

Sky Kayakalpa Yoga and Simplified Physical Exercises for Polycystic Ovarian Syndrome and Infertility - A Pilot Trial

S. Shanthi

Department of Yoga for Human Excellence, Bharathiar University, Coimbatore, Tamil Nadu, India

E-Mail shanthimayil[at]rediffmail.com

Abstract: Polycystic Ovarian Disorder or PCOD, has been linked to emotional and mental disorders leads to Female Infertility. Vethathiri Maharishi's Kayakalpa Philosophy includes Body, Life-force, Bio-magnetism, Mind, and Sexual vital fluid. SKY Physical Exercise includes nine types of exercises. This research study is aimed to control the Physiological and Psychological changes in PCOS women and to cure Infertility by Practicing SKY Kayakalpa Yogic technique and SKY Physical exercises regularly. **Methodology:** To achieve the purpose of the present study Vethathiri Maharishi's Kayakalpa Yoga and SKY Physical exercise were administered to the experimental group daily for a period of four months and Control group without any practice which both comprised of 30 women subjects. **Statistical Analysis and Design:** In this study Paired sample t-test (one way analysis of anova) is a statistical technique that is used. In all cases 0.05 level of significance was fixed to test hypothesis. For Psychological Findings Hamilton Anxiety rating scale was used. **Conclusions:** The result was, while doing Kayakalpa yoga and simplified physical exercises, PCOS get cured and the patients get conceived. This is the first step in his famous approach from pain to peace.

Keywords: SKY Kayakalpa Yoga, SKY Physical Exercises, PCOS, Infertility

1. Introduction

Depression and anxiety are common in women with PCOS and Infertility. Rapid urbanization and changes in life style in many developing countries is causing an increase in many complex diseases like PCOS, cardiovascular diseases and diabetes. On an average PCOS affects 5-10 % of the women in reproductive age group worldwide. About 37% among the north Indian women have been estimated to suffer from PCOS. The main reason for this is sedentary life style. Yogiraj Vethathiri maharishi had in the light of his knowledge of Yoga, research undertaken by him for over 40 years, simplified the system of Kayakalpa. Kaya – human body, Kalpa – long period of time, Yoga – unison. Kayakalpa yoga is a complete Science which integrates physics, biology, physiology, philosophy, genetics and yoga. Vethathiri Maharishi's Kayakalpa philosophy includes Body, Life force, Bio-magnetism, Mind, Sexual vital fluid. Blemishes in the mind and unhealthy body are due to sinful imprints which can be cleared away by SKY Physical exercises. SKY Physical exercise is the exercise for body and mind. PCOS means Poly cystic ovarian syndrome also known as hyper androgenic chronic anovulation is a benign disorder is one of the leading causes of Female Infertility. PCOS includes the symptoms like irregular menstrual cycle, hirsutism, weight gain, acne, hair loss, oily skin, dandruff, skin discoloration, high blood pressure, Ovarian cyst, mental health problems etc. PCOS women also have stress, and anxiety. PCOS is an endocrine disorder where hormones are thrown out of balance. Kayakalpa yoga will flush blood to the brains signaling it to restore hormonal balance, reduces stress and anxiety by modulating sympathetic nerve activity. Hence regarding this Management of Infertility in PCOS includes Vethathiri Maharishi's SKY Kayakalpa Yogic technique and SKY Simplified Physical Exercise. This research study is aimed to control the Physiological and

Psychological changes in PCOS women and to cure Infertility by Practicing SKY Kayakalpa Yogic technique and SKY Physical exercises regularly.

2. Literature Survey

Recently concluded health survey disclosed that Polycystic Ovarian Disease or Syndrome (PCOD / PCOS) was one of the leading causes of infertility among women, it brought to the forefront some alarming facts. Kayakalpa yoga and SKY physical exercise as an intervention is not studied in PCOS, it is found to be effective in several associated conditions. There are only limited published studies on yoga in PCOS to-date. Kayakalpa yoga was synthesized by Shri Vethathiri Maharishi proves to be cost-effective, less time consuming, universally applicable.

Vethathiri Maharishi's Kayakalpa Yoga Philosophy:

Steps in Kayakalpa Yoga:

- 1) **Aswini Mudra:** Tonning up of nerves (Exercise to anal sphincter muscle)
- 2) **Muscles Involved:** Sphincter muscle, Anal muscle, Pelvic diaphragmatic muscles, levitator ani muscles.
- 3) **Mechanism:** - Ensures healthy sexual glands, Nervous system is attuned, Contraction and relaxation, Centrifugal spinning action occurs.
- 4) **Moolabandam:** Holding the anal muscle contracted
- 5) **Muscles Involved:** Perineum muscles
- 6) **Mechanism:** Locking of the muscles to the perineum, Apana to flow upwards and downwards, stimulates 72000 Naadis and affect Manomayakosha.
- 7) **Ojus Breathe:** Respiratory exercise to raise and spread the vital force.
- 8) **Mechanism:** Raising vital force from the seed center to the brain center

Volume 8 Issue 6, June 2019

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY

9) **Muscles Involved:** Anal sphincter

Kayakalpa Exercise – Morning and Evening		
Posture -1	Posture -2	Posture -3
1 minutes- Tonning up the nerves (ten ashwini mudras) 1 minute ojas breathe	1 minutes Tonning up the nerves (ten ashwini mudras) 1 minute Ojas breathe	1 minutes Tonning up the nerves (ten ashwini mudras) 1 minute Ojas breathe

Throughout the day, additional Kayakalpa is performed while taking drinks and the principle food (morning, noon, evening and night). Kayakalpa at the time of sleep completes the day's procedure. The practice is well spaced and is performed every two to three hours to see that supplementary bio-magnetic surge given every now and then to correct the bio-magnetic expenditure throughout the day.

SKY Physical Exercise:

SKY Physical exercise helps to balance the body functions and make all systems functions normally. SKY Physical exercise is the exercise for body and mind.

Two Form's of Exercise:**1. Body postures 2. Movements**

Vethathiri Maharishi has taught 9 types of exercises.

Exercises for hands and arms, Leg exercises, Breathing exercises, Eye exercises, Kapalapathy, Makarasanam, Massage, Acupressure, Relaxation. Arm exercises are done in standing postures, In sitting posture leg exercises, breathing exercises, eye exercises, and Kapalapathy exercises are done, Lying posture facing up: Makarasanam, Massage, Acupressure, Relaxation exercises, Lying posture facing downwards: Makarasanam.

1. Hand exercises: Here Biceps brachii, Brachialis, Brachio radialis, Pronator teres, Flexor carpi radialis, Flexor carpi ulnaris, Palmaris longus, Supinator, Pronator quadratus, Flexor digitorum superficialis, Flexor pollicis longus, Flexor digitorum profundus are the variety of muscles involved during mechanism while doing SKY Physical exercises.

2. Leg exercises: Here Quadriceps, Rectus femoris Vastus medialis, Vastus intermedius, Biceps femoris, Semitendinous, Semimembranous, are the muscles involved during mechanism while doing SKY Physical exercise.

3. Neuro muscular breathing exercise Intra-alveolar pressure is the pressure of the air within the alveoli, which changes during the different phases of breathing. **Intrapleural pressure** is the pressure of the air within the pleural cavity, between the visceral and parietal pleurae.

4. Eye exercise: Here four rectus muscles and two oblique muscles involved.

5. Kapalapathy: In Kapalabhati, 'impulsive force' is applied with greater magnitude.

6. Makarasana- Part I: This is the best of all. In Makarasana the tips of the thumb and index finger comes in to contact and get pressed (chin- mudra). This mudra makes the master gland pituitary and pineal feel the pleasure of the pressure for a healthy functioning. Pineal is Manonmani (gem of mind) (man – un -mani) fact up.

Makarasana- Part II: Down postures in Makarasana make the upper and lower sections of the back bones active but shoulder should not be lifted. Shoulder should also remain in contact with the floor.

7. Massage: Here the stagnation of the bio-magnetic waves will immediately remove.

8. Acupressure: There are 14 places which can be pressed to make specific nerves activate. **The end part of each nerve called acu.** Internal organs become fresh and active through this acupressure exercise.

9. Relaxation: Here all systems begin to work normally. Relaxation makes the body and mind feel restful.

Research Design:

Statement of the Problem: The Purpose of the study was to find out the effect of physiological and psychological changes in PCOS women and Infertility by practicing Vethathiri Maharishi's Kayakalpa Yoga and SKY Physical exercise regularly.

Significance of the Study: In India the PCOS incidence is estimated to be on the rise and is becoming a cause of concern especially in fertility – related issues. In this study PCOS is characterized by abnormally high levels of luteinizing hormone (LH) and low levels of Follicle stimulating hormone (FSH). Weight gain is noticed in many women with PCOS. Changes like these often lead to Psychological stress and a poor body image. This research study gives the real scientific benefits of SKY Kayakalpa yoga and SKY Physical exercises. So that present and future generation can be rescued from the PCOS and Infertility problems.

Hypothesis:

1. It was hypothesized that there would be any significant differences in the experimental group on Physiological Variables, Weight, BMI, Hemoglobin, Total cholesterol, FSH and LH levels, and Ultra sound scan report, than the controlled group due to the practice of Vethathiri maharishi's Kayakalpa yoga and SKY Physical exercises on PCOS and Infertility.
2. It was also hypothesized that there would be any significant differences in the experimental group on Psychological variable Anxiety, than the controlled group due to the practice of Vethathiri maharishi's

Kayakalpa Yoga and SKY Physical exercises on PCOS and Infertility.

Delimitations:

1. To achieve the purpose of the study 60 samples will be selected at random and their range is aged group people (20-30). 30 samples were included in the experimental group and 30 samples were in controlled group individually.
2. All are married women and are working women. The duration of the study was four months. The selected subjects were affected from polycystic ovarian syndrome and Infertility. Pelvic ultrasonography showing the presence of eight or more peripheral cysts of at least 10mm diameter, with increased stromal echo in one or both ovaries. This study was delimited to only Vethathiri Maharishi's Kayakalpa yoga technique and SKY Physical exercises.

Limitations of the Study: A patient with any other reason of anovulation is excluded in this study.

Diagnosis aspect of the Study: Rotterdam criteria for PCOS diagnosis were used.

For Physiological Results:

S. No	Parameters	Experi-mental group	Control group	P- value Experi-mental	Control group
1	Hemoglobin (MEAN \pm SD) mg/dl	1.9 \pm 1.4	1.75 \pm 1.58	0.000 < 0.05	0.000 >0.05
2	BMI (MEAN \pm SD) mg/dl	2.9 \pm 1.5	2.6 \pm 2.3	0.000 < 0.05	0.517 > 0.05
3	Total Cholesterol (MEAN \pm SD) mg/dl	20.2 \pm 11.8	21.4 \pm 19.6	0.000 < 0.05	-0.811 >0.05
4	FSH (MEAN \pm SD) mg/dl	1.2 \pm 2.4	1.9 \pm 1.4	0.000 <0.05	-0.811 > 0.05
5	LH (MEAN \pm SD) mg/dl	6.7 \pm 2.1	7.6 \pm 7.3	0.000 < 0.05	0.998 > 0.05

For Psychological Results:

Hamilton Anxiety Scale: Scoring

Final Cluster Centers				
		Cluster		
1.	Worries	4	4	4
2.	feeling of tension	4	3	3
3.	Of being left alone	4	4	4
4.	Difficulty in falling asleep	3	3	3
5.	Difficulty in concentration	2	3	4
6.	Depression	4	4	4
7.	Pains and aches	3	3	4
8.	Feelings of weakness	4	2	4
9.	Palpitations	3	2	4
10.	Dyspnea	4	4	4
11.	Abdominal pain and constipation	4	4	4
12.	Amenorrhea	4	4	4
13.	Dry mouth, giddiness,	4	4	4
14.	Restlessness	4	4	4

Methodology: To achieve the purpose of the present study Vethathiri Maharishi's Kayakalpa Yoga and SKY Physical exercise were administered to the experimental group. The Experimental group comprising 30 women subjects was subjected to SKY Kaya kalpa Yoga practice and SKY Physical exercise for a period of four months. The second group namely Control group which also comprised of 30 women subjects went without any practice. The study was Randomized control trial. Kayakalpa yoga was given to the experimental group. Daily they do the practices of Kayakalpa yoga. To facilitate and guide home practice. Participants were given an audio recording (CD), sessions were held twice per week. They were regulated by the yoga instructor through phone and direct communication. Daily records of diary were maintained. Patient's case sheet was maintained. Mental health state was maintained in the case sheet. Food restriction was given to the patients.

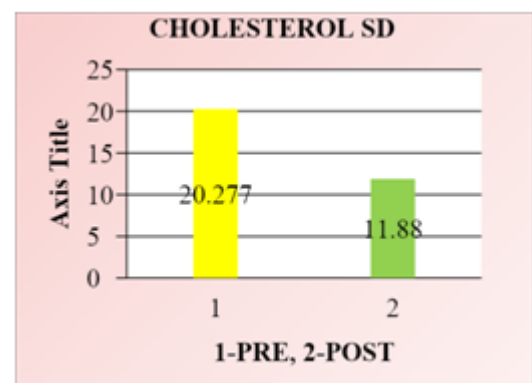
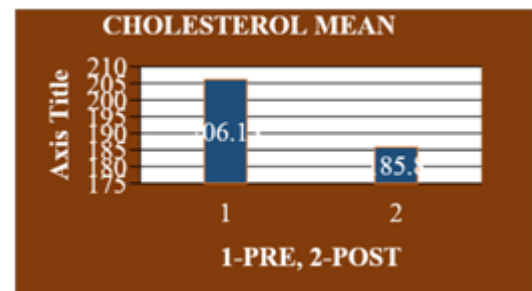
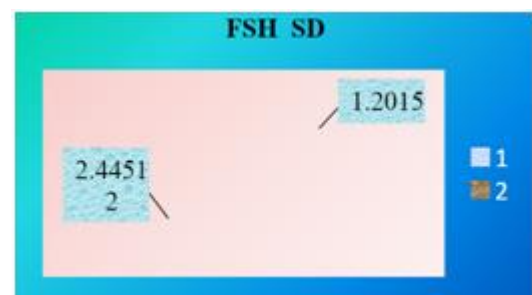
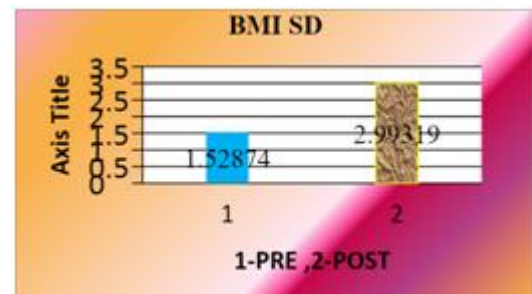
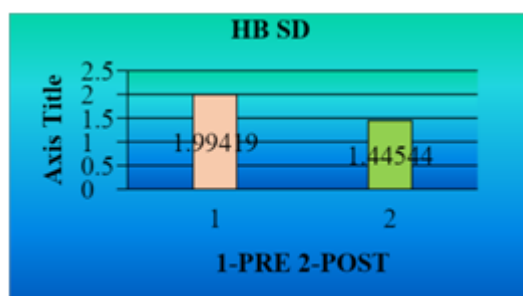
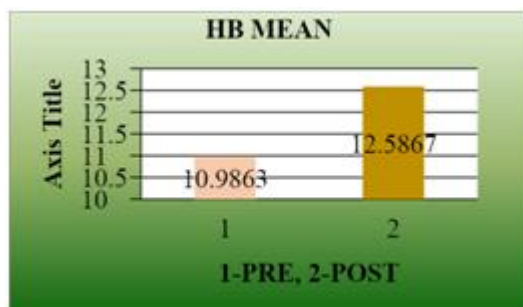
Statistical Analysis and Design:

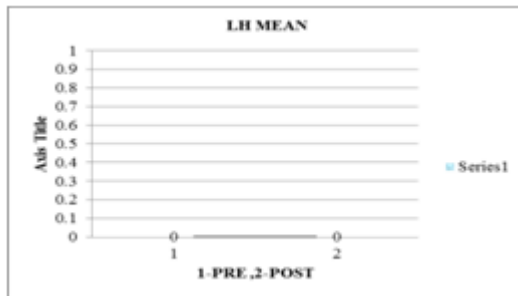
In this study Paired sample t-test (one way analysis of Anova) is a statistical technique that is used to compare two population means in the case of two samples that are correlated. In all cases 0.05 level of significance was fixed to test hypothesis. For Psychological Findings Hamilton Anxiety rating scale was used.

3. Conclusions

Within the limitations of the present study the conclusions were drawn. This yoga results in a balanced and study mind and body. Kayakalpa yoga revitalizes the body and the vital organs are massaged and blood circulation, air and heat circulation is increased due to the regular practices of SKY Physical exercises. During the toning up of the nerves we focus our mind in Mooladhara chakra. This is an exercise where we give massage to the ovaries by contracting and relaxing the muscles in that region. Uterus get strengthened, regular menstruation occurs. This initiates the insulin receptor cells in the ovaries to work properly. Ojus breath is a technique in which the energy collected in the Mooladhara chakra is taken to the pituitary. An imbalance of ovarian axis can lead to PCOS and Kayakalpa yoga can prevent this. Higher level of LH is fed to the pituitary gland. Now this helps in generation of FSH which helps in regular menstruation of women. PCOS as a mind body disease according to yogic scripture ie an imbalance at several levels. So there is a

need to focus on mind and body. PCOS abnormalities arises ie imbalances begin in the MANOMAYA KOSHA. Kayakalpa yoga helps to control the Manomaya kosha. Hence while doing Kayakalpa yoga – which is the recycling of seminal back mechanism is similar to the feedback mechanism of the pituitary gland in synchronizing the hormone balance. Kaya Kalpa yoga is an intrinsic exercise done to regulate the endocrine metabolism of our body, since PCOS is one of the endocrinal disorders this Yogasana is applicable to patients suffering from PCOS. And also while doing SKY Physical exercises all the 72000 Naadis get activated and entire human system get balanced at both physical and mental levels. The result of the study reveals there was a significant improvement on the research parameters. FSH and LH hormones are in normal level, Total cholesterol and hemoglobin was in normal level, BMI get reduced, Radiological findings like USG reports revealed that there was no appearance of polycystic ovaries. Psychological findings like Anxiety come to normal level when compared to the control group after the completion of 4 months of regular practices of Kayakalpa yoga and SKY Physical exercises.





4. Future Scope

While women doing SKY Kayakalpa yoga and Physical exercise no hormonal imbalance will occur. So each and every women should practice this sky yoga.

References

- [1] Karma Yoga, Yogiraj Vethathiri Maharishi, p.110
- [2] Mind, Yogiraj Vethathiri Maharishi, p.16
- [3] Genetic Centre, Vethathiri Maharishi, p.5
- [4] Unified Force, Yogiraj Vethathiri Maharishi, p.35
- [5] Journey of Consciousness, Thathuvagnani Vethathiri Maharishi, p.151
- [6] Value Education, Compiled by VISION for Wisdom, The World Community Service Centre, Aliyar, p.51
- [7] M.A. Yoga for Human Excellence, Bharathiyar University, p.23
- [8] Kayakalpa Yoga, Thathuvagani Vethathiri Maharishi, pp-1, 2013.
- [9] Dutta D.C. text book of Gynaecology, 4th edition, Calcutta, New Central Book Agency Ltd, p. 421. (431, 523, 549, 558)