



Effects of Aerobic Rhythmic Exercise and Weight Training On Haemoglobin Count among College Men Obese Students

T. Bharathi¹ & Dr. N. Bright Selva Kumar²

¹Ph.D. Scholar, Department of Physical Education, Tamilnadu Physical Education and sports University, Chennai – 127

²Principal, Christian College of Physical Education, Nagercoil

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Abstract

Aerobics is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness such as flexibility, muscular strength, and cardio-vascular fitness. It is usually performed to music and may be practiced in a group setting led by an instructor (fitness professional), although it can be done solo and without musical accompaniment. With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises. Formal aerobics classes are divided into different levels of intensity and complexity. The purpose of the present study is to find out the effects of aerobic rhythmic exercise and weight training on hemoglobin count among college men obese students. The study was conducted on 45 college men obese students in totally three groups, namely, experimental group – I & II and Control Group, each group consisted of 15 college men obese students. They underwent six weeks of practice in aerobic rhythmic exercise and weight training of both the experimental groups whereas the control group do not undergo any type of training. The hemoglobin was measured before and after using the blood samples from standard laboratory. The Analysis of Covariance (ANCOVA) analyzes the data and it is concluded that the aerobic rhythmic exercise and weight training have a significant of ($P < 0.05$).

Key words : College men obese students , aerobic rhythmic exercise and weight training and hemoglobin.

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Introduction

For every moment, the body uses energy. The body can procure this energy in two different ways: Without oxygen (anaerobic) – when there is not enough oxygen, waste products will pile up in the muscles with oxygen (aerobic) – this means that the exercise is performed under circumstances where there is enough oxygen in the muscles. To improve endurance the practioner should train aerobic system and move to lactate threshold. Aerobic training can be divided into three overlapping training intensity areas: low, moderate and high intensity training. The overall purpose of aerobic training is to: improve the oxygen transport in the circulation improve the muscle's ability to use the available oxygen improve the ability to recuperate after hard exercise.

Aerobic exercise is a moderate intensity workout that extends over a certain period of time and uses oxygen in this process. Aerobics has become the most happening workout trend among the youth. Not only is performing aerobic exercise interesting, but also is very beneficial for health. There are different types of aerobics like fitness walking, jogging, swimming, kickboxing, inline skating, bicycling etcetera. In line skating or rollerblading is one of the most popular sports that are luring millions of people into trying it. It helps to strengthen lower back and works a great deal in enhancing cardiovascular development. Kickboxing is extremely useful for quick weight loss, as it helps in burning about 350-450 calories during a 50 minute

workout session. At the initial level, kickboxing consists of some basic stretches and cardio warm up (Cooper, 1969).

Aerobic capacity describes the functional status of the cardio respiratory system, (the heart, lungs and blood vessels). Aerobic capacity is defined as the maximum volume of oxygen that can be consumed by one's muscles during exercise. It is a function both of one's cardio respiratory performance and of the ability of the muscles to extract the oxygen and fuel delivered to them. To measure maximal aerobic capacity, an exercise physiologist or physician will perform a VO_2 max test, in which a subject will undergo progressively more strenuous exercise on a treadmill, from an easy walk through to exhaustion. The individual is typically hooked up to a respirometer to measure oxygen, and the speed is increased incrementally over a fixed duration of time. The higher a cardiorespiratory endurance level, the more oxygen transported to exercising muscles, the longer exercise can be maintained without exhaustion and accordingly the faster they are able to run. The higher aerobic capacity, the higher the level of aerobic fitness. The Cooper and multi-stage fitness tests can also be used to functionally assess aerobic capacity. Aerobic capacity can be improved through a variety of means, including Fartlek training (Edvardsen, et al. 2011).

Weight training is an effective tool for improving or maintaining strength, endurance, and overall fitness. It involves controlled movements of skeletal muscle in an effort to move an external load.

This can be accomplished by using machines, free-weights, and exercises involving body weight. Individuals participating in a weight training program can expect improvement in body tone and strength. Incorporating a weight training program as part of a complete fitness plan will contribute to increased weight loss/control, balance and coordination, and a better overall sense of well-being.

STATEMENT OF THE PROBLEM

The purpose of the study is to find out the effects of aerobic rhythmic exercise and weight training on hemoglobin count among college men obese students.

REVIEW OF RELATED LITERATURE

Hortobagyi, et al., (1991) examined the effects of simultaneous training for strength and endurance on upper and lower body strength and running performance. High Resistance (HR), Low Resistance (LR) and Control groups of college men were used as subjects without the difference in body compositions in fitness. It was concluded that gains in strength were compromised by simultaneous endurance training. High resistance or low resistance training did not affect the gains in strength and

TRAINING SCHEDULE

Experimental Group – I : Aerobic rhythmic exercise

Experimental Group – II: Weight training.
Group III : Control Group (No Training).

RESULTS AND DISCUSSIONS

The statistical analysis comparing initial and final

endurance. It would appear to be unproductive to mix strength and endurance training because an athlete would gain maximum benefits in the mixed training.

METHODOLOGY

The purpose of the study was to find out the effects of aerobic rhythmic exercise and weight training on hemoglobin count among college men obese students. For the purpose of this study, forty-five college men obese students were chosen on the random basis from Chennai only. Their age group ranges from 18 to 21.

The subjects were divided into three groups, first group considered as Experimental Group - I would undergo aerobic rhythmic exercise and the second group considered as Experimental Group - II would undergo weight training and third group consider as Control Group not attend any practices, and the pre test and posttest would be conducted before and after the training. Training would be given for six weeks. It would be found out finally the effect of aerobic rhythmic exercise and weight training on the hemoglobin count among the college men obese students in scientific method. The collected data were statistically analyzed by using the Analysis of Covariance (ANCOVA).

means of hemoglobin due to aerobic rhythmic exercise and weight training among the college men obese students is presented in the Table I.

Table I
COMPUTATION OF ANALYSIS OF COVARIANCE OF THE TWO EXPERIMENTAL GROUPS AND CONTROL GROUP ON HEMOGLOBIN
(Scores in mg/dl)

Test	Exp. Gr. I	Exp. Gr. II	Cont. Group	Source of variance	Sum of squares	Degree of freedom	Means squares	Obtained F value
PRE TEST	10.76	10.69	10.75	between	0.06	2	0.028	0.05
				within	23.58	42	0.56	
POST TEST	13.33	13.09	11.49	between	30.60	2	15.30	24.75*
				within	25.96	42	0.62	
ADJUSTED POST TEST	13.36	13.07	11.49	between	30.38	2	15.19	27.26*
				within	22.852	41	0.56	
MEAN GAIN	2.5867	2.40	0.73					

*significant.

*Significant at 0.05 level of confidence. * F(0.05) (2,42 and 2, 41) = 3.23.

Table II

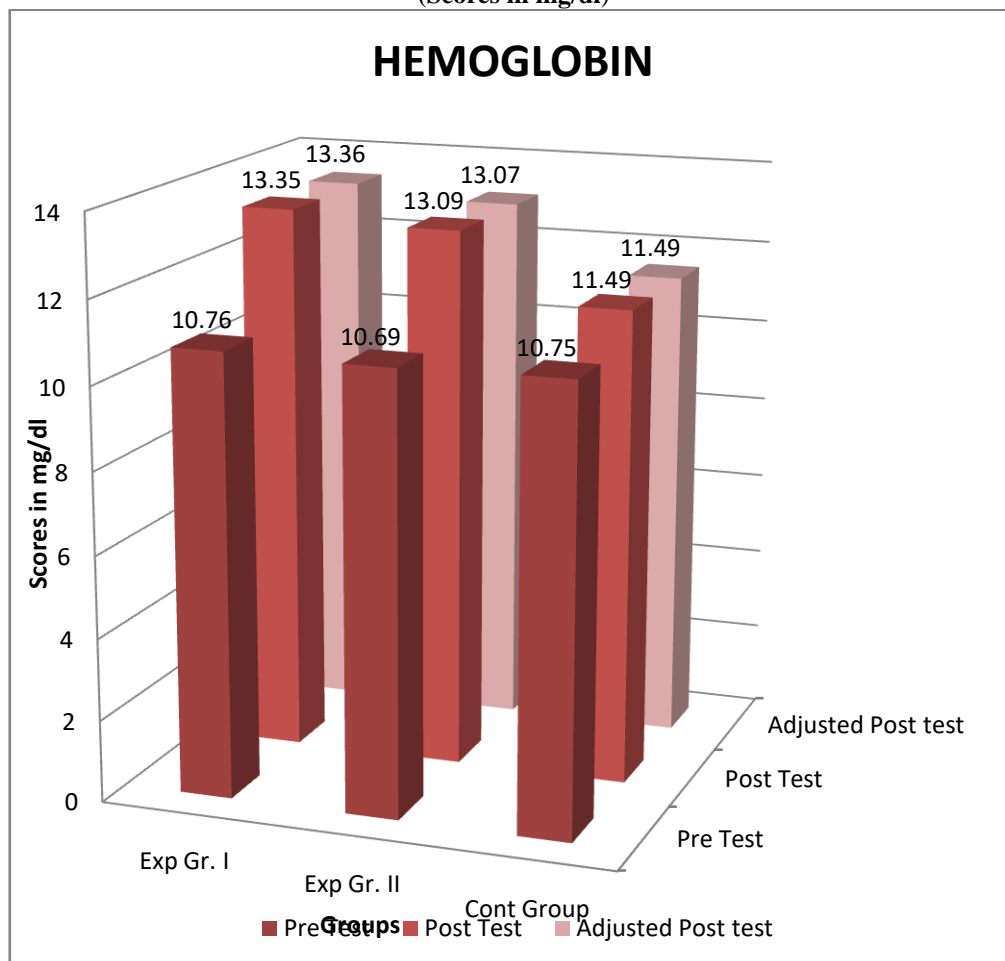
SCHEFFE’S POST-HOC TEST FOR HEMOGLOBIN

Exp. Gr. I	Exp. Gr. II	Control group	Mean difference	C.I
13.36	13.07	-	0.30*	0.28
13.36	-	11.49	1.87*	0.28
-	13.07	11.49	1.58*	0.28

*significant

Figure – 1

Bar diagram showing the mean difference among Experimental Group I, Experimental Group II and Control Group of Hemoglobin (Scores in mg/dl)



DISCUSSIONS ON THE FINDINGS OF THE HAEMOGLOBIN

Taking into consideration of the post test means and adjusted post test means were determined and analysis of covariance was done and the obtained F value 24.75 and 27.26 were greater than the required value of 3.22 and hence it was accepted that the aerobic rhythmic exercise and weight training significantly improved (increase) the hemoglobin of the college men obese students s.

CONCLUSION

The analysis of co-variance of hemoglobin indicated that the Experimental Group Experimental Group – and – I (aerobic rhythmic exercise) II (weight training) Group III (Control group), were significantly improved in (increase) the hemoglobin. It may be due to the effect of aerobic rhythmic exercise and weight training.

The findings of the study showed that the Experimental Group – I (aerobic rhythmic exercise) and Experimental Group – II (weight training) group III (Control group) had improvement (increase) in hemoglobin.

REFERENCES

Astrand and Radahl (1986). “The Effect of Alactic and Lactic Compounds for Judo Performance”, **The Sport Science of Elite Indo Athletes**. 25, 73-79.

Balabins, C.P. Psaratis, C.N., Moukasm, Vasilion M.P. and Behrakis P.K., (2003) “Early Phase Changes by Concurrent Endurance and Strength Training”, **Journal of Strength and Conditioning Research**, 2, 293-401.

Bernard, (1998). “To Get the Most Out of Anaerobic Training”, **European Journal of Applied Physiology**, 97, 133-138.

[Bharshankar JR](#), et.al. (2003)” Effect of Yoga on Cardiovascular System in Subjects Above 40 Years” **Indian J Physiol Pharmacol**. 47(2):PP. 202-6

Brain Mackenzie (2004). “Seven Step Model to Develop Speed”, **Journal of Medicine and Science in Sports**

[Brown RP](#), and [Gerbarg PL](#). et.al (2005). “Sudarshan Kriya Yogic Breathing in The Treatment of Hemoglobin , Anxiety, And Depression. Part II- -Clinical Applications And Guidelines.” **J Altern Complement Med**. 11(4):711-7

[Chaya MS](#), et.al. (2006). “The Effect of Long Term Combined Yoga Practice on The Basal Metabolic Rate of Healthy Adults”.: **BMC Complement Altern Med**. 31;PP:6:28.

Dorothy P.Estep, (1987) “Relationship of Static Equilibrium to Activity in motor activity”, **Research Quarterly**, 28 P.7

Fall, T.L., and Bigbee, R. (1968) “The twelve minute Run and Walk: A test of cardiovascular fitness of Adolescent”, **Research Quarterly**, .59, PP.491-95.

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