summaries that *yogasanas* has the major role in treating the infertility along with *ayurvedic* management.

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