



Effect of Strength Training Endurance Training and Combined Training on Leg Strength Back Strength and Tidal Volume of College Players

Chandrabose. G¹ & Dr. P.Kulandaivelu²

¹ Research Scholar, Department of Physical Education, Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India.

² Associate Professor, Department of Physical Education, Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India.

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Abstract

The motivation behind the investigation was to discover the impact of quality preparing, intense exercise and consolidated preparing on leg quality, back quality and tidal volume. Sixty male learners matured in the vicinity of 17 and 22 years were chosen for the examination. They were partitioned into four equivalent gatherings, each gathering comprising of fifteen subjects in which, amass I experienced quality preparing, assemble II experienced intense exercise, bunch III experienced blend preparing, three days for every week for twelve weeks and gathering IV went about as control, which did not take part in any preparation. The subjects were tried on chosen paradigm factors, for example, leg quality, back quality and tidal volume at preceding and quickly after the preparation time frame. For testing the leg quality and back quality, the dynamometer was utilized and to test the tidal volume, the Cooper's 12 minutes run/walk test was managed. The investigation of covariance (ANCOVA) was utilized to discover the critical distinction assuming any, between the exploratory gatherings and control assemble on chosen paradigm factors independently. Since there were four gatherings associated with the present examination, the Scheffé S test was utilized as post-hoc test. The chose model factors, for example, leg quality, back quality and Tidal volume were enhanced altogether for all the preparation bunches when contrasted and the control gathering and the leg and back quality were enhanced fundamentally for joined preparing gathering and quality preparing gathering, and in tidal volume, the intense exercise gathering and consolidated preparing bunches were essentially progressed.

Keywords: Strength training, endurance training, physical fitness, leg strength, back strength and tidal volume.

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Introduction

Athletic execution has significantly advanced in the course of recent years. A more extensive base of learning about competitors currently exists, which is reflected in preparing philosophy. (Tudor O. Bompa, 1993) Training adjustment happens when the preparation stack is above typical or the competitor isn't acclimated with an activity. Games' preparation is a procedure of athletic change, which is directed based on logical standards and which, through methodical improvement of mental and physical effectiveness, limit and inspiration, empowers the competitors to deliver extraordinary. The best preparing program is what expands the coveted quality at a higher rate without causing undesirable impacts. (Boucher and Malina, 1993). Quality preparing has two distinct implications. A more extensive implying that alludes to any preparation that uses a protection from the power of solid withdrawal (better named quality

preparing), and flexible or pressure driven opposition, which alludes to a particular kind of quality preparing that utilizes versatile or water powered strain to give this obstruction. Quality preparing - some of the time called weight preparing or quality preparing - is a "specific technique for molding intended to expand muscle quality, muscle continuance and muscle control. Continuance is a term generally utilized as a part of game and can mean a wide range of things to a wide range of individuals. At the point when the vast majority discuss continuance they are alluding to oxygen consuming perseverance, which is frequently likened with cardiovascular wellness. Leg quality assumes an indispensable part in the everyday exercises of man. It is a basic factor for incorporating into all amusements and games. There is a well-known adage that a competitor will go just as long as his legs will convey him. The volume of air propelled into, lapsed from, or contained inside the lungs amid relaxing. A standout amongst the most valuable estimations of lung volume is fundamental limit: the maximal volume of air that can be powerfully breathed out subsequent to taking the most profound breath. Qualities change from 3 liters to 6 liters.

Correspondence

Chandrabose. G

E-mail: coach.chandrabose@gmail.com, Ph. +9194445 22767

Statistical Techniques

In this examination it was planned to discover the impact of quality preparing, intense exercise and consolidated preparing on leg quality, back quality and tidal volume. To accomplish the reason sixty male learners the individuals who were gone to summer training camp at Chennai, Tamil Nadu were chosen as subjects indiscriminately from the aggregate populace of 108 understudies. They were partitioned into four equivalent gatherings of fifteen each and additionally isolated as three test gatherings and one control gathering, in which the gathering I (n=15) experienced quality preparing, aggregate II (n = 15) experienced aerobic exercise and gathering III (n = 15) experienced the mix preparing for three days for every week for twelve weeks, and gathering IV (n=15) went about as control which did not take an interest in any uncommon preparing separated from the customary physical instruction program of the educational

programs.

For each preparation program there would be a change in different structure and frameworks in human body. Thus, the scientists counseled with the specialists and after that chose the accompanying factors as foundation factors: 1. Leg quality, 2. Back quality and 3. Tidal volume.

Examination of the Data

Examination of covariance was utilized to decide the distinctions, assuming any, among the balanced post test implies on chosen paradigm factors independently. At whatever point the 'F' proportion for balanced post test mean was observed to be noteworthy, the Scheffe'S test was connected as post-hoc test. The level of hugeness was settled at .05 level of certainty to test the 'F' proportion got by investigation of covariance.

Table 1

Analysis of Covariance and 'F' ratio for Leg Strength, Back Strength and Tidal volume of Strength training Group, Endurance Training Group and Combined Training Group and Control Group

| Variable Name | Group Name | S.T.G | E.T.G | C.T.G | C.G | 'F' Ratio |
|----------------------|--------------------------|------------------|------------------|------------------|------------------|-----------|
| Leg Strength | Pre-test Mean ± S.D. | 77.53 ± 3.85 | 78.47 ± 2.88 | 78.40 ± 2.50 | 77.87 ± 2.90 | 0.315 |
| | Post-test Mean ± S.D. | 83.13 ± 2.85 | 80.67 ± 2.85 | 81.27 ± 2.31 | 77.20 ± 3.51 | 10.83* |
| | Adj. Post-test Mean | 83.60 | 80.316 | 80.975 | 77.375 | 76.02* |
| Back Strength | Pre-test Mean ± S.D. | 63.60 ± 5.65 | 63.93 ± 4.30 | 63.93 ± 2.90 | 64.13 ± 2.95 | 0.046 |
| | Post-test Mean ± S.D. | 68.67 ± 5.02 | 66.00 ± 3.72 | 66.93 ± 3.04 | 63.07 ± 3.24 | 5.59* |
| | Adj. Post-test Mean | 68.952 | 65.985 | 66.858 | 62.871 | 92.897* |
| Tidal volume | Pre-test Mean ± S.D. | 0.449 ± 0.016 | 0.445 ± 0.017 | 0.45 ± 0.136 | 0.442 ± 0.032 | 1.038 |
| | Post-test Mean ± S.D. | 0.474 ± 0.021 | 0.503 ± 0.021 | 0.485 ± 0.008 | 0.433 ± 0.026 | 32.32* |
| | Adj. Post-test Mean | 0.474 | 0.498 | 0.485 | 0.439 | 75.24* |

* Significant at .05 level (2.77).

Table 2

Scheffé S Test for Adjusted Post-Test Mean of Leg Strength Back Strength and Tidal volume

| Adjusted Post-test Mean for Leg Strength | | | | | |
|--|--------------|--------------|------------|------------|------------|
| S.T.G | E.T.G | C.T.G | C.G | M.D | C.I |
| 83.60 | 80.316 | | | 3.284* | 1.197 |
| 83.60 | | 80.975 | | 2.626* | 1.197 |
| 83.60 | | | 77.375 | 6.225* | 1.197 |
| | 80.316 | 80.975 | | 0.658 | 1.197 |
| | 80.316 | | 77.375 | 2.941* | 1.197 |
| | | 80.975 | 77.375 | 3.600* | 1.197 |
| Adjusted Post-test Mean for Back Strength | | | | | |
| 68.952 | 65.985 | | | 2.967* | 1.069 |
| 68.952 | | 66.858 | | 2.094* | 1.069 |
| 68.952 | | | 92.871 | 6.081* | 1.069 |
| | 65.985 | 66.858 | | 0.873 | 1.069 |
| | 65.985 | | 92.871 | 3.114* | 1.069 |
| | | 66.858 | 92.871 | 3.987* | 1.069 |

* Significant at 0.05 level of confidence.

| Adjusted Post-test Mean for Tidal volume | | | | | |
|---|--------------|--------------|------------|------------|------------|
| S.T.G | E.T.G | C.T.G | C.G | M.D | C.I |
| 0.474 | 0.498 | | | 0.024* | 0.012 |
| 0.474 | | 0.485 | | 0.015* | 0.012 |
| 0.474 | | | 0.439 | 0.035* | 0.012 |
| | 0.498 | 0.485 | | 0.013* | 0.012 |
| | 0.498 | | 0.439 | 0.059* | 0.012 |
| | | 0.485 | 0.439 | 0.046* | 0.012 |

* Significant at 0.05 level of confidence.

Results

Table – 1 demonstrates that there was a critical contrast among quality preparing gathering, intense exercise gathering, blend preparing gathering and control bunch on leg quality, back quality and tidal volume. Table – 2 demonstrates that the Scheffé S Test for the distinction between balanced post-test mean on leg quality of quality preparing gathering and intense exercise gatherings (3.284), quality preparing gathering and joined preparing gathering (2.626), quality preparing gathering and control gathering (6.225), aerobic exercise gathering and control gathering (2.941) and consolidated preparing gathering and control gathering (3.60), which were critical at .05 level of certainty. Be that as it may, there was no critical distinction between intense exercise gathering and consolidated preparing gathering (0.658) on leg quality after the preparation program.

Table – 2 additionally demonstrates that the Scheffé S Test for the distinction between balanced post-test mean contrast in back quality between quality preparing gathering and continuance gathering (2.967), quality preparing gathering and consolidated preparing gathering (2.094), quality preparing gathering and control gathering (6.081), intense exercise gathering and control gathering (3.114) joined preparing gathering and control gathering (3.987) were critical at .05 level of certainty. Be that as it may, there was no huge distinction between intense exercise gathering and consolidated preparing gatherings (0.873) on back quality after the preparation program.

Table – 2 demonstrates that the Scheffé S Test for the contrast between balanced post-test mean distinction in tidal volume between quality preparing gathering and perseverance gathering (0.024), quality preparing gathering and joined preparing gathering (0.015), quality preparing

gathering and control gathering (0.035), aerobic exercise gathering and consolidated preparing gathering (0.013), intense exercise gathering and control gathering (0.059) joined preparing gathering and control gathering (0.046) were critical at .05 level of certainty.

Conclusions

1. It was closed from the aftereffects of the examination that the leg and back quality and tidal volume have enhanced altogether after the separate preparing programs.
2. When contrasted and the control gathering, the whole preparing bunch has essentially contrasted in all the basis factors.
3. It was additionally inferred that the quality preparing bunch has enhanced their leg and back quality better (Tiana Weiss, et. al (2010), Spanos et al, (2007)) than the aerobic exercise gathering and joined preparing bunch altogether. The aerobic exercise gathering and joined preparing bunch have likewise enhanced their execution altogether and there was no huge contrast was found on leg quality and back quality between intense exercise gathering and consolidated preparing gathering.
4. There was additionally noteworthy change in tidal volume for the quality preparing gathering, intense exercise gathering and consolidated preparing bunch when contrasted and the control gathering and all the rest of the preparation bunches have enhanced tidal volume altogether. There was no huge distinction was found between the preparation bunches in tidal volume.

References

1. Aweto, H.A., Owoye, O.B., Akinbo, S.R., and Onabajo, A.A. (2012). "Effects of Dance Movement Therapy on Selected Cardiovascular Parameters and Estimated Maximum Oxygen Consumption in Hypertensive Patients." Nigerian Quarterly Journal of Hospital Medicine. Apr-Jun:22(2):125-9.
2. Jonson Barry.L and Nelson Jack. K. (1988). Practical Measurement for Evaluation in Physical Education. Third Edn. Surgeethpublicaltions.
3. Koutedakis, Y., Hukam, H., Metsios, G., Nevill, A., Giakas, G., Jamurtas, A., and Myszkewycz, L. (2007). "The Effects of Three Months of Aerobic and Strength Training on Selected Performance- and Fitness-Related Parameters in Modern Dance Students." Journal of Strength and Conditioning Research. Aug:21(3):808-12.
4. Dr S Suthakar, Dr Sundar Raj Urs DP Shivakumar, 2016, Effect of Selected Yogic Exercises on Cardiovascular Endurance and Lung Capacity of Secondary School Children, IJESC, 6, 6 PP. 7286-7289.
5. Dr S Suthakar, Dr Sundar Raj Urs DP Shivakumar, 2016, Effect of selected yogic exercises on selected physiological variable of secondary school children., International Journal of Physical Education, Sports and Health, 4-114.
6. S.Suthakar and Dr.A.Pushparajan, Effects of Silambam and Karate with Yogic Training on Agility and Arm Explosive Power of Collegiate Male Students., International Journal of Innovative Research and Development|| ISSN 2278-0211
7. R.Ashok kumar Dr.S.Suthakar, K.M.Ashokkumar, 2016. An Effective Approach through Strength, Endurance and Skill Training Program Combinations on Muscular Strength and Endurance and Explosive Power of Male Basketball Players., International Journal of Innovative Research and Development., 5,4,218-220.
8. R. Ashok Kumar K. Babu , S. Suthakar, 2016. Effects of Volleyball Specific Resistance Training and Skill Training Packages on the Development of Leg Explosive Power and Speed on the Higher Secondary Level School Boys,2016/3, international journal of innovative research and development, 5, 4,231-235.
9. Dr.S.Suthakar Venkata chalapathi G, 2016. Analysis of physical growth on specific fitness training among tribal and non-tribal school boys, 2016/10/27, International Journal of Physical Education, Sports and Health3,6, 137-142.
10. Satheesh B. and Dr.S. Suthakar. 2016.A Study on the selected motor fitness variables among the bicycle beneficiaries and non beneficiaries of the secondary school children, 2016/10, Indian Streams Research Journal6,9,1-4.
11. M Sankar, S Suthakar, 2016. Influence Of Isolated And Combined Circuit And Fartlek Trainings On Selected Endurance Parameters Among College Men Students, 2016/9/15, International Education and Research Journal, 2,9.
12. Satheesh B and Dr.S. Suthakar, 2016. Comparative study of the psychological well-being and self-confidence between the bicycle beneficiaries and non beneficiaries of the secondary school children,2016/8/27, International Journal of Physical Education, Sports and Health, 3,5, 495-497.
13. Dr.S.Suthakar M. Sankar, 2016. Influence of the Isolated and Combined Circuit and Fartlek Trainings on the Selected Strength Parameters among the College Men Students, 2016/8, International Journal of Recent Research and Applied Studies, 3, 8(16), 70-74.

14. Dr. S. Suthakar, Nayak Darshana Habbu, 2016. Effects of the Combination of Plyometric and Specific Training with Skill Training in the Development of Anaerobic Capacity, Leg Explosive Power and Over All Playing Ability of the Volleyball Players, 2016/8, International Journal of Recent Research and Applied Studies, 3, 8(19), 83-87.
15. Dr. S. Suthakar Muniraju M. G, 2016. Effects of the Short Term Resistance and Regular Resistance Training in the Development of Lower Body Strength, Leg Explosive Power and Shooting Ability on the Male Basketball Players, International Journal of Recent Research and Applied Studies, 3, 8,(12), 51-54.
16. Dr.S.Suthakar Muniraju, M. G, 2016. Effects of the Short Term Resistance and Regular Resistance Training in the Development of Muscular Strength Endurance, Upper Body Strength and Passing Ability of the Male Basketball Players, 2016/8, International Journal of Recent Research and Applied Studies, 3,8,(13),55-59.
17. Dr.S.Suthakar Nayak Darshana Habbu, 2016. Effect of Combination of Plyometric and Skill Training in the Development of Speed, Muscular Strength Endurance and Serving Ability among the Volleyball Players,2016/8, International Journal of Recent Research and Applied Studies, 3,8,(7),25-29.