

RELATIVE EFFECT OF YOGAPRACTICE AND COMBINED YOGA PRACTICES WITH SIDDHA TREATMENT ONMEAN ARTERIAL PRESSUREAMONGPOLYCYSTIC OVARIAN SYNDROME

*Mrs. A. AMROSE FATHIMA,*Research Scholar,*

Centre for Yoga Studies, Annamalai University, Chidambaram.

*Dr. K. SEKAR BABU,**Assistant Professor,*

Research Guide, Department of Physical Education, Annamalai University

ABSTRACT

The intention of this study was to examine the relative effect of yoga practice and combined yoga practices with siddha treatment on mean arterial pressure among polycystic ovarian syndrome. To achieve the purpose of the study, forty five polycystic ovarian syndromes from Shankara hospital, Mingles road, Dindugal were selected as subjects at random. The selected subjects were randomly assigned into three groups of 15 each. The experimental group-I underwent yogic practices and group-II underwent combined yoga practice with siddha treatment and the subjects of control group, did not participate in any special training apart from their regular activities. The experimental groups underwent the respective training six days a week for sixteen weeks. The selected dependent variable mean arterial pressure was assessed using standard tests and procedures, prior to and immediately after the training. Analysis of covariance (ANCOVA) was used as a statistical procedure to establish the significant difference, if any, existing between pretest and posttest data on mean arterial pressure. The findings of the study revealed that due to the effect of sixteen weeks of yoga practice and combined yoga with siddha treatment the mean arterial pressure of the polycystic ovarian syndromes have significantly altered. It was also concluded that combined yoga with siddha treatment was significantly better than yogic practices alone in altering the mean arterial pressure.

Key words: *Yoga practice, siddha treatment, polycystic ovarian syndrome and mean arterial pressure*

INTRODUCTION

One of the most prevalent syndromes among women these days, polycystic ovarian syndrome (PCOS) is a common endocrinal system disorder characterized by irregular periods, obesity, acne and excess hair growth. One in every 10 women in India suffers from polycystic ovary syndrome, and out of every 10 women diagnosed with PCOS, six are

teenage girls. This is the leading cause of infertility among women. If we come across the survey of diseases over the world, hormonal problem is the most hearable one. One of them is PCOS, i.e., polycystic ovarian syndrome which affects many women. PCOS is a syndrome characterized by a hormonal imbalance causes enlarged ovaries with large number of cysts which is filled by a fluid. If it is untreated it may result in infertility, which is troublesome.

Menstrual cycle depends on hormone regulation. During this cycle, a hormone is produced from pituitary gland of brain, i.e., FSH (Follicle stimulating hormone). This hormone is responsible for the production of watery sac which surrounds the egg. After the formation of egg, pituitary gland secretes LH (Luteinizing Hormone). This hormone induces the follicle to release egg which settles in fallopian tube for ovulation. After producing egg, the follicle slowly disappears. After ovulation, ovaries produce estrogen and progesterone which strengthen the uterus for pregnancy. At this time ovary secretes small amount of androgen which slowly convert into estrogen. But for the patients with PCOS this follicle stops its maturity and the ovulation does not occur. Thus, the follicle does not disappear and forms a cyst which settles in the ovary.

By ultrasound diagnosis it can be identified by the presence of more than 12 follicles in an ovary. This cyst may result in a hormonal imbalance seems to have elevated level of testosterone which may cause abnormal facial and body hair growth. Due to the lack of awareness in our country, it often remains undetected and untreated. According to a study conducted by AIIMS, about 20-25 percent of Indian women are suffering from the syndrome. Out of these, about 35-50 percent has a fatty liver and 60 percent are obese.

Some of the common causes of PCOS include Stress, perennial tension, anxiety, unhealthy lifestyle and depression. Stress is considered one of the major reasons causing the disease. According to experts, reducing stress and anxiety is the best cure to treat PCOS. The best way to feel relaxed and strengthen the system is Yoga. But we have to curb the problem from within to get rid of the disease. Yoga helps balance hormones by reducing androgens and encouraging egg production. It also helps in resolving issues such as weight, psychological problems, and infertility.

Apart from ensuring physical fitness, a number of health benefits are associated with yogic practices. Yogic practices, if done regularly and with proper preparations, lend their full benefit to the fitness of the body and mind. Yoga helps to perform hard tasks confidently and successfully. It improves the functioning of veins and arteries. On the whole yoga can be powerful enhancement in regular training exercises. The special feature

of the yogic practices, is that what they do for the body, they do for the mind also in an effective way. Physical fitness can be excellently maintained by practicing in a selected yogic routine. The impurities which are formed due to the wear and tear of the body are sent out properly through the outlets besides strengthening the organs which are responsible for our life.

Siddha medicine is a treatment which is followed by an Ancient Tamilians. It has no side effects and is cost efficient. Polycystic ovarian syndrome is a hormonal disorder affecting many women nowadays. It is called as syndrome because it shows many symptoms. It is also named as polycystic ovary disease, Stein-Levenal syndrome or hyperandrogen anovulation syndrome. In this PCOS more than 12 tiny cysts are present in the ovary. It may be caused due to genetic problem or lifestyle factors. This review discusses the solution to reduce the risk and ill effects of PCOS with the help of Siddha medicine which is the best, has no side effects, and is the cheapest medicinal system. By considering the above literature, an attempt has been made to find out the relative effect of yoga practice and combined yoga practices with Siddha treatment on mean arterial pressure among polycystic ovarian syndrome.

METHODOLOGY

Subjects and Variables

To achieve the purpose of the study, forty-five polycystic ovarian syndromes from Shankara hospital, Mingles road, Dindigul were selected as subjects at random. Their ages are to be ranged between 18 and 23 years. The selected subjects were randomly assigned into three groups of 15 each. The experimental groups underwent yogic practices and combined yoga practice with Siddha treatment and the subjects of the control group, did not participate in any special training. The mean arterial pressure was selected as the dependent variable and it was assessed by a digital blood pressure monitor.

Training Protocol

The experimental group-I subjects underwent yoga practices six days a week for sixteen weeks. The training programme was conducted during the morning sessions between 6.00 - 7.00 am. The subjects performed the following yogasanas such as Suryanamaskar, Padahasthasana, Utkatasana, Ardha matyendrasana, Ustrasana, Baddhakonasana, Bhujangasana, Nadi siddhi, Surya bhedhana, Kapalabhati, Sectional breathing and Relaxation. The experimental group-II was given the following Siddha treatments such as Ashokapattai kudineer, Nilakadambu churnam, Nathaichoori churnam, Silasathu parpam, Anapavazha chenduram, Thiriphala mathirai and Kumari legyam for sixteen weeks.

Statistical Procedure

The data collected from the experimental and control groups on mean arterial pressure was statistically analyzed by paired 't' test to find out the significant differences if any between the pre and post test. Further, percentage of changes was calculated to find out the changes in selected dependent variable due to the impact of experimental treatment. In order to nullify the initial mean differences the data collected from the three groups prior to and post experimentation on selected dependent variable were statistically analyzed to find out the significant difference if any, by applying the analysis of covariance (ANCOVA). Since three groups were involved, whenever the obtained 'F' ratio value was found to be significant for adjusted post test means, the Scheffe's test was applied as post hoc test. The level of significance was accepted at $P < 0.05$.

RESULTS

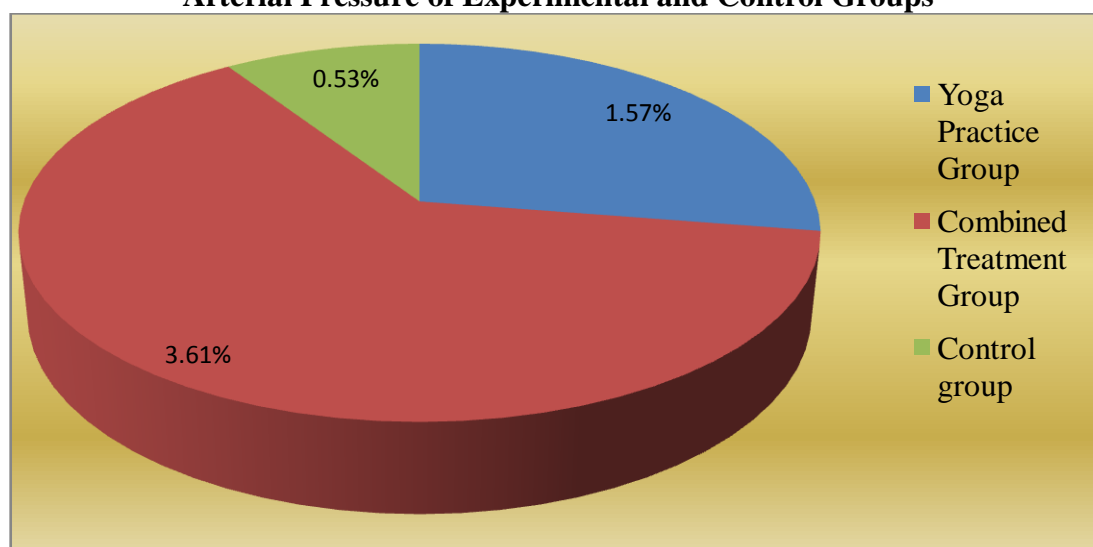
The descriptive analysis of the data showing mean and standard deviation, range, mean differences, 't' ratio and percentage of improvement on mean arterial pressure of experimental and control groups are presented in table-I.

Table – I: Descriptive Analysis of the Data on Mean Arterial Pressure of Experimental and Control Groups

Group	Test	Mean	SD	Range	MD	't' ratio	% of Changes
Yoga Practices Group	Pre test	98.25	3.23	7.34	1.54	8.06*	1.57%
	Posttest	96.72	4.54	7.07			
Combined Treatment Group	Pre test	97.21	5.45	9.04	3.51	9.60*	3.61%
	Posttest	93.70	4.47	7.43			
Control Group	Pre test	98.19	5.28	8.33	0.52	1.00	0.53%
	Posttest	97.67	5.26	8.00			

Table t-ratio at 0.05 level of confidence for 14 (df) = 2.15

Table-I shows that the obtained 't' values of yoga practice and combined treatment groups are 8.06 and 9.60 respectively which are greater than the required table value of 2.15 for significance at 0.05 level for 14 degrees of freedom. It revealed that significant differences exist between the pre and post test means of experimental groups on mean arterial pressure. The result of the study also produced 1.57% percentage of changes in mean arterial pressure due to yoga practices, 3.61% of changes due to combined treatment and 0.53% of changes in control group.

Figure – II: Pie Diagram Showing the Percentage of Changes on Mean Arterial Pressure of Experimental and Control Groups

The pre and post test data collected from the experimental and control groups on mean arterial pressure was statistically analyzed by using analysis of covariance and the results are presented in table-II.

Table – II: Analysis of Covariance on Mean Arterial Pressure of Experimental and Control Groups

	Yogic Practices Group	Combined Treatment Group	Control Group	S o V	SS	Df	MS	'F' ratio
Adjusted Posttest Mean	96.44	94.22	97.90	B	78.93	2	39.46	21.20*
				W	76.31	41	1.86	

(Table value required for significance with degrees of freedom 2 & 41 is 3.23)

*Significant at 0.05 level of confidence

Table-II shows that the adjusted post-test means on mean arterial pressure of yoga practice, combined yoga with siddha treatment and control groups are 96.44, 94.22 and 97.90 respectively. The obtained 'F' value of 21.20 on mean arterial pressure is greater than the required table value of 3.23 for the degrees of freedom 2 and 42 at 0.05 level of confidence. Hence, it was concluded that significant differences exist between the adjusted post test means of yoga practice, combined yoga with siddha treatment and control groups on mean arterial pressure. Since, the obtained 'F' value in the adjusted post test means is found to be significant, the Scheffe's test is applied as post hoc test to find out the paired mean difference, and it is presented in table-III.

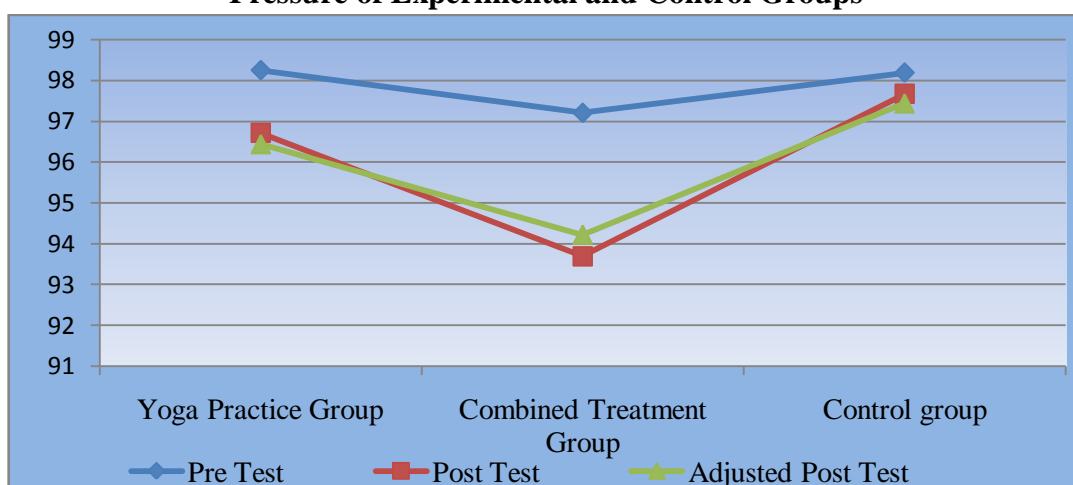
Table –III: Scheffe’s Post Hoc Test for the Differences among Paired Means of Experimental and Control Groups on Mean Arterial Pressure

Yoga Practice Group	Combined Treatment Group	Control Group	Mean Difference	Confidence Interval
96.44	94.22		2.22*	1.27
96.44		97.90	1.46*	1.27
	94.22	97.90	3.68*	1.27

*Significant at 0 .05 level

As shown in table-III the Scheffe’s post hoc analysis proved that significant mean differences existed between yoga practice and combined treatment groups, yoga practice and control groups, combined treatment and control groups on mean arterial pressure. Since, the mean differences 2.22, 1.46 and 3.68 are higher than the confidence interval value of 1.27 at 0.05 level of significance.

Hence, it is concluded that due to the effect of yoga practice and combined treatment the mean arterial pressure of the subjects was significantly changed. It was also concluded that combined yoga practice with siddha treatment was significantly better than yoga practice in altering mean arterial pressure.

Figure-I: The Pre, Post and Adjusted Post-Test Means on Mean Arterial Pressure of Experimental and Control Groups

DISCUSSION

Previous studies have reported the beneficial effects of yoga practices and physical exercises on physiological parameters. Recent studies have suggested that in both healthy and diseased populations, yoga may be as effective as or better than exercise at improving a variety of health-related outcome measures (Ross & Thomas, 2010). Regular hatha yoga practice can elicit improvements in the health-related aspects of physical fitness (Tran *et al.*, 2001). Yoga significantly decreases heart rate and systolic and diastolic blood pressure

(Selvamurthy, *et al.*, 1998; Damodaran, *et al.*, 2002; McCaffrey, Ruknui, Hatthakit & Kasetsomboon, 2005).

The positive effect of yoga practices on high blood pressure has been confirmed in various studies. Hagins, States, Selfe and Innes (2013) systematically reviewed the effectiveness of yoga for reducing blood pressure in adults with hypertension and recommended that Yoga can be an effective intervention for reducing blood pressure. Okonta(2012) presented an evidence-based integrative research review that validates yoga therapy as an effective complementary treatment in the management of high blood pressure (BP). Hagberg, Park and Brown (2000) analyzed the most recent review of the effects of exercise training on patients with hypertension. These results continue to indicate that exercise training decreases blood pressure (BP) in approximately 75% of individuals with hypertension, with systolic and diastolic BP reductions averaging approximately 11 and 8mm Hg, respectively. Women may reduce BP more with exercise training than men, and middle-aged people with hypertension may obtain greater benefits than young or older people.

Patient is given drugs like Asoka pattai kudineer and choornam Mavilingapattai choornam, Perungayam, Kattrazhai preparations, Kumatti mezhugu, Silasathu parpam, Gendhaga preparations etc. Infertility due to PCOD are also well treated by these drugs. Infertility has very effective response through Siddha Medicines. Drugs like Triphala choornam, Naththaichuri choornam and food stuffs like horse gram are administered which helps in lowering weight. Patient should be encouraged to do yogasanas, Aerobic Exercises, Brisk walking etc. Fruit juices, Nellikai(Gooseberry), Athipazham (Fig), green vegetables, adequate water, fish, sprouted black gram, buttermilk etc should be a part of diet.

It is a physiological fact that the human organism needs stimulating exercise. When the whole body is subjected to regular muscular activity, requiring vigorous stress on the heart, lungs and muscles, the general efficiency of physiological functions is being improved. Research now strongly has the theory that regular and vigorous exercise helps to keep the heart healthy and may prevent cardio-vascular diseases. A physically fit person's heart beats at a lower rate and pumps more blood, which denotes the substantial increase of ability to do more physical work. People who keep fit greatly enlarge their fullness of living.

CONCLUSION

It was concluded that, due to the impact of yoga practice and combined yoga practices with siddha treatment the mean arterial pressure of the polycystic ovarian syndromes was significantly changed; however combined yoga practices with siddha treatment was significantly better than yoga practice alone in altering mean arterial pressure. The result of the study produced 1.57% of changes in mean arterial pressure due to yogic practices and 3.61% of changes due to combined yoga practices with siddha treatment.

REFERENCES

- Damodaran A, Malathi A, Patil N, Shah N, [Suryavanshi](#), Marathe S. (2002). Therapeutic potential of yoga practices in modifying cardiovascular risk profile in middle aged men and women, *J Assoc Physicians India*, 50(5):633-40.
- Hagberg, JM., Park, JJ., Brown, MD. (2000). The role of exercise training in the treatment of hypertension: an update. *Sports Med.*, 30(3):193-206.
- Hagins, M., States, R., Selfe, T., Innes, K. (2013). Effectiveness of yoga for hypertension: systematic review and meta-analysis, *Evid Based Complement Alternat Med.*, 649836.
- McCaffrey, R., Ruknui, P., Hatthakit, U., Kasetsoomboon, P. (2005). The effects of yoga on hypertensive persons in Thailand. *Holist Nurs Pract.*, 19: 173–180.
- Okonta, NR. (2012). Does yoga therapy reduce blood pressure in patients with hypertension?- an integrative review, *Holist Nurs Pract.*, 26(3): 137-41.
- Ross, Alyson., & Thomas, Sue. (2010). The health benefits of yoga and exercise: *The journal of alternative and complementary medicine*, 16(1): 3–12.
- Selvamurthy, W., Sridharan, K., Ray, US., *et al.*, (1998). A new physiological approach to control essential hypertension, *Indian J Physiol Pharmacol.*, 42:205–213.
- [Tran, MD.](#), [Holly, RG.](#), [Lashbrook, J.](#), [Amsterdam, EA.](#) (2001). Effects of Hatha Yoga Practice on the Health-Related Aspects of Physical Fitness, *Prev Cardiol.*, 4(4): 165-170.