

YOGA – A SAFE AND EFFECTIVE TREATMENT FOR PCOS

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ABSTRACT

Polycystic ovarian Syndrome (PCOS), an emerging lifestyle disorder. PCOS is a hormonal disorder among women of reproductive age. Women with PCOS may have infrequent or prolonged menstrual periods or excess male hormone (androgen) levels. The ovaries may develop numerous small collections of fluid (follicles) and fail to regularly release eggs. PCOS involves multiple systems affecting 7-10 % of the women. PCOS is a psychosomatic disorder of uncertain etiology characterized by Obesity, Anovulation associated with Primary or Secondary infertility, hirsutism, abnormal menstrual pattern, increased incidence of pregnancy loss, and pregnancy related complications. So, it is important to provide Psychic and somatic treatment for complete remission of PCOS.^[1] Modern medical science has no ailment to cure PCOS, they only able to provide symptomatic treatment for it, which has unsatisfactory results, lots of side effects and costly also and when medication not gives although symptomatic relief then they go for surgery drilling of ovaries. Ayurveda has holistic approach and it includes all the factors which are absolute or accessory in the determination of health. Yoga is a complete prescription for the healthy body and mind which can destroy the root cause of PCOS i.e. obesity and stress. Ultimately leads to better quality of life. Daily yoga for 30 minutes, meditation and Asana helps in weight reduction and stress management which ultimately stabilize the normal function of hypothalmo- pituitary – ovarian axis and cure PCOS. Management of PCOS: A Psychosomatic Disorder by Yoga Practice.

KEYWORDS: Ayurveda, PCOS, Yoga, Ovulation.**INTRODUCTION**

A woman is symbol of beauty. 'Beauty must not be skin deep, it should be maintained internally also there are many physiological changes take place in women's body which markedly seen in reproductive life. The God has blessed the female with the most valuable gift of motherhood. The preparation of motherhood starts with puberty and end with menopause.

Polycystic ovary Syndrome, widely known as PCOS, is an endocrine system disorder that Affects women in their reproductive years. PCOS is characterized by polycystic ovaries, chronic anovulation and hyperandrogenism leading to symptoms of menstrual irregularity, infertility and hirsutism.

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costly also and when medication not gives although symptomatic relief then they go for surgery drilling of ovaries.

Now on other hand our divine ancient science cures PCOS without any side effects and free of cost that is Yoga practice. Yoga basically encourages one step outside of the comfort zone to better understand one's self from a very different perspective, optimistically. Ultimately leads to better quality of life. Acharya Charak has greatly emphasized the importance of physical exercise (Vyayam) in oversaturation disease (Santarpanoth Vyadhi) and quote regular exercise (Vyayam nitya).^[2]

Yoga is effective in keeping your ovary & Uterus healthy. Yoga is precious gift which can enrich human life. Yoga is a complete prescription for the healthy body and mind which can destroy the root cause of PCOS i.e.

obesity and stress. *Yoga* can play important role in the prevention & management of PCOS. *Yoga* is one of the important refreshing and rejuvenating modalities. Moreover *yoga* is a great stress buster. Stress in women life can even lead to an unwanted weight gain. Entering into peaceful state lowers the production of the stress hormone cortisol which is one of the most important causes for storage of fat in the body.

Etiopathogenesis

According to Modern science: The etiology is multifactorial. Certain hypothesis related to the etiopathogenesis,

1. Abnormality of HPO axis
2. Genetic inheritance
3. Hyperinsulinaemia arising from receptor dysfunction
4. Adrenal/ ovarian hyperandrogenaemia.

PCOS is associated with peripheral insulin resistance. Obesity which is commonly associated with PCOS has an additive negative effect on insulin resistance.

Specifically, hyperinsulinaemia increases GnRH pulse frequency, LH over FSH dominance, increased ovarian androgen production, decreased follicular maturation, and decreased SHBG binding, all these steps lead to the development of PCOS. Insulin resistance is a common finding among both normal weight and overweight PCOS patients.

According to Ayurveda Etiopathogenesis of PCOS

According to Ayurveda the Ahara factor (diet), Vihar factor (day sleep and overnight work, lack of meditation and exercise) and Manasic factor (sedentary life style and psychological factor) play important role in manifestation of PCOS. These factors leads to vitiation of Vata-kapha dosha converted into Vata-kapha Artava dushti or Granthi bhoot Artava.

In Ayurveda, there are two types of abnormal dietetic habits Atisantarapana which cause infertility and obesity and Atiatarapana which causes Sukra Mamsa Parikshaya. Aahara with Madhura, Sheeta, Snigdha, Guru, Pichchila etc properties are dominant with Prithvi and Jala Mahabhootas and add to the quantity of Meda and Kapha of the body. Faulty food habits like Adyashana and Virudhaashana and popularity of fast foods leads to vitiation of Jatharagni and leads to production of Ama which starts the pathogenesis of obesity. Lack of exercise, day sleep and overnight work promotes fat deposition ultimately converted in Vata kapha Artava dusti (PCOS).

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Symptoms of pcos

(1.) Somatic symptoms: Common symptoms of PCOS include-

1. Oligomenorrhoea and amenorrhoea-irregular menstrual periods; cycles that do occur may be heavy
2. Infertility due to Anovulation.
3. Dyspareunia- painful coital act
4. Prolonged periods of PMS like symptoms (Bloating, mood swings, pelvic pain, backaches).
5. Hirsutism-unwanted body hair, typically in a male pattern affecting face, chest and legs.
6. Androgenic alopecia-male pattern baldness.
7. Acne, oily skin, seborrhoea.
8. Acanthosis-dark patches of skin, tan to dark brown or black, a sign of insulin resistance, which is associated with PCOS.

(2.) Psychic symptoms

PCOS is a frustrating experience for a woman because of it puts a question mark on her fertility potential, feminine looks due to excessive hairs of face and acne. These all turns her into Depression, Anxiety, Disturbed sleep, General Fatigue, loss of self confidence.

Diagnosis

The diagnosis of PCOS is usually based on the clinical, ultrasonographic and biochemical criteria.

(1.) Clinical diagnosis

Confirm by history taking specifically for menstrual pattern, obesity, Hirsutism, and the absence of breast discharge.

(2.) Transvaginal sonography

There may be 10 or more cysts in each ovary, increased ovarian size(>10cm³), increased stromal echogenicity, and accumulation of small follicular cysts in a "string of pearls" pattern (approximately 12 follicles between 2 mm and 9 mm in size) are observed. The numerous follicles mean that the ovaries are generally 1.5 to 3 times larger than normal.

(3.) Biochemical parameters

Elevated serum levels of androgens including Dehydroepiandrosterone sulphate (DHEAS) and testosterone: Free testosterone is more sensitive than total; free androgen index is often used as a substitute.

The ratio of LH to FSH is greater than 1: 1, as tested on Day 3 of the menstrual cycle. The pattern is not very specific. SHBG estimation- there is often low levels of SHBG.

Risks

Women with PCOS are at risk for the following Endometrial Cancer, Insulin resistance Type II diabetes, Hypertension, Cardiovascular disease Weight gain, Osteoporosis, Miscarriage

AIMS AND OBJECTIVES

- To highlight the key messages that is common to many of the existing guidelines.
- Critically reviewing and commenting on any differences.
- To assess the effectiveness of Yoga in management of PCOS.

MATERIAL AND METHODS

- This review was done by compiling the classical Ayurvedic literature, modern literature, magazines and research journals as well as PUBMED, MEDLINE database.

About yoga

YOGA means 'Union'.

Union of mind with super natural power having separated from the disharmonious worldly objects. Mind is a battle field of *satva* (the tranquil) *Rajas* (the Passionate) and *Tamas* (the inert) qualities of nature. *Yogik* processes greatly help the development of mental Potentialities and powers. In *Ayurveda charak sharis sthan* Indicate that yoga is highly essential for the human being, so he has indicate that isolation of mind from its object leads to *moksha*, which is ultimate end of human life. *Maharshi patanjali* describes *Asthangyoga* as follows.

- 1) *Yama* - Abstinence
- 2) *Niyama*- Strict observance
- 3) *Asana* – Easy posture
- 4) *Pranayama*- control Breath
- 5) *Pratyahara*- withdrawal of sense
- 6) *Dharana*- Concentration
- 7) *Dhyan*- Meditation
- 8) *Samadhi*-Contemplation

According to Patanjali ashtang yoga first two that is Yama, Niyama are mainly concerned with person's behaviour towards outer world especially with regard to ethics and morality.

Rest are i.e. Asana, Pranayama, Pratyahara, Dhyan and Samadhi mainly concerned with regulation of activities of mind. These are very useful to correct the various disorder of women life as follows

Science of yoga that work for women with PCOS

The science of yoga works at root cause of PCOS i.e. stress and Obesity. Yoga is much deeper than just the physical body level. Yoga helps to release deeply stored stress in the system, which can help improve PCOS symptoms. Yoga is a psycho-somatic spiritual discipline for achieving union and harmony between our mind, body and soul by practicing specific techniques such as Yoga postures (Asanas), Breathing techniques (Pranayam) and Meditation (Dhyana) to attain highest level of consciousness. Documented scientific evidences strongly indicate that yoga has preventive as well as curative potential. Being a safe therapeutic modality, it can be used as an effective lifestyle adjunct to medical

treatment to improve the quality of life in PCOS subjects.

1. Holding weight - bearing poses builds muscle. In turn, increased muscle mass helps to combat insulin resistance – one of the keys to PCOS management.
2. An active yoga practice increases heart rate, providing a cardiovascular workout and leading to weight loss.
3. Aasanas and pranayama promotes hormonal balance and deep relaxation, helping to bring the adrenal and cortisol levels of stressed-out PCOS minds and bodies in check.
4. Yoga philosophy and Ayurveda, describe certain poses as stimulating energy systems within the body that may be stagnant in women with PCOS as a means to bring the body into balance. The steady and comfortable Posture brings about better coordination of muscular system with nervous system.
5. Increase in correcting excessive or insufficient secretion of endocrine gland so that their optimal integration is achieved.
6. Hormones go to shake our emotional making their taming produces emotionally balance and mentally poised personality and building a strong will.
7. There are many yoga postures, which are good for PCOD. Few of their benefits are
 - a) By practicing them they improve blood circulation and also the muscle tone of blood vessels help in removal of accumulated toxin and metabolic waste from body.
 - b) To activate the pituitary and thyroid gland hypothalamus, adrenal gland. (Maintain the H-P- O axis).

Hypothalamus (GnRh)

↓

Pituitary → a) Ant- FSH, LH, PROLACT
b) Post- OXYTOCIN

↓

Ovary → OESTROGENPROGESTERON

Three Month (daily 10 to 15 minutes) practice noticed that the normal development of secondary sexual character, regularities and correction of PCOD, infertility, removal of inferiority complex, physical and mental stress, unhappiness, which is most important for future a healthy progeny.

Yoga helps to regulate the endocrine glands in the body thereby beneficial in the balancing hormones. *Yoga* helps to balance *tridoshas*.

Physical activity has been reported to ameliorate anovulation, insulin resistance, hypertension and high lipid profile in women with PCOS.^[3] Researches has also reported the effect of yoga

program (consisting of Asanas, Pranayama and Dhayna) and conventional physical exercise on glucose metabolism and lipid profile in PCOS subjects after practicing it daily for 1hour for consecutive 12 weeks and found that yoga was more effective than conventional physical exercise in improving glucose, lipid, insulin sensitivity.^[4]

(1.) **Yoga Poses (Yogasanas)** Yoga poses (Asanas) designed for PCOS help in opening up pelvic area and promote relaxations.

- **Suryanamshkar** (Sun salutation) - It is an ancient yogic method to worship sun and consists of series of postures (Asanas) with breathing pattern. It balances the whole endocrinal system by direct massaging of glands and increasing blood flow to organ thus regularizes the menstrual cycle.⁵ Sun salutation significantly decreases blood sugar level, increases insulin sensitivity, improves lipid profile and results in weight reduction, improved BMI, low waist hip ratio.^[6]
- **Suptbandhkonasan** (Reclining Butterfly Pose) - Stimulates abdominal and pelvic organs like ovaries, urinary bladder, stretches inner thighs and groin which helps in relieving symptoms of stress and menstrual irregularities.^[7]
- **Halasana** (Plough pose) - It improves cardiovascular health and menstrual irregularities by reducing belly fat.
- **Dhanurasan** (Bow pose) - It is the best pose to reduce body fat and weight as it stretches the abdominal muscle to fullest of their strength.
- **Bhujangasana (Cobra pose)** - This asana exerts pressure over the abdomen and boosts the ovarian functions.
- **Chakki chalanasan (Moving wheel pose)** - It helps to modify the endocrine glandular functions thus enhances efficiency of hormonal secretions.
- **Padmasan (Lotus pose)** - This asana stretches the pelvis region.
- **Naukasana (Boat pose)** - This asana exerts pressure over the abdomen and corrects the functions of organs present in and around the pressurized area. Probable mode of action of yoga poses (Asanas) can be explained by various researches and hypothesis. Yoga therapy focus on energy system present in the body with numerous chakras. Yoga poses like forward bending and backward bending increases second chakras energy flow called as seat of creation where reproductive organs are present. Yoga poses stretches abdominal region which increases blood flow towards reproductive organs and relieves any kind of tension around reproductive organs. By relieving stress yoga poses helps in improving ovulatory functions^[8]

Yogic practices improve physical and mental health through regulation of hypothalamic pituitary adrenal axis, sympathetic nervous system and modulates neuroendocrine axis. Schmidt et al. found that following yoga therapy there is reduction in urinary excretion of adrenaline, noradrenaline, aldosterone, serum testosterone and LH levels indicating optimal changes in hormones.^[9]

(2.) **Breathing techniques (Pranayam):** Pranayama is control of breath. Prana is vital energy and Ayam means control. Regular practicing Pranayama techniques increases life span and maintains health by controlling the process of breathing.

- **Kapalbhati pranayam** - Kapal means forehead and Bhati means shining. This breathing technique increases blood circulation to organs, corrects glandular secretion and combats oxidative stress. It reduces waist and hip circumference and reduces abdominal fat. This breathing technique regulates brain pancreas endocrine pathway correcting features of metabolic syndrome. Being abdominal respiratory exercise, it directly stimulates pancreas to release insulin and counteract hyperglycemia it also helps in selfhealing of pancreatic cells thereby increases utilization of glucose in tissues.^[10]
 - **Anulom vilom** (Alternate nostril breathing) - This breathing technique purify the subtle energy channel (Nadis) thus enabling smooth flow of vital energy (Prana). It calms the mind and body by relieving stress.
 - **Bhramri** - breathing technique to relive mental tension, agitation and stress. Researchers have proved that practicing Bhramri regulates normal functioning of endocrinal system. Controlled breathing techniques tones up nervous system, improves emotional stability eliminate anxiety, improve selfesteem and increases insulin sensitivity.
- (3.) **Mudras (Finger posture):** It stabilizes the union of pran (inhalation) and Apan(exhalation) that Directly action upon kundalini shakti and because of this action it shines and illuminates the whole body. Apart from there are numerous physiological, cultural and therapeutic benefits of yogic exercise, to maintain the health of women.
- (4.) **Meditation (Dhyana)** – Meditation is integral part of yogic practices which achieves harmonious balance between body and mind. This breathing technique relieves symptoms of PCOS by calming and soothing the mind. Meditation is a practice where an individual focuses their mind on a particular object or activity to achieve mentally clear and emotionally calm state. A study reveals that transcendental meditation modulates physiological response to stress. It significantly reduces blood pressure and insulin resistance components of metabolic syndrome.^[11]

CONCLUSION

Yoga is a holistic science and art of living. This is because routines Yoga Asanas (poses), Pranayamas breathing techniques and Kriyas (cleansing exercises) prescribed in Yoga help to tone up the whole system.

Women diagnosed with PCOS have profound insulin resistance, obesity and increased level of androgens. Weight reduction is main preventive and therapeutic potential to combat with this catastrophe which can be achieved by incorporating lifestyle modifications. Ayurveda dietary regime the wholesome food (Pathya Ahar) and Yoga interventions mentioned in Ayurveda literature are main key which keeps individual healthy and regulates functions of endocrine system. Breathing techniques (Pranayam) helps a lot in reliving the symptoms of PCOS related to deep rooted mental stress and keep the individual high to fight with this embitter syndrome. All these lifestyle modification increases the fertility rate and improve the quality of lifestyle in patients of PCOS.

Daily yoga for 30 minutes with 4 Asanas, 4 Pranayama, meditation and Shavasana helps in weight reduction and stress management which ultimately stabilize the normal function of hypothalamo- pituitary – ovarian axis and cure PCOS. So, it is time to acknowledging the role of Yoga as a safe and effective treatment for PCOS.

REFERENCES

1. A.M. Kabel Polycystic Ovarian Syndrome: Insights into pathogenesis, diagnosis, prognosis, pharmacological and non-pharmacological treatment. *Pharmacol. Rep*, 2016; 1(103): E1 to E5.
2. Charak, Charak Samhita, English translation Editor Prof. Priyvrata Sharma vol. 1 Chaukhamba Oriental, Sutrasthana Chapter, 2014; 155: 23-25.
3. C.L. Harrison, C.B. Lombard, L.J. Moran, H.J. Teede. Exercise therapy in polycystic ovarian syndrome: A systemic review. *Human Reproduction Update*, 2011; 17(2): 171-183.
4. Nidhi R. Effect of a yoga program on glucose metabolism and blood lipid levels in adolescent girls with polycystic ovary syndrome. *International Journal Gynecology and Obstetrics*, 2012; 118(1): 37-41.
5. Kaduskar P, Suryanamashkar Yoga: An Endocrine Therapy. *Indian Journal of Endocrinology and Metabolism*, 2015; 19(3): 437-438.
6. Malhotra V, Singh S, Tandon OP, Sharma SB: The beneficial effect of Yoga in Diabetes. *Nepal Medical College Journal*, 2005; 7(2): 145-147.
7. <https://www.yogajournal.com> dated 16/2/2018.
8. Field T, Yoga clinical research review Yoga and Fertility Enhancement. *Comple Ther Clin Psact*, 2011; 17: 1-8.
9. Pallov Sen Gupta. Health impacts of yoga and pranayam: A state of art review. *International Journal of Preventive Medicine*, 2012; 3(7): 444-458.
10. Reshma Mohamed Ansari. Kapalbhathi Pranayam: An answer to modern day polycystic ovarian syndrome and coexisting metabolic syndrome. *International Journal of Yoga*, 2016; 9(2): 163-167.
11. Moura Paul Labrador, Dona Polk, James H. Dwyer et. al. Effects of a randomized controlled trial of transcendental meditation on components of the metabolic syndrome in subjects with CHD, *Arch InternMed*, 2006; 166(11): 1218-1224.