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Effect of six week aerobic training on physical fitness components of post graduate students of university

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Abstract
The main objective of the study was to find out the Effect of Six Week Aerobic Training on Physical Fitness Components of Post Graduate Students of Dr. RMLA, University, Ayodhya (U.P). The Sources of data were collected from the students of Dr. RMLA, University, Ayodhya (U.P). The Researcher had selected 40 Male Subjects for this Study. All the Subjects were divided in Two Groups (Pre and Post) Consisting of 20 Subjects Each. The Subjects were selected by Using Simple Random Sampling Method. In this Study the following Equipments which were Used for Data Collection (1) Grip Dynamometer was used to Measure the Grip- Strength and (2) 40 Yard Shuttle Run was used to Measure the Agility. Conclusion: There was no Significant Effect on the Strength and there was Significant Effect on the Agility.

Keywords: Aerobic training & physical fitness components

Introduction
The world of games and sports is ever expanding with increasing intensity of competition and enlarging scientific studies of human movements. Sports are dynamic in nature and progressive in outlook. The scientific results in the field of physical education and sports are a bone of to the athletes, trainers and coaches. The physical educationists and sports scientists have been trying to develop new method of training and techniques to attain higher level of performance in sports and games through critical thinking and scientific training. Now a day's games and sports are not limited to self satisfaction but it has got a wide range of importance. Therefore, physical fitness is a basic need and base of excellence in performance in addition to physical and motor fitness.

Objective of the Study
The main objective of the Study was to find out the Effect of Six Week Aerobic Training on Physical Fitness Components of Post Graduate Students of Dr. RMLA, University, Ayodhya (U.P).

Following were the Sub-objectives of the Study
- To find out the Physical Fitness level of Students.
- To find out the Effect of Aerobic Training on Strength.
- To find out the Effect of Aerobic Training on Agility.

Hypothesis
It was Hypothesized that there will be Significant Effect of Aerobic Training on Physical Fitness Components.

Methodology
The sources of data were collected from the Students of Dr. RMLA, University, Ayodhya (U.P). The researcher had selected 40 male subjects for this study. All the subjects were divided into two groups (Pre and Post) consisting of 20 subjects each. The subjects were selected by using simple random sampling method. In this study the following equipments which were used for data collection (1) Grip dynamometer was used to measure the grip-strength and (2) 40 Yard shuttle run was used to measure the agility.

Collection of Data

The necessary data was collected by administrating the tests for measuring the selected variables. Before collecting the data, the subjects were given a chance to practice the prescribed tests so that they should become familiar with the tests and know exactly what is to be done.

Experimental Procedure of training design

Sr. No.	Name of Group	Type of group	Type of Training
1	A	Experimental	Aerobic Training
2	B	Control	No Training

Weekly Training Schedule for Experimental Group

Day	Duration (Min.)	Training Task	Training Means and Methods
Monday	40	Strength Exercise	Stretching Exercise (triceps, Biceps, Calf muscles, etc.) Neck, shoulder, hip, ankle rotation etc.
	5	Relaxation	Walking and jogging
Tuesday	40	Agility Development	Hopping Alternate high knee action, twisting on the exercises
	5	Relaxation	Limbering down, Easy Jogging and Walk
Wednesday	40	Strength Development	Hill Running up and down
	5	Relaxation	Walking and jogging
Thursday	40	Strength Exercise	Stretching Exercise (triceps, Biceps, Calf muscles, etc.) Neck, shoulder, hip, ankle rotation etc.
	5	Relaxation	Walking and jogging
Friday	40	Agility Development	Hopping Alternate high knee action, twisting on the exercises
	5	Relaxation	Limbering down, Easy Jogging and Walk
Saturday	40	Strength Development	Hill Running up and down
	5	Relaxation	Walking and jogging

Analysis of the data

The statistical analysis of the data gathered for the effect of six week Aerobic training on physical fitness components. The data collected qualitatively on two different test of strength and Agility of control group –A (N=20), and experimental groups (N=20). The data were analyzed and interpreted by using‘t’ test and the level of significance at 0.05 was adequate for testing the hypothesis.

Table 1: Strength between Pre and Post Test of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	34.45	3.70	1.122	0.750	38	0.669	2.021
Post Test	35.20	3.81					

Significance at 0.05 level of Confidence. Tabulated’ 0.05 (38) = 2.021

Table-I reveals that there is no significant difference between means of pre and post test of control group, because mean of pre test is 34.450 is slightly less than mean of post test is 35.200, and there mean difference is 0.750. To check the significant difference between pre and post test of control group the data was again analyzed by applying‘t’ test. Before applying’t test, standard deviation was calculated between pre-test where S.D. = 3.708 and Post test where S.D. = 3.81 and their Combine standard error = 1.122. There was no significant difference between pre and post test of control group because value of calculated ‘t’ = 0.669 which is less than tabulated ‘t’ = 2.021 at 0.05 level of confidence, which shows no improvement was found in control group because no training was given to the subjects of control group.

Table 2: Strength between Pre and Post Test of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	33.85	3.64	1.132	1.450	38	1.281	2.021
Post Test	35.30	3.51					

Significance at 0.05 level of Confidence, Tabulated‘t’ 0.05 (38) = 2.021

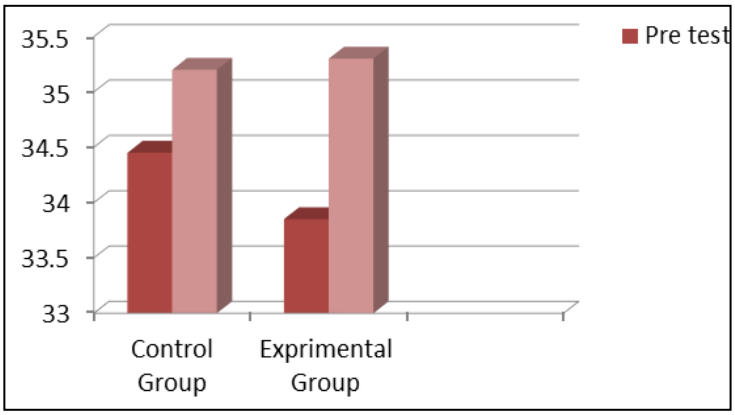
Table-2 reveals that there is least significant difference between means of pre and post test of experimental group, because mean of pre test is 33.850 is slightly less than mean of post test is 35.300, and there mean difference is 1.450. To check the significant difference between pre and post test of control group the data was again analyzed by applying‘t’ test. Before applying‘t’ test, standard deviation was calculated between pre-test where S.D. = 3.646 and Post test where S.D. = 3.511 and their Combine standard error = 1.132. There was no significant difference between pre and post test of control group because value of calculated‘t’ = 1.281 which is less than tabulated‘t’ =2.021 at 0.05 level of confidence, which shows no improvement was found in experimental group after six weeks aerobic training.

Table 3: Strength between Post Test of Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	35.20	3.38	1.09	0.10	38	0.092	2.021
Experimental	35.30	3.51					

Significance at 0.05 level of Confidence. Tabulated ‘t’ 0.05 (38) = 2.021

Table-3 reveals that there is no significant difference between means of post test of control and experimental group, because mean of post test of control group is 35.200 is slightly less than mean of post test of experimental group is 35.300, and there mean difference is .100. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying‘t’ test. Before applying‘t’ test, standard deviation was calculated between post tests where S.D. (Control group) = 3.646 and S.D. of (experimental group) = 3.511 and their Combine standard error = 1.090.



Graph 1: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for Strength

Table 4: Agility between Pre and Post Test of Control Group

Control Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	11.99	1.702	0.48	0.41	38	0.84	2.02
Post Test	12.41	1.36					

Significance at 0.05 level of confidence, Tabulated‘t’ 0.05 (38) = 2.021

Table-4 reveals that there is no significant difference between means of pre and post test of control group, because mean of pre test is 11.999 is slightly less than mean of post test is 12.412, and there mean difference is 0.412. To check the significant difference between pre and post test of control group the data was again analyzed by applying‘t’ test. Before applying‘t’ test, standard deviation was calculated between pre-test where S.D. = 1.702 and Post test where S.D. = 1.366 and their Combine standard error = 0.488. There was no significant difference between pre and post test of control group because value of calculated ‘t’ = 0.845 which is less than tabulated ‘t’ =2.021 at 0.05 level of confidence, which shows no improvement was found in agility of control group because no training was given to the subjects of control group.

Table 5: Agility between Pre and Post Test of Experimental Group

Experimental Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Pre. Test	11.775	1.292	0.415	0.935	38	2.255	2.021
Post Test	10.840	1.331					

Significance at 0.05 level of Confidence, Tabulated‘t’ 0.05 (38) = 2.021

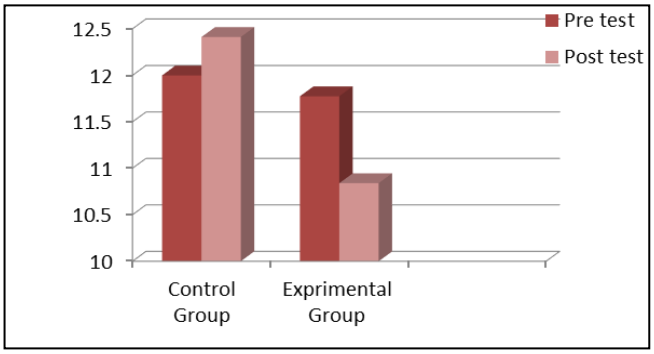
Table 5 reveals that there is least significant difference between means of pre and post test of experimental group, because mean of pre test is 11.775 is greater than mean of post test is 10.840, and there mean difference is .935. To check the significant difference between pre and post test of control group the data was again analyzed by applying‘t’ test. Before applying‘t’ test, standard deviation was calculated between pre-test where S.D. = 0.083 and Post test where S.D. = 0.089 and their Combine standard error = 0.415. There was significant difference between pre and post test of experimental group because value of calculated ‘t’ = 2.255 which is greater than tabulated ‘t’ =2.021 at 0.05 level of confidence, which shows six weeks aerobic training have improved the agility of experimental group.

Table 6: Agility between Post Test of Control and Experimental Group

Group	Mean	S.D.	S.E. Comb.	M.D.	D.F.	O.T.	T.T.
Control	12.412	1.366	0.426	1.572	38	3.686	2.021
Experimental	10.840	1.331					

Significance at 0.05 level of confidence, Tabulated‘t’ 0.05 (38) = 2.021

Table-6 reveals that there is significant difference between means of post test of control and experimental group, because mean of post test of control group is 12.412 is greater than mean of post test of experimental group is 10.840, and there mean difference is 1.572. To check the significant difference between post tests of control and experimental group the data was again analyzed by applying‘t’ test. Before applying‘t’ test, standard deviation was calculated between post tests where S.D. (Control group) = 1.366 and S.D. of (experimental group) = 1.331 and their Combine standard error = 0.426.



Graph 2: Graphical Representation of Mean Difference between Pre and Post Test of Control and Experimental Group for Agility Testing of Hypothesis

It was hypothesized there will be significant effect of aerobic training on selected Physical Fitness components. But the effect of training does not show the significant effect on strength and shows significant effect on agility. At last it was found that the hypothesis was accepted at the level of 0.05 level of confidence.

Conclusion

On the basis of the result drawn with the mentioned methodology the following conclusion were soughed out.

- There was no significant Effect on the Strength.
- There was significant Effect on the Agility.

References

1. Bucher, Foundation of Physical Education, (St. Louis: The C. V. Mosby Co, 1960.
2. Devinder K, Kansal A. Test Book of Applied Measurement Evaluation and Sports Selection, (New Delhi: Sports and Spiritual Science Publication, 2008.
3. M. Bobo *et al*. "The Effects of Long Term Aerobic Dance on Agility and Flexibility", Journal of Sports Medicine and Physical Fitness, 1999, 39(3).