



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2016; 2(5): 891-892
www.allresearchjournal.com
Received: 25-03-2016
Accepted: 28-05-2016

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Effects of 12 weeks of concurrent training on back strength and Cardio-Respiratory Endurance

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Abstract

Concurrent strength and endurance training is the two different types of training such as strength and endurance given in single training session. Concurrent strength and endurance training is undertaken by numerous athletes in various sports in an effort to achieve adaptations specific to both forms of training. The purpose of the study was to investigate the effects of 12 weeks of concurrent strength and endurance training on back strength and cardio-respiratory endurance among students of Department of physical education and sports sciences, Annamalai University, age group between eighteen to twenty three.

Keywords: Concurrent Training, Back Strength and Cardio Respiratory Endurance.

Introduction

- The sequential exercise regime is referred to as 'concurrent training'. Different types of training carried out during the same training session or within a few hours of one another.
- Concurrent strength and endurance training is the two different types of training such as strength and endurance given in single training session.
- Concurrent strength and endurance training is undertaken by numerous athletes in various sports in an effort to achieve adaptations specific to both forms of training.

Statement of the problem

- The purpose of the study was to investigate the effects of 12 weeks of concurrent strength and endurance training on back strength and cardio-respiratory endurance among students of Department of physical education and sports sciences, Annamalai University, age group between eighteen to twenty three.

Methodology

- 40 men students selected from Department of physical education and sports sciences of Annamalai University.
- They were divided into two equal groups that is experimental and control group in each group consist of 20 subjects.
- The experimental group undergone concurrent strength and endurance training but control group did not undergone any special training.

Variables and Tests

- Back strength – Back lift Dynamometer test
- Cardio-respiratory endurance – Cooper's 12 minutes' walk/run test

Statistical procedure

- The experimental design was random group design.
- The one way analysis of covariance (ANCOVA) used as statistical tool.

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Results and discussion

RESULTS

Table I

| Test | CFC Group | Con Group | | S S | Df | Ms | F |
|--------------------|-----------|-----------|---|---------|----|---------|---------|
| Pre Mean | 83.3 | 82.4 | B | 0.9 | 1 | 0.9 | |
| SD | 1.26074 | 1.46539 | W | 175 | 38 | 4.60526 | 0.19543 |
| Post Mean | 84.55 | 82.7 | B | 15.625 | 1 | 15.625 | |
| SD | 1.53811 | 2.65766 | W | 75.15 | 38 | 1.97763 | 7.90087 |
| Adjusted Post Mean | 82.85 | 83.625 | B | 15.3368 | 1 | 15.3368 | |
| | | | W | 75.0128 | 37 | 2.02737 | 7.56488 |

Table II

| Test | CFC Group | Con Group | | S S | Df | Ms | F |
|--------------------|-----------|-----------|---|---------|----|---------|---------|
| Pre Mean | 49.8308 | 50.77818 | B | 24.7905 | 1 | 24.7905 | |
| SD | 1.88446 | 2.523118 | W | 245.906 | 38 | 6.47122 | 3.83089 |
| Post Mean | 54.3332 | 49.20368 | B | 202.716 | 1 | 202.716 | |
| SD | 2.09766 | 2.564432 | W | 151.076 | 38 | 3.97569 | 50.9890 |
| Adjusted Post Mean | 50.3045 | 51.76844 | B | 230.369 | 1 | 230.369 | |
| | | | W | 122.855 | 37 | 3.32040 | 69.3799 |

- The adjusted post test showed that there was statistical significance difference between control and experimental scores of Back lift Dynamometer test.
- The adjusted post test showed that there was statistical significance difference between control and experimental scores of Cooper's 12 minutes' walk/run test.
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Conclusion

- The findings of this study indicated that the effects 12 weeks of concurrent training significantly improved the Back strength and Cardio-respiratory endurance when compared with control group.

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