

Effects of Varied Combinations of Asanas Pranayama and Core Training on Physiological Psychological Variables of Middle Aged Women



Physical Education

KEYWORDS : Asanas, Pranayama, Core training, Vital capacity, Aggression

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ABSTRACT

The purpose of this study was to find out effects of VARIED COMBINATIONS asanas, pranayama and core training practices on physiological psychological variables of working middle aged women. The study was conducted at Vethathri Maharishi Trust in sirumugai. The sample consisted of sixty middle aged women age ranged between 35 and 50 years. They were divided into two equals groups, consist of 30 each and named as control groups and experimental group. The investigator did not make any attempt to equate the groups. The control group was not given any treatment and the experiment group was given asanas, pranayama and core training programme was given six days per week for a period of 8 weeks. All the subjects were subjected for a pre-test and post test. Physiological variables of vital capacity level. Psychological variables of aggression assessed by standard questionnaires. The obtained data from the experiment group and control group before and after the experiment period were statistically analyzed with dependent t-test to find out significant improvement and analysis of covariance (ANCOVA) for each variable separately in order to determine the differences, if any, among the adjusted post test means. The level of significance was fixed at 0.05 level of confidence for all the cases. Significant improvement was found on vital capacity and aggression of experiment group due to the effects of asanas, pranayama and core training when compared to the control group.

INTRODUCTION

According to (Tiwari 1984) regular practice of 'Asanas' give strength, 'Mudras' give rise to steadiness, 'Shatkriyas' helps in purification and 'Pranayama' develop lightness. These practices ensure nourishment to tissues through their beneficial influence on various systems of the body and thus help in preserving and promoting mental and physical health.

The most important aim of our lives should be to maintain good health. Many people take their health for granted and abuse their bodies with a sedentary life style, bad diets, medications and high stress factors. Every person, due to genetic weaknesses, is susceptible to certain ailments that if not prevented can lead to serious illnesses. When energy is depleted in the body the organs become weak and they cannot function properly. The natural equilibrium will be disturbed and a disorder can develop. Genetic factors will dictate which particular disorder may develop and which organ might be affected. Some people may be prone to a certain condition such as diabetes, cancer, peptic ulcers and heart disease. Yoga acts preventive measures to disease by reducing stress level, keeping the internal organs toned and healthy and maintaining a balanced equilibrium between the physical, mental and spiritual level. The emphasis is to unite the system with a combination of breathing techniques, gentle exercise and mind control. This produces a tranquility that penetrates deep into the mind and soul. It improves the health of the person on all levels. (Lalvani, 2003)

Pranayama is not just automatic habitual breathing to keep body and soul together. Through the abundant intake of oxygen by its disciplined techniques, subtle chemical changes take place in the practitioner's body. The practice of asanas removes the obstructions which impede the flow of prana and the practice of pranayama regulates that flow of prana throughout the body. It also regulates the entire practitioner's thoughts, desires and actions, gives poise and the tremendous will-power needed to become a master of oneself. (Svatmarama 2002) Pranayama is an art and has techniques to make the respiratory organs to move and expand intentionally, rhythmically and intensively. It consists of long, sustained subtle flow of inhalation (puraka), exhalation (rechaka) and retention of breath (kumbhaka). Puraka stimulates the systems, rechaka throws out vitiated air and toxin; kumbhaka distributes the energy throughout the body. The movements include horizontal expansion (dairghya), vertical ascension (aroha) and circumferential extension (visalata) of the lungs and the rib cage. This disciplined breathing helps the mind to concentrate and enables the practitioner to attain robust health and longevity. (Iyengar 2010)

It's a common misconception that core training is for getting six pack abs. When core training is done correctly, the entire girdle of muscles extending from the upper back to the hips and the length of the abdominals is strengthened which helps to stabilize the spine. This can be help to alleviate back pain and reduce the risk of injury to the back and pelvis when lifting and bending over. Strengthening the core muscles not only improves the appearance of the mid-section, but also protects against injury and back strain. When these muscles are targeted for strengthening, it improves posture which can have a dramatic effect on the appearance of the mid-section. Thin people with weak core muscles often have a prominent abdomen despite having low body fat because of poor posture and weak abdominal muscles. This can be corrected by training the core regularly.

METHODOLOGY

This study was designed to determine the effects of eight weeks asanas, pranayama and core training on selected physiological psychological variables of working middle aged women. The total sample consisted of sixty middle aged women age ranged between 35 and 50 years. They were divided into two equals groups, consist of 30 each and named as control groups and experimental group. The investigator did not make any attempt to equate the groups. The control group was not given any treatment and the experiment group was given Asanas, pranayama core training programme was given six days per week for a period of 8 weeks. The obtained data from the experiment group and control group before and after the experiment period were statistically analyzed with dependent t-test to find out significant improvement and analysis of covariance (ANCOVA) for each variable separately in order to determine the differences, if any, among the adjusted post test means. The level of significance was fixed at 0.05 level of confidence for all the cases.

STANDARDIZED TEST AND CRITERION MEASURES

Variables	Test
Vital Capacity	Wet Spiro meter / in Litres
Aggression	Questionnaire (Buss & Perry (1992)

All the subjects were tested all variables before and after eight weeks of training with the help of qualified research from vethathri maharishi trust in sirumugai. The collected data were statistically analyzed by 't' ratio. The level of significance was fixed at 0.05 level of confidence.

ANALYSIS OF THE DATA AND RESULTS OF THE STUDY

The data collected on physiological variables due to influence of asana and core training were statistically processed and dis-

cussed here .The following table illustrates the 't' ratio for the difference between pre and post test of experimental group.

Table: 1
Computation of 't' ratio between pre test and post test of experimental groups

Variables		Mean	Std. Deviation	Mean diff.	SME	't' ratio
Vital capacity	pre	3.43	.32	.24	.023	10.83*
	post	3.68	.27			
Aggression	pre	87.90	3.73	10.87	.74	14.67*
	post	77.03	3.86			

***Significant at 0.05 level of confidence (2.045)**

The table reveals that computation of 't' ratio between experimental group of physiological Psychological variables of working middle aged women. The obtained pre and post test 't' ratio of experimental group were 10.83 and 14.67 respectively. Since, the obtained 't' ratio were greater than the required table value of 2.045, It was found to be statistically significant for the degree of freedom 1 and 29 at 0.05 levels of confidants.

The result clearly indicates that selected physiological variables of experimental group had been improved by asana, pranayama and core training programme.

The result clearly indicates that eight weeks of asanas, pranayama and core training practice significantly reduces in aggression of working middle aged women.

Table: 2
Computation of 't' ratio between pre test and post of control groups

Variables		Mean	Std. Deviation	Mean diff.	SME	't' ratio
Vital capacity	pre	3.39	.24	.02	.01	1.11
	post	3.41	.25			
Aggression	pre	86.77	5.68	.20	.36	.36
	post	86.57	6.59			

Significant at 0.05 level of confidence (2.045)

The table:2 reveals that computation of 't' ratio between control group of physiological Psychological variables of working middle aged women. The obtained pre and post test 't' ratio of control group were 1.11 and .36 respectively. Since the obtained 't' ratio on control group variables was lesser than the required table value of 2.045, It was found to be statistically not significant for the degree of freedom 1 and 29 at 0.05 levels of confidants.

The result clearly indicates that a selected physiological variable of control group has not been improved by asana, pranayama and core training programme.

The result clearly indicates that eight weeks of asanas, pranayama and core training practice of the control group has not been significant changes in aggression working middle aged women.

Table - 3
Analysis of covariance on Pre, Post and Adjusted Post test means on Vital Capacity of Asanas Pranayama & Core Group (APCT) and Control Group (CG) (Scores in litres)

Test	Asanas, Pranayama & core (APCT)	Control Group (CG)	Source of variance	df	Sum of Square	Mean Square	F-ratio
Pre-test Mean	3.43	3.38	B / S	1	.033	.033	.403
			W / S	58	4.703	.081	
Post-test Mean	3.68	3.40	B / S	1	1.134	1.134	16.72*
			W / S	58	3.935	.068	
Adjusted Post-test Mean	3.67	3.43	B / S	1	.828	.828	76.74*
			W / S	57	.615	.011	

*** Significant at 0.05 level**

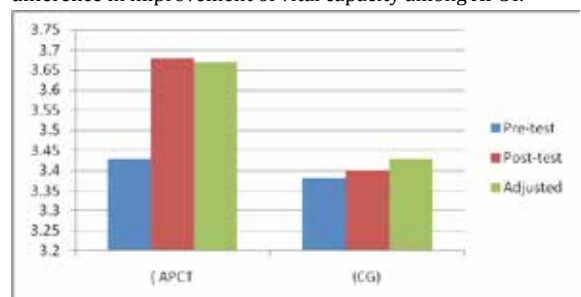
Table: reveals the computation of 'F' ratios on pre test, post test and adjusted post test means of APCT and CG on vital capacity

The obtained 'F' ratio for the pre test means of APCT and CG on Vital Capacity was 403. Since, the 'F' value was less than the required table value of 3.158 for the degrees of freedom 1 and 58, it was found to be not significant at 0.05 level of confidence.

Further, the post test 'F' ratio 16.72 of APCT and CG on vital capacity was higher than the required table value of 3.158 for the degrees of freedom 1 and 58, hence it was found to be statistically significant at 0.05 level of confidence.

The obtained 'F' ratio for the adjusted post test means of APCT and CG on vital capacity was 76.74. Since, the 'F' value was higher than the required table value of 3.158 for the degrees of freedom 1 and 57, it was found to be statistically significant at 0.05 level of confidence.

From the results it was intended that there was a significance difference in improvement of vital capacity among APCT.



Bar diagram showing Pre, Post and Adjusted Post test means on Vital Capacity of Asanas, Pranayama & Core Group (APCT) and Control Group (CG)

Table - 4
Analysis of covariance on Pre, Post and Adjusted Post test means on Aggression of Asanas ,Pranayama & Core Group (APCT) and Control Group (CG) (Scores in points)

Test	Asanas, Pranayama & core (APCT)	Control Group (CG)	Source of variance	df	Sum of Square	Mean Square	F-ratio
Pre-test Mean	87.90	86.77	B / S	1	19.267	19.27	.84
			W / S	58	1338.07	23.07	
Post-test Mean	77.03	86.57	B / S	1	1363.27	1363.26	46.78
			W / S	58	1690.33	29.14	
Adjusted Post-test Mean	76.53	87.03	B / S	1	1650.53	1650.53	161.79
			W / S	57	581.505	10.20	

*** Significant at 0.05 level**

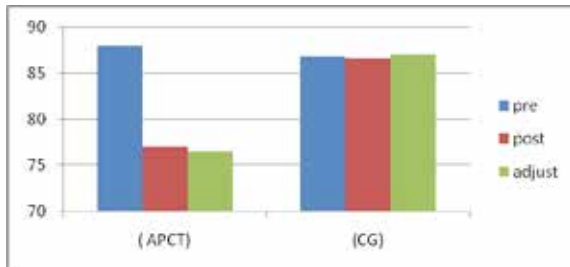
Table 4: reveals the computation of 'F' ratios on pre test, post test and adjusted post test means of APCT and CG on Aggression.

The obtained 'F' ratio for the pre test means of APCT and CG on aggression was 0.84. Since, the 'F' value was less than the required table value of 3.158 for the degrees of freedom 1 and 58, it was found to be not significant at 0.05 level of confidence.

Further, the post test 'F' ratio 46.78 of APCT and CG on aggression was higher than the required table value of 3.158 for the degrees of freedom 1 and 58, hence it was found to be statistically significant at 0.05 level of confidence.

The obtained 'F' ratio for the adjusted post test means of APCT and CG on aggression was 161.79. Since, the 'F' value was higher than the required table value of 3.158 for the degrees of freedom 1 and 57, it was found to be statistically significant at 0.05 level of confidence.

From the results it was intended that there was a significance difference in improvement of aggression among and APCT.



Bar diagram showing Pre, Post and Adjusted Post test means of Asanas

Pranayama & Core Group (APCT) and Control Group (CG) DISCUSSION OF FINDING

The present study the effects of asana, pranayama and core training on physiological psychological variables of working middle aged women. The result of this study indicated that the asana, pranayama and core training practiced significantly improvement in vital capacity and aggression level. The findings of the present study had similarity with the findings of the investigations referred in this study.

Yadav *et al.* (2009) pranayama breathing exercises in rehabilitation of coronary artery disease patients. Pranayama breathing exercises were found to improve lung functions in CAD patients and can be used as a complimentary therapy for their rehabilitation.

Singh *et al.*, (2010) anuloma viloma and bhastrika pranayama on the vital capacity and maximal ventilatory volume. The vital capacity and maximal ventilatory volume significantly improved in group A compared with group B. Pranayama training programme may be recommended to improve vital capacity and maximal ventilatory volume.

Singh *et al.*, (2011) 'Nadi-shodhana Pranayama training programme may be recommended to improve vital capacity and control heart rate and blood pressure and may contribute to

enhance health status and wellness

Lohan and Rajesh (2002) concluded that physical and physiological fitness was improved by the training of selected yogic exercise. The combined group of asanas and pranayama showed significant improvement in the physical and physiological fitness parameters.

Makwana *et al.*, (1988) observations recorded at the end of ten weeks of the course have shown improved ventilatory functions in the form of lowered respiratory rate, increased forced vital capacity, FEV1, maximum breathing capacity and breath holding time, while tidal volume and %FEV1, did not reveal any significant change. Thus, a combined practice of yoga seems to be beneficial on respiratory efficiency.

Stanton *et al.*, (2012) Swiss ball training may positively affect core stability without concomitant improvements in physical performance in young athletes. Specificity of exercise selection should be considered.

Sato *et al.*, (2009) assessed the effect of core strength training influence running kinetics, lower-extremity stability, and 5000-M performance in runners. Core strength training may be an effective training method for improving performance in runners.

CONCLUSION

Based on the result of the study the following conclusion were derived

1. It was concluded that eight weeks of asanas, pranayama and core training practice significantly improved in vital capacity of working middle aged women.
2. It was concluded that eight weeks of asanas, pranayama and core training practice significantly reduced in aggression mood state of working middle age women.
3. And it was combination group is better improvement in vital capacity and asana and pranayama training significantly reduced aggression.
4. Further, it was combination of asanas, pranayama and core training appropriate training for working middle aged women.

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