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Role of Yoga in Polycystic Ovarian Syndrome: A Healthy Step to Fight with Hormonal Imbalance

Ashiya^{1*} and Laxmipriyadei²

^{1,2}Department of PrasootiTantra&StreeRoga, I.P.G.T. & R.A., G.A.U., Jamnagar, Gujarat, India

ABSTRACT

Polycystic Ovary Syndrome is the most common endocrine disorder in reproductive age women. PCOS is characterized by high levels of androgens (male hormones such as testosterone) from the ovaries and is associated with insulin resistance. PCOS is both a psychosomatic and lifestyle disorder. There is a strong relation between obesity, stress and PCOS. Approximately 50-60 % of women with PCOS are obese. Obesity and stress disturbs normal hypothalamo-pituitary-ovarian axis which leads to insulin resistance and produces a stage of hyperandrogenism due to which somatic symptoms of PCOS like hirsutism, anovulation, abnormal menstruation, sub fertility, acne and psychic symptoms like anxiety, depression, insomnia, loss of concentration etc develops. Weight loss of 5% to 10% may dramatically improve endocrine profile of PCOS. The first step in management of PCOS is to get rid from obesity and stress. *Yoga* is a complete prescription for the healthy body and mind which can destroy the root cause of PCOS i.e., obesity, insulin resistance and stress. *Surya Namaskara, Paschimottanasana, Bhujangasana, Shalabhasana* etc. helps in weight reduction and excretion of toxins from the body. Stress can easily be tackled through meditation, *Pranayamas*, relaxing *Yoga* posture like *Shavasana, Makarasana*. Regular practice of *Yoga* helps in management of stress and reduction of weight, which normalize the function of hypothalamo-pituitary-ovarian axis.

KEYWORDS

PCOS, Hyperandrogenism, Yoga, Asanas.



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INTRODUCTION

PCOS is a syndrome manifested by amenorrhoea, hirsutism and obesity associated with enlarged polycystic ovaries. It is prevalent in 20-30% of women in young reproductive age group worldwide¹. Obesity is recognized as an important contributory factor in the development of PCOS. The condition is characterized by insulin resistance, hyperandrogenism, ovulatory dysfunction and polycystic ovarian morphology. Metabolic dysfunction is characterized by insulin resistance and compensatory hyperinsulinaemia. No one is quite sure what causes PCOS. The ovaries of women with PCOS frequently contain a number of small cysts, hence the name poly (many) cystic ovarian syndrome. There is an excessive production of androgens by ovaries of women affected by PCOS. This excessive production of male hormones may be a result of the abnormalities in insulin production. *Yoga* is an important element of *Ayurvedic* medicine i.e., the science of life. Traditional *Yoga* is a philosophy for living and is associated with a series of behavioural modifications that contribute to a healthy lifestyle². *Yoga* teacher and nutritionist Abhilasha Kale believes that, "The benefits of *Asanas* are many. By doing regular exercises, a lot of

happy hormones are released called 'endorphins'.

AIMS AND OBJECTIVES

The incidence of PCOS is increasing day by day due to faulty lifestyle. *Yoga* is a physical and mental exercise that aims at minimizing haematological, circulatory and respiratory health problems. *Yoga* is beneficial in the management of stress, anxiety and depression as women affected with PCOS have these symptoms. The main aim of *Yoga* is to achieve highest potential and level of integration through the control of the mind³. *Yoga* is very beneficial for PCOS patients as it reduces the body weight, decrease the psychic problems, regulates the H-P-O axis.

MATERIALS AND METHODS

List of some *Yoga Asanas* which are helpful in reversing back the symptoms of PCOS:

1. *Badhakonasana* (Butterfly pose)

:Figure 1

Badhakonasana (Butterfly pose) is a simple and easy *Yoga* pose that works wonderfully for natural PCOS treatment.

Procedure:

1. Firstly sit calmly with an erect spine legs spread in the front, now bring



your feet near the genitalia and the soles of the feet should touch each other.

2. Try to pull in the heels close to the genitals. Now, take deep breaths and press the thighs and knees down towards the floor by providing gentle pressure.
3. Now, like the wings of a butterfly you should begin moving both legs slowly in a controlled motion.
4. Do this step continuously for 1 minute.

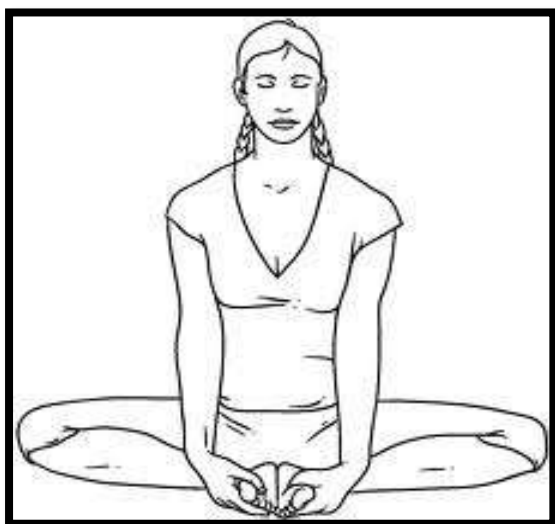


Fig 1 *Badhakonasana*

- **Benefits:**

1. This *Asana* helps to open up the pelvic region and promote relaxation which in turn helps to reduce stress and relieve discomfort related to menstruation.
2. In addition, it is also a healing procedure for the uterine prolapse and urinary incontinence. This *Asana* strengthens the pelvic floor.

2. ***Supta Badhakonasana*** (Reclining Butterfly Pose): **Figure 2**

This is one of the best *Yoga* poses for PCOS that's even more beneficial than the classic Butterfly pose.

Procedure:

1. Lie down on the floor with your knees bent and feet flat on the ground.
2. Now, bring your heels close to the groin, press your palms on the floor beside the hips and contract your abs as you breath out and move your tailbone towards the pubic bone.
3. Maintain the pelvic tilt. You should exhale the air now, and bend your knees to stretch the inner thighs and the groin region.
4. Join the soles of your feet together and place the outer edges of the feet on the ground.
5. The breathing should be continued fully and slowly and stay in this position for 30 sec. to 60 sec. then come back to the starting position.

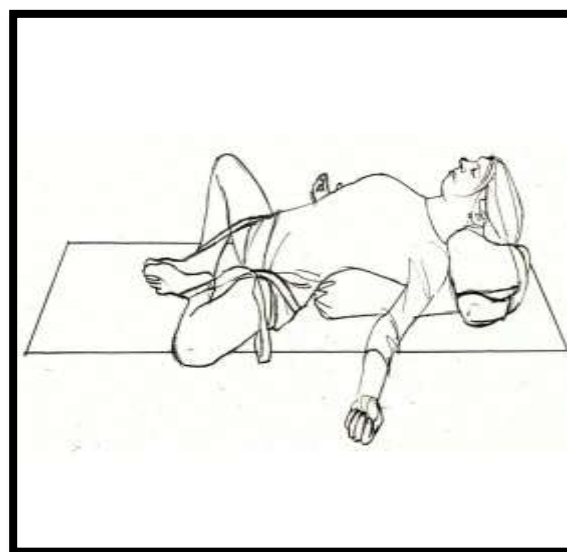


Fig 2 *Supta Badhakonasana*



- **Benefits:** This pose has to be practiced laying down which makes pressure over the abdominal muscles and pelvic area.

3. *Bharadvajasana*

(*Bharadvaja's Twist*): **Figure 3**

Procedure:

1. Sit on the *Yoga* mat or floor with legs stretched in front and arms resting on both sides of the body.
2. Now, bend your knees and bring them close to the left hip such that the weight of the body is resting on the right buttock.
3. Rest the left ankle on the arch of the right foot.
4. Slowly twist your upper body to the right side as much as possible keeping the right hand on the floor and the left hand on the outer portion of the right thigh.
5. Try to twist your body further with each breath.
6. Remain in this position for 1 minute and then gently come back to the original position and repeat the same procedure on the opposite side shifting the weight on the left buttock.

- **Benefits:**

1. This *Yoga* posture keeps the function of cardiovascular system normal.
2. Normalize the problems of menstruation.

3. This *Yoga* posture relaxes the spine and muscles.



Fig 3 *Bharadvajasana*

4. *Bhujangasana*(Cobra pose):**Figure 4**

Procedure:

1. Lie on your stomach with toes placed flat on the floor, legs together and hands under the shoulders with palms down on the floor and elbows close to the torso.
2. Inhale deeply and lift your head and torso off the floor while keeping the navel fixed on the floor.
3. Bend your back in the backward position making an arch with the support of the hands.
4. Tilt your head upward and look up. Keep your shoulders free and away from the ears.
5. Keep breathing normally in this state, wait for 30 seconds and return to normal position.

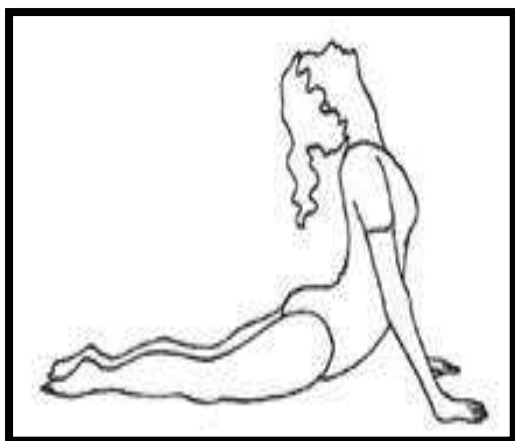


Fig 4 Bhujangasana

• **Benefits:**

1. This *Yoga* helps to stimulate the functions of ovary as it stretches the lower abdomen.
2. It also helps in better digestion and reducing stress.

5. Naukasana (Boat pose): Figure 5

The boat pose is one of the useful *Yogasanas* for PCOS treatment that is also beneficial for weight loss as well.

Procedure:

1. Lie down on the back with feet joined together and arms resting beside the body.
2. Take a deep breath and lift up your head, chest and feet off the ground as you exhale stretching your arms towards your feet.
3. Maintain your eyes, fingers and toes in a straight line while breathing deeply.
4. Feel the tension in the navel and abdominal muscles.

5. Maintain this pose for 30 seconds and return to the starting position.

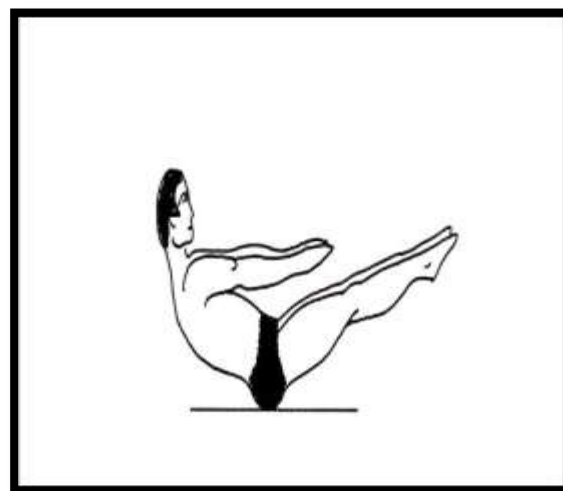


Fig 5 Naukasana

• **Benefits:**

1. It is the best for weight loss and to reduce the abdominal fat.
2. It puts controlled pressure on the abdominal region, increases blood flow to the reproductive organs and enhances the functions of the ovaries.

6. Dhanurasana (Bow pose): Figure 6

The bow pose is another functional posture that is used for polycystic ovary syndrome treatment.

Procedure:

1. Lie on your stomach bend the knees backwards in 90 degrees and arms resting on the both sides of the body.
2. Grip the ankles by folding the knees and bringing them near the hips.
3. Lift the chest off with ground and pull legs up so that the body takes the shape of an arched bow.



4. Stabilize this pose and stay for 30 seconds while taking deep breaths.
5. Exhale and return to the starting position by releasing the ankles.

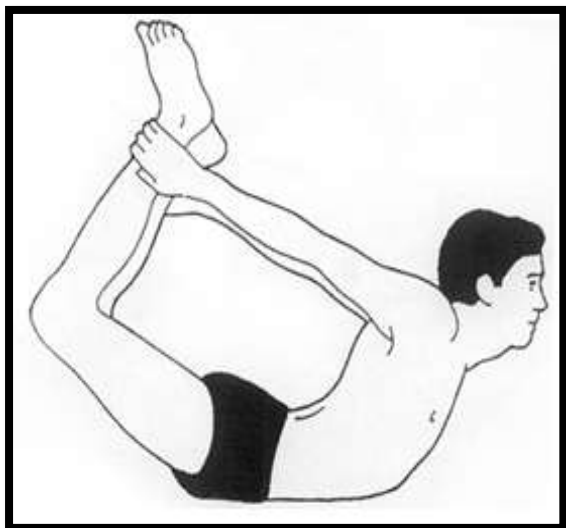


Fig 6 *Dhanurasana*

• *Benefits:*

1. It helps to stimulate the functions of the reproductive organs, relieves menstrual discomfort and normalizes the menstrual cycles.
2. It energizes the pancreas and liver for improving the diabetic conditions.

7. *Chakkichalanasana* (Mill churning pose) : Figure 7

Procedure:

1. Sit on the ground with the spine straight, hands outstretched and arms raised at shoulder height palms clasped together.
2. Inhale deeply and begin moving the upper part of the body in a circular motion forming an imaginary circle with the body.

3. While moving forward take the breath in and exhale while moving backward.
4. Continue to breathe deeply while rotating for 1 minute and feel the stretch in arms, legs abdomen and groin.
5. Make 20 rounds in one direction and other 20 rounds in opposite direction.

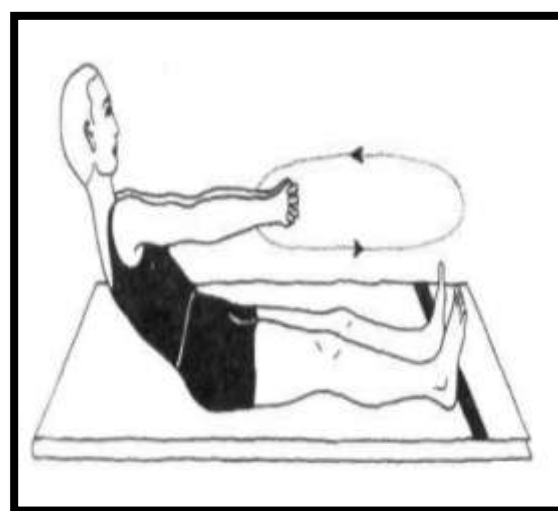


Fig 7 *Chakkichalanasana*

• *Benefits:*

1. This *Asana* helps to normalize the functioning of pelvic reproductive organs.
2. This also helps to lose weight from the stomach and hips.
3. This *Asana* improves the ovarian function and helps in proper ovulation.

8. *Marjarasana* and *Bitilasana* (Cat and cow pose) : Figure 8

Procedure:

1. Sit in *Vajrasana* and move forward your trunk. Put your hands straight on the floor so that the palm of your hands touches the floor. Then drop the neck and



move the spine upwards to form a prominent arch just like cats.

2. Wait for 5 seconds and return to the normal position. Now move the spine towards the ground so that an opposite arch can be created with the spine like Cow arch.

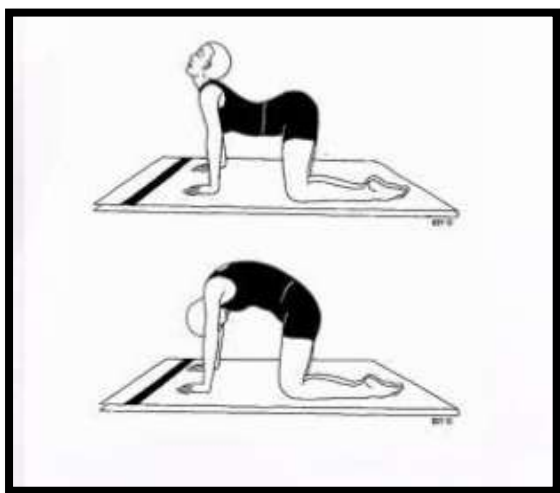


Figure 8 *Marjarasana* and *Bitilasana*

• **Benefits:**

1. Both these *Yoga* poses help to relax the neck and shoulder.
2. It also massages and stimulates the abdominal muscles and reproductive organs and enhances the functioning of the CNS.

9. Prasaritapadottanasana (Wide legged forward bend): Figure 9

Procedure:

1. Begin with the mountain pose or *Tadasana* exhale and lower your body in front so that the palms touch the ground right under the shoulders.
2. Lengthens the legs to press the hips up towards the ceiling.

3. Feel the stretch in the spine as the head pressed in the ground.

4. Hold the position for 30 seconds while breathing deeply and return to the starting position.

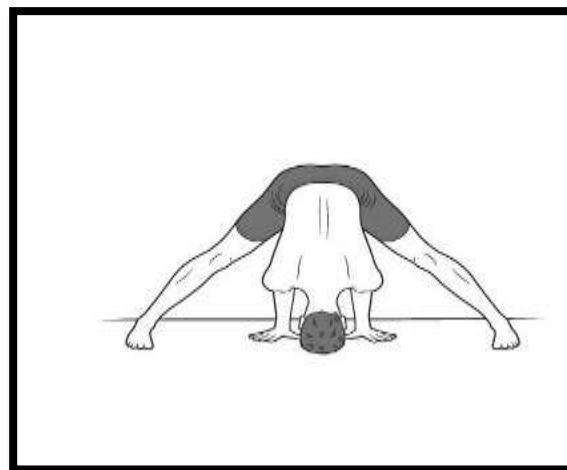


Figure 9 *Prasaritapadottanasana*

• **Benefits:**

1. This posture helps work the hips and lower back by flexing the muscles within turn increases the energy and facilitates the blood circulation in the ovaries.
2. The exercise also lengthens the spinal column and stretches the leg and back muscles.

10. Padmasana (Lotus pose) :

Figure 10

Padmasana is a basic meditative posture that is often included in the *Pranayama* breathing exercise.

Procedure:

1. Sit on the floor with the spine straight, bend the right knee and place it over the left thigh such that the sole of the



feet is pointing upwards and they rest towards the abdomen.

2. Bend the left knee and place the left foot over the right thigh in the same way.
3. Place the hands over the knees keeping the head straight and spine in erect position.



Fig 10 *Padmasana*

- **Benefits:**

1. This pose helps to stretch the pelvic region and also helps to correct hormonal imbalance which is vital for PCOS treatment.
2. It helps to reduce menstrual discomfort, control blood pressure and ease childbirth.
3. Also give relaxation to mind.

RESULTS AND DISCUSSION

Yoga is an extreme science which focuses on bringing harmony between mind and body. It works on the level of body, mind, emotion and energy. So regular *Yoga*,

practices towards prevention and promotion of health. *Yoga Asanas* are a gentle way to keep ourselves active and supple. Genetic and environmental factors contribute to the hormonal disturbances. Life style modification has been proposed to improve not only the metabolic and reproductive manifestation of PCOS but also yielding benefits including improvements in mood, self esteem and anxiety, depression and psychological wellbeing. PCOS can be managed by life style modification which includes modification in diet and healthy changes in daily routine. Physical exercise should be included in the daily routine. *Yoga* is well known to induce oxidative metabolism in the tissues of ovary and helps in proper hypothalamo-pituitary-ovarian axis functioning⁴. *Yoga* is a holistic treatment planning which is very essential for the PCOS patients as this is both a lifestyle disorder and psychosomatic disorder. Stress and obesity can be reduced by *Yoga*⁵. It is impossible to eliminate stress completely from our life. But we can manage it with various techniques like *Yoga* and meditation. *Yoga* ease any stress through breathing techniques that brings complete relaxation within the body. Relaxation can do well in hormonal imbalances, irritability, negativity and various mood swings. *Yoga*



strengthens the muscles, burns excess fat, improves hormonal levels and combats insulin resistance, reducing the stress and obesity is the key management in PCOS.

influences the levels of stress related and other hormones and thus plays a vital role in maintaining the hormonal homeostasis⁶.

CONCLUSION

Yoga not only helps to reduce stress and obesity but unites body, mind, breath, and spirit. This paper has attempted to explore the beneficial effect of *Yoga* on PCOS. So it can be concluded that *Yoga* may reduce stress, improve metabolic profile, maintain the hormonal balance by regulating the HPA and ovarian axis and contributes to immune modulation. Thus, all these effects ultimately bring about hormonal homeostasis. A peaceful state lowers the production of stress hormone Cortisol. Cortisol helps in storage of fat in the body. *Pranayama*, *Yogasanas* like *Naukasana*, *Bhujangasana*, *Paschimottasana* are extremely beneficial in the reproductive system related diseases. This again boosts up the endocrinal system. *Yoga Asanas* or exercises are ways of moving or holding the body in different positions. *Yoga* has several exercises or postures that work wonders on a woman's health. The ecstatic and blissful feeling following *Yoga* practice could be due to lateral hypothalamic stimulation, and feeling of calmness may be due to melatonin. All these cumulative data suggest that *Yoga*



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