

Impact of Yogic Practices and Aerobic Training on total cholesterol among Middle Aged Women

Kamatham Sivananda^{1*} and Dr. M.V. Srinivasan¹

¹ *Department of Physical Education and Sports Sciences, Sri Krishnadevaraya University, Ananthapuramu, Andhra Pradesh.*

Email - sivananda.sku@gmail.com

Abstract- The purpose of the study was to find out the impact of yogic practices group and aerobic training on total cholesterol among middle-aged women. To achieve this purpose of the study, 45 middle-aged women as teachers were selected as subjects who were selected as subjects who were from different schools in Ananthapuramu, Andhra Pradesh. The selected subjects were aged between 35 to 45 years. They were divided into three equal groups of fifteen each, Group I underwent yogic practices, Group II underwent aerobic training, and Group III acted as control that did not participate in any special training apart from their regular curricular activities. The subjects were tested on selected criterion variable such as Total cholesterol prior to and immediately after the training period. The selected criterion variable such as Total cholesterol was determined through blood samples analyzed through laboratory tests. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental group and control group on selected criterion variable. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was a significant difference among the experimental and control group on Total cholesterol.

Index Terms: Health, yogic practices, aerobic training, total cholesterol.

1. INTRODUCTION

Yoga is a great gift of God or great part of Gods teaching which can destroy the ailments embracing the world with open arms. Yoga therapy is a technique of using the various practices of yoga for the betterment of health [1] Here it is about overcoming the breathlessness by practicing different limbs of yoga like asanas, pranayamas, meditation etc by which it improves the functioning of lung functions [2]. Yoga is art of living and yogasanas are the scientific procedure. This is the only exercise which affects in most parts of the body. The health of our body and mind depends on the soundness of the health of our internal organs the heart, lungs, digestive system, glands, nerves system, muscular system etc. Yoga exercises gently tone and shape the body, improve posture, flexibility and contribute to feeling of well-being promotion to positive health, to the professional in increasing their skills [3]. Yoga is one of the most ancient cultural heritage of India. Yoga is a spectacularly multifaceted phenomenon, and as such it is very difficult to define because there are exceptions to every conceivable rule. Yoga is a complete science of life that originated in India many thousands of years ago. Yoga was evolved centuries ago, it is an ancient and perfect art, science and philosophy which takes one towards the innermost trust [4].

Aerobic exercise is recommended to lose weight. Aerobic exercise does not mean that you should work your muscles strenuously to some tune

played in a recorder as it is found in many health clubs. Aerobic is a system of exercising by means of rhythmic activities. These include walking, swimming, cycling, rowing, skating and many such activities. Even rope, skipping is an aerobic exercise. The aim of such exercise is to improve fitness through increased oxygen consumption [5]. Aerobic exercise programs have been reported to improve body composition, lipid profile and lipid utilization in the body of normal and obese subjects [6].

2. METHODOLOGY

The current examination was to discover the impact of yogic practices and aerobic training on total cholesterol among middle-aged women. To get the reason for this research, 45 middle-aged women were randomly chosen as subjects. Their age was 35 and 45 years. Subjects were teachers of various schools in Ananthapuramu, Andhra Pradesh, India and, consequently, there was no distinction in the patterns of daily life, and was later well thought out as a standardized group. They chose isolated subjects in 2 experimental groups and one control group with 15 subjects in each (n = 15). Experimental Group I (YPG) undergoes yoga practices, Group II (ATG) is subjected to an aerobic group and Group III serves as a control group (CG) during the 12-week training period. The subjects of the control group were unable to attend any of the training programs except their standard exercises. Among the various biochemical variables, total

cholesterol was chosen as dependent variables for the test.

During the training period, experimental groups have undergone a specific training program three days a week on twelve-week alternate days, despite normal daily work. Before the start of the experiment and in the middle of the training period (after the 6th week), the investigator recorded the target heart rate tests for the subjects of the training group. Information on the dependent variable chosen for the previous and subsequent trials was collected two days before and two days after the training program, respectively.

Information on total cholesterol was evaluated by the calorimetric enzyme method with blood samples collected by each subject. Fasting blood samples were taken from each subject in the

morning to evaluate total cholesterol and evaluated. The information gathered from the three groups already; at that point after experimental period was statistically analyze to decide the significance power for analysis covariance (ANCOVA). At any time when F ratio began to be significant, the Scheffe test was used as a post-hoc test to find out which of the coupled means differs significantly. In all cases, the statistical significance criterion was set to 0.05 confidence level (P <0.05).

3. RESULTS

The analysis of covariance on the date obtained for total cholesterol of pre-test, post-test and adjusted post-test of yogic practices, aerobic training and control groups are presented in table 1.

Table 1. Analysis of covariance for the pre - test, post - test and adjusted post - test data on total cholesterol of yogic practices, aerobic training and control groups

Tests / Groups		Yogic Practices Group	Aerobic Training Group	Control Group	SOV	Sum of Squares	df	Mean Squares	F ratio
Pre Test	\bar{x}	190.43	190.40	190.43	B	0.01	2	0.01	0.00
	σ	21.25	19.97	26.29	W	30873.5	57	541.62	
Post Test	\bar{x}	184.25	182.69	191.50	B	883.5	2	441.83	0.93
	σ	21.15	17.70	24.00	W	26766.5	57	469.57	
Adjusted Post Test	\bar{x}	184.24	182.70	191.49	B	880.27	2	440.12	19.4
					W	1266.68	56	22.60	5*

*Significant at 0.05 level of confidence.

SOV: Source of Variance; B: Between, W: within

(The Table value for significance at 0.05 level with df 2 and 57 and 2 and 56 are 3.14 and 3.15 respectively)

The statistical analysis from the above table shows that the pre-test means of yogic practices group, aerobic training group and control group are 190.43, 190.40 and 190.43 respectively. The obtained F ratio 0.00 for pre-test is lesser than the table value of 3.14 for df 2 and 57 required for significance at 0.05 level. The post-test means of yogic practices group, aerobic training group and control group are found 184.25, 182.69 and 191.50 respectively. The obtained F ratio 0.93 for post-test is lesser than the table value of 3.14 for df 2 and 57 required for significance at 0.05 level. The adjusted post-test means of yogic practices group, aerobic training group and control group are 184.24, 182.70 and 191.49 respectively. The F ratio obtained for adjusted post-test 19.45 is greater than the table value of 3.15 for df 2 and 56 required for significance at 0.05 level.

The above analysis of the study indicates that there is a significant difference among the adjusted post-test means of yogic practices group, aerobic training group and control group. Further, to determine which of the three paired means had a

significant difference, the Scheffe's test was applied as post hoc test and the results are presented in table 2.

From table 2 it can be seen that the mean difference between yogic practices group and aerobic training group was 1.54 (P > 0.05) and the calculated F value was 1.00 (P > 0.05). The mean difference between the yogic practices group and the control group was 7.25 (P > 0.05) and the calculated F value was 23.24 (P > 0.05). The mean difference between aerobic training group and the control group was 8.79 (P < 0.05) and the calculated F value was 34.09 (P < 0.05). From that it can be clearly noticed that aerobic training group responded to the training with more positive influences on total cholesterol when compared with the yogic practices group and control group.

Table 2. Scheffe's post hoc test for differences between the adjusted post - test paired means of total cholesterol

Adjusted Post Test Means	Mean Differences	F Value
--------------------------	------------------	---------

Yogic Practices Group	Aerobic Training Group	Control Group		
184.25	182.71	--	1.54	1.00
184.25	--	191.50	7.25	23.24*
--	182.71	191.50	8.79	34.09*

* Significant at 0.05 level.

Table F (0.05) = 6.32

The yogic practices group responded better when compared with the control group. The pre - test, post - test and adjusted post - test means values of yogic practices group, aerobic training group and control group on total cholesterol are graphically presented in figure 1.

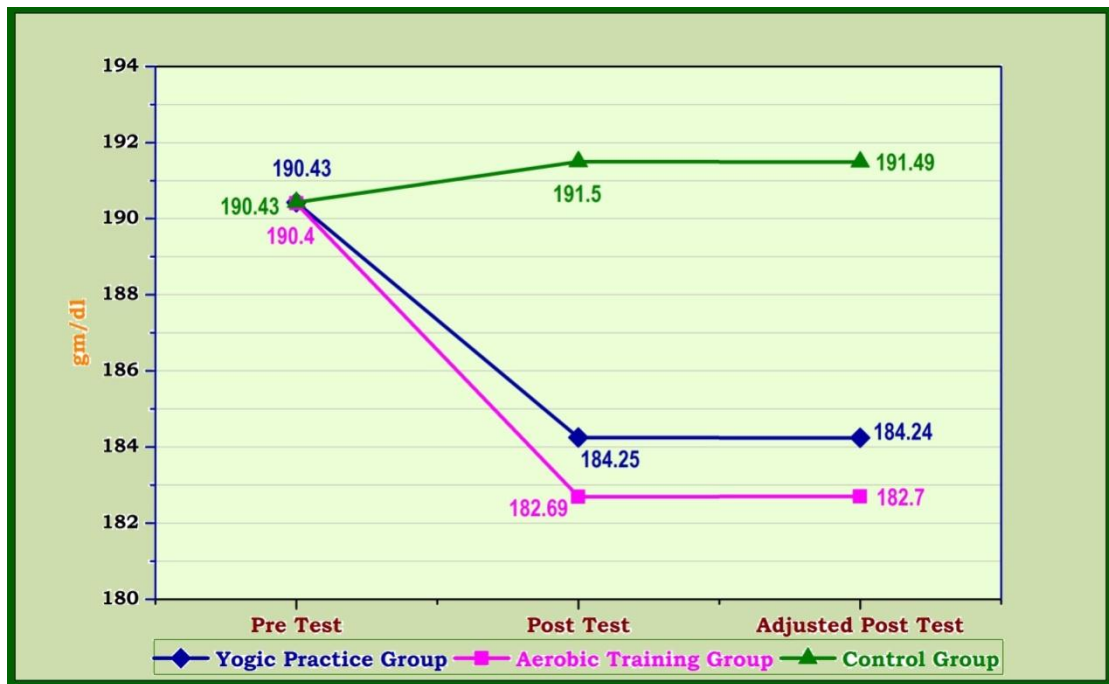


Fig. 1: Line graph showing pre - test, post - test and adjusted post - test means of yogic practices group, aerobic training group and control group on total cholesterol

4. CONCLUSIONS

In the current study, because of two training programs, to be particular, yogic practices and aerobic training, the associated enhancements occurred on total cholesterol of middle aged women.

1. It was concluded from the results of the study that the two experimental groups, to be particular, yogic practices group (YPG) and aerobic training group (ATG) have accomplished significant changes when compared with control group (CG) in the direction of enhancing total cholesterol.
2. It is concluded that aerobic training group found to be better to than the yogic practice group in positive the total cholesterol.

REFERENCES

[1] Sharma Krishna, K.; Udayakumara, K.; Prasada Thirumaleshwara.; Ajithesha, N.H.; (2014): Effect of yoga therapy on

lung functions in respiratory disorder subjects. European Scientific Journal (E.S.J), 10(6), 102- 108.

- [2] Sharma, K.K.; (2014): A Study to access the effect of yoga therapy on selected lung parameters in subjects with COPD. International Journal of Scientific research, 3(7), 56-58.
- [3] Anbu,; Maniazhagu. (2012): Effect of circuit resistance training aerobic circuit resistance training on performance related fitness component of male football players. International Journal of Physical education sports Management and Yogic sciences, Chennai, 2(2).
- [4] Iyengar's, B.K.S. (1996): Light on the Yoga Sutras of Patanjali, London, pp 1-384. ISBN: 9780007381623.
- [5] Park, S.K.; Park, J.H.; Kwon, Y.C.; Kim, H.S.; Yoon, M.S.; Park, H.T.; (2003): The effect of combined aerobic and resistance

exercise training on abdominal fat in obese middle-aged women. *Journal Physiol. Anthropol. and Appl. Human Science*, 22(3):129-135.

- [6] Blaak, El. E.; Saris.; Wim, H. M.; (2002): Substrate oxidation, obesity and exercise training. *Best practice & research. Clinical Endocrinology & Metabolism*, 16(4): 667-678.