

MANAGEMENT OF PCOS WITH *BHRAMARI PRANAYAMA*: CASE STUDY

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Abstract- Poly Cystic Ovarian Syndrome (PCOS) is a complex reproductive and metabolic disorder ⁽¹⁾, It is most common cause of anovulatory infertility in women of reproductive age. Ayurvedic texts few diseases in group of *yonivyapad* and *jatiharini* have some similarities with this syndrome but *pushpaghni jatiharini* described by *Acharya Kashyap* ⁽²⁾ has got much resemblance. In allopathy OC pills, metformin, clomiphene citrate, Letrozole, laparoscopic drilling of ovary these are treatment methods. but all of these have some side effect. search for safe options we tried management of PCOS with *bhramari pranayama*. It is easy to do, cost effective and having no adverse effect. This article shows the case report of patient who was diagnosed PCOS by Rotterdam criteria ⁽³⁾. In this study, it is observed that *bhramari pranayama* has significant relief in all the symptoms of pcos.

Keywords: PCOS, *yonivyapad*, *jatiharini*, *bhramari pranayama*, Rotterdam criteria

INTRODUCTION

Pcos was discovered by Stein -Leventhal. Polycystic ovarian disease is a heterogeneous, multisystem endocrinopathy in women of reproductive age with the ovarian expression of various metabolic disturbances and a wide spectrum of clinical features such as obesity, menstrual abnormalities and hyperandrogenism. Now a days Genetic involvement in PCOS cases is emerging. The main steroidogenic genes that were reported to play a role in the pathogenesis of PCOS are CYP11a, CYP17 and CYP21 (Aldo, 2005) and follistatin gene (Urbank *et al.*, 1999). Mitchell and Rogers reported that obesity was present at four times higher than woman with normal cycles. Excess terminal body hair in a male distribution pattern commonly seen in upper lip, chin and along with linea alba of lower abdomen, may have acne, male pattern balding, hirsute effects psychological life of woman. The treatment of hirsutism embraces both cosmetic and hormonal therapies. Loss of scalp terminal hair that is common with baldness, it is seen in PCOS woman (Futterweit *et al.*, 1988). It is fastest growing health hazard amongst women of reproductive age having prevalence of (5–6%). There is no definite causes for PCOS. PCOS has been attributed later to several causes including change in lifestyle, diet and stress. Initially, the ovaries were thought to be the primary source which set the changes in the endocrine pattern. Genetic and familial environment factors (autosomal dominant inherited factors) were added as aetiological factors in the development of PCOS. clinical features of PCOS develop early with oligomenorrhoea (87%) or with a short period of amenorrhoea (26%) followed by prolonged or heavy periods. Despite wide range of treatment and management modalities in contemporary medicine, search for safe options, which is, non-surgical, non-hormonal, effective and without any adverse effects is needed.

Ayurveda few diseases in group of *yonivyapad* and *jatiharini* have some similarities with this entity but *pushpaghni jatiharini* described by *Acharya Kashyap* has got much resemblance. As the name suggest it is group of many disorders hence a single *yonivyapad* or any single disease cannot be correlated with this entity. According to Ayurveda - It occurs due to *prajnaparadha*, *mandagni*, eating excessive sweet and *kapha* alleviating foods and lack of love. Ayurveda emphasis the maintenance of *Sudha Arthava* (healthy ovum) for a fertile period. *Rtumati Charya*, *Dinacharya*, *Rtucharya* helps to attain and maintain healthy life. Thousands of years ago yoga originated in India, pranayama which has been proven an effective method for improving health in addition to prevention and management of diseases. Definition of pranayam by patanjali is... “tasmin sati śvāsaprasvāsayorgativicchedaḥ prāṇāyāmaḥ” ||49 ||

तस्मिन् सति श्वासप्रश्वासयोर्गतिविच्छेदः प्राणायामः ||४९ ||

Having done that (asanas), breaking the flow of inhalation and exhalation is called *prāṇāyāma*. *Bhramari Pranayama*, also known as Humming Bee Breath, is a calming breathing practice that soothes the nervous system and helps to connect us with our truest inner nature.

AIMS AND OBJECTIVES:

- To study the action and efficacy of *bhramari pranayama* in PCOS
- To carry out a comprehensive literary study of PCOS

ETIOLOGY, PATHOLOGY AND CLINICAL FEATURES PCOS ⁽⁴⁾:

cause of PCOS isn't known, Factors that might play a role include: Excess androgen, Low-grade inflammation, Insulin resistance, Heredity.

Insulin resistance: Insulin is a hormone the pancreas produces to help the body use sugar from foods for energy. When cells can't use insulin properly, the body's demand for insulin increases. The pancreas makes more insulin to compensate. Extra insulin triggers

the ovaries to produce more male hormones. Obesity is a major cause of insulin resistance. Both obesity and insulin resistance can increase your risk for type 2 diabetes.

Inflammation: PCOS often have increased levels of inflammation in their body. Being overweight can also contribute to inflammation. Studies have linked excess inflammation to higher androgen levels.

Heredity: Studies show that PCOS runs in families. It's likely that many genes — not just one contribute to the condition. The main steroidogenic genes that were reported to play a role in the pathogenesis of PCOS are CYP11a, CYP17 and CYP21 (Aldo, 2005) and follistatin gene (Urbank *et al.*, 1999)

Androgens: Androgens, sometimes known as 'male hormones', are normally present in both men and women, but at much lower levels in women. All women produce small amounts of androgens in body tissues, including in the ovaries and the adrenal glands. Increased levels of androgens in women with PCOS cause symptoms such as excessive body hair growth, scalp hair loss and acne. They also contribute to symptoms such as irregular periods and irregular ovulation.

Pathology:

Both ovary enlarged, though one pcos ovary also Diagnostic. Ovary shows thick capsule of tunica albuginea. Multiple cyst of size 2-9 mm are located at peripherally along the surfaces of ovary giving neck lace appearance on ultrasound. These are persistent atretic follicles. theca cell Hyperplasia and stromal hyperplasia causes increase in ovarian volume more than 10cm³.

CLINICAL FEATURES PCOS:

Missed periods, irregular periods, or very light periods, Ovaries that are large or have many cysts, Excess body hair, including the chest, stomach, and back (hirsutism) Weight gain, especially around the belly (abdomen) Acne or oily skin, Male-pattern baldness or thinning hair, Infertility. ⁽⁵⁾

Bhramari pranayama

Pranayam is an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual. The term is derived from several Sanskrit roots; prana meaning "vital life force," yama meaning "control" and ayama meaning "extension" or "expansion." The breath is symbolic of *prana*, and *pranayama* can be understood as methods to extend and expand vital life force energy through the deliberate control of respiration. *Pranayama* also features as the fourth limb of *Patanjali's ashtanga* system, the prominent eight-limbed path of yoga. *Patanjali's* Yoga Sutras, pranayama is a preparatory practice, required prior to the more advanced techniques of *pratyahara* (withdrawal of the senses), *dharana* (concentration) and *dhyana* (meditation), leading to the ultimate stage of *samadhi* (enlightenment). *Pranayama* uses deliberate control of the breath in order to extend and expand vital life force energy ⁽⁶⁾. Not only does pranayama have the potential to steady the mind, but the practice has far-reaching physiological benefits such as increased heart rate variability, improved oxygen saturation and overall re-balancing of the nervous system. *Hatha Yoga Pradipika* is one of the first texts to give detailed descriptions of pranayama techniques, including *suryabhedha*, *ujjayi*, *sitkari*, *sitali*, *bhastrika*, *bhramari*, *murcha* and *plavini*, each with their own specific benefits. The *Gheranda Samhita* later added *sahita* and *kevali* to this list. The four discernable stages of *Pranayama* are: *Puraka* (inhalation), *Antara Kumbhaka* (the mindful pause after inhalation), *Rechaka* (exhalation), *Bahya Kumbhaka* (the mindful pause after exhalation) *Prana* is a Sanskrit word means life, which in effect of the "absolute energy". Prana is the power which makes the difference between live and dead objects. It is a unique principle of energy, or „*sanjivini*” - the symbol of life itself. *Ayam* means to prolong pause or to control the path. After a full inhalation, closing the ear using the index fingers one should exhale making a soft humming sound similar to that of a female honeybee. After a full inhalation, closing the ear using the index fingers one should exhale making a soft humming sound similar to that of a female honeybee

प्राणायामाददयुक्तेन सर्वरोगयो भर्तेत्ययुक्ताभ्यासयोगेन सर्ववोगसमुद्भ्रः ॥

(हठयोग प्रदीपनका २.१६)

If *Pranayam* done properly, eradicates all diseases but improper practice of *Pranayam* will lead to many diseases. ⁽⁷⁾

1. It increases the capacity of the lungs.
2. Being a breathing exercise, it trains individual to do strenuous muscular effort in conditions of emergency.
3. It improves memory power.
4. It enhances life span.

Bhramari Pranayama, also known as Humming Bee Breath, is a calming breathing practice that soothes the nervous system and helps to connect us with our truest inner nature. ⁽⁸⁾

MATERIAL AND METHOD:

27 year old married woman of PCOS was selected for study

Bhramari pranayama procedure:

Bhramari Pranayama advised early in morning, after defecation start *bhramari pranayama* from 5min, gradually increasing order till 20 min. Choose a comfortable sitting position. If you are able, it is best to sit *padmasana* (cross-legged) on the floor, Allow the spine to lengthen so that the back, neck, and head are erect. Gently close the lips, keeping the teeth slightly apart, and bring the tip of your tongue to the space behind the upper front teeth. Maintain this position of the mouth throughout the practice, frequently checking to ensure that the jaw remains relaxed. Then, close each ear with the thumbs, place the index fingers at the midpoint of the forehead—just above the eyebrows—and reach the middle, ring, and pinky fingers across the eyes so that the tips of these fingers press very gently against the bridge of the nose. To begin, take a long, deep breath in through the nostrils, bringing the breath all the way into the belly. Drop the chin to the chest and begin to exhale slowly, making a steady, low-pitched 'hmmm' sound at the back of the throat like the humming of a bee ⁽⁹⁾

Case study:

32year old married woman of PCOS, came to opd prasuti Tantra and stree roga department, Government Ayurvedic college, Nagpur. On date 29/12/2022 with her opd number 36993.

with compliant of irregular menses, weight gain, hair loss, since 6 month her LMP. 12/08/2022, Her obstetrics history p2 L2 A o D o FTND, No history PPH, PIH. Tubal ligation was done before 6 year. Menstrual History Age of Menarche 14 year cycle Irregular 2-3 months , No. of days of bleeding -5 to 6 days, No. of pads 3 to 4/day, (medium size pad) ,slight abdominal Pain present, on 2 and 3 days clots also pass.

Personal history:

Marital History: married since 12 year

Diet Non-Vegetarian, vegetarian diet, daily 5 cup tea with extra suger

Bowel Habits -normal

Sleep - Reduced, often disturbed sleep due to fearful dream.

Bladder-Normal micturition

No surgical any history, NO K/C/O -HTN/DM/EPILEPSY.

No any major medical history. Pt weight70kg bp120/70 mmhg

Pulse -80/min, spo2 -98%, p/a -soft non tender

L/e-no evidence any secretion from both breast.

P/s – cx healthy, no any discharge

P/v – Ut, AV just bulky, fornix clear.

Investigation

Upt -done at our hospital negative.

Usg finding-Uterus slightly Antverted bulky 6cm *5.3 cm*7 CM, Endometrial thickness 6 mm, both ovary bulky right ovary 3*2 with volume 13 cc and left ovary 3*2.5 cm with volume 12 cc. No e/o free fluid in POD. Bilateral PCOS pattern were noted.

Thyroid profile: within normal range

Bsl random: 110 mg/dl

Cbc :hb- 10.5gm/dl

Management: *Bhramari Pranayama* advised early in morning, after defecation start *bhramari pranayama* from 5 min, gradually increasing order till 20 min. continue *bhramari pranayam* until menses came. Follow up on 3rd day of menses

Advice: take tea only for 1 times per day. With only 1 teaspoon of sugar. Eat plenty of food such as pomegranate, avla, raisins, guava, green leaf vegetables, moong dal. Diet should be on fixed time and without watching TV and mobile.

Follow up and outcome after menses:

After 10 days following *bhramari pranayam* patient had menses. During this cycle there were no clots and abdominal pain also absent. Patients advised to take rest during menses and also *bhramari pranayam* withheld till menstrual phase. *Bhramari pranayam* started from 5 th day of menses. next cycle came after 35 days. Additional benefit patients having sound sleep.

DISCUSSION:

Bhramari pranayama prevent the hypothalamic– pituitary axis from receiving estrogen-negative feedback by inhibiting estrogen biosynthesis, thus increasing follicle- stimulating hormone (FSH) production and promoting follicle growth. Thus FSH/LH ratio became normal. Ovulation occurs at proper time and menses get regular.

CONCLUSION:

PCOS is important cause of infertility. Also it increases risk for carcinoma of uterus, type 2 diabetes, cardiac problems.*bramari pranayam* found to be very fruitful in management of PCOS and associated conditions. By normalizing FSH /LH ratio favoring ovulation which is one of the prime factors for the maintenance of fertility.

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