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APPENDICES – IV

RESEARCH PAPER,
PHOTOS
AND
SEMINAR CERTIFICATE

(Page No. 121 to 135)
INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS

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EFFECT OF WEIGHT TRAINING AND CIRCUIT TRAINING ON EXPLOSIVE POWER OF COLLEGE MALE BASKETBALL PLAYERS

Amit D Patel
Research Scholar
S.G.S.U., Gandhinagar

Dr. Makarand S. Joshi
MSM College of Physical Education,
Aurangabad

Abstract:
The main objective of this study was to find out the Effect of Weight Training and Circuit Training on Explosive Power of college male basketball players. To achieve the purpose of the study, sixty male Basketball Players were randomly selected as subjects from Veer Narmad South Gujarat University Surat Affiliated College Students. The age of the subjects were ranged between 18 to 25 years. The study was formulated as pre and post-test random group design, in which sixty subjects were divided into three equal groups. Experimental Group-I (N=20; CT Group) performed the Circuit training Group. The Experimental Group-II (N=20, WT group) performed Weight Training program. Control group (N=20; CG) did not undergo any specific training programmed but there practiced the regular game. The analysis of covariance was used to analyze the significant difference, if any among the groups. Three groups were compared, whenever they obtained ‘F’ ratio for adjusted post-test was found to be significant, the Scheffe’s test to find out the paired mean differences, if any. The 0.05 level of confidence was fixed as the level of significance to test the ‘F’ ratio obtained by the analysis of covariance, which was considered as an appropriate. The result of the study indicates due to training on Explosive Power has been improved significantly.

Keywords: Weight Training; Circuit training, Explosive Power & ANACOVA.

Introduction:
The Weight Training has two primary functions in a workout program: instability and support. Instability during an exercise forces you to engage your core muscles to maintain your balance, making the exercise more difficult. Training the core with instability helps develop a strong support system for your legs and back, which prevents injuries and helps you get the most out of your exercise routine. The Training can also be used to support your back as you work on developing core stability. For instance, you can place the ball against the wall and lean your back against it as you do a squat. To add lower back support to an abdominal crunch, sit on the ball, walk your feet out in front of you until you are lying back on the ball with a neutral spine, and do crunches from there. Rutherford and Jones (1986) suggested that adaptations from Resistance training resulted in better coordination of synergistic and stabilizer muscles. Behm (2002) and colleagues reported the effect of unstable conditions, as induced by sitting on Swiss ball on force production of the knee extensors. Robert examined the effect of Swiss ball exercises on core stability and stated that there is an improvement in core strength among the subjects.

Objective of the Study:
The main objective of this study was to find out the purpose of the study will be to find out the effect of weight training and circuit training on Explosive Power of college male basketball players.

To analyses to compare the superiority between weight training and circuit training on male basketball
Effect of weight training on college male basketball players.
To prepare appropriate circuit training program at basketball players.

Methodology:
Selection of Subjects:
Sixty male Basketball players were selected from area of Affiliated colleges of Veer Narmad south Gujarat university, Surat who have represented at inter collegiate tournament Twice were randomly selected as subjects for the study. This experimental study was administered to only two experimental groups and one control group of 20 subjects each. The age of subjects ranged from 18 to 25 years only.

Experimental Design:
This experimental study was administered to only two experimental groups and one control group of 20 subjects each. For this purpose Group I underwent Circuit training, Group II underwent Weight training and Group III acted as control group.

EXPERIMENTAL GROUP - 1 –(Circuit Training Group)
The Exercises as Follows
Training Period is 6 Week, Duration In Between 20 To 25 Sec. Intensity – 60% To 90%, Rest Time 2 Min To 6 Min.

EXPERIMENTAL GROUP – 2 (Weight Training Group)

<table>
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<th>TABLE - 1</th>
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<td>COMPUTATION OF ANALYSIS OF COVARIANCE OF PRE-TEST, POST-TEST AND ADJUSTED POST-TEST ON EXPLOSIVE POWER OF EXPERIMENTAL GROUP I, EXPERIMENTAL GROUP II AND CONTROL GROUP (Scores in Meters)</td>
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<tr>
<td>Post Test Mean</td>
</tr>
<tr>
<td>Adjusted Post Test Mean</td>
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</table>

*Significance at .05 level of confidence
RESULTS OF EXPLOSIVE POWER

Table 1 shows the analysis data on explosive power. The pre-test means of Leg explosive powered were 1.87 for experimental groups I, 1.87 for experimental groups II and 1.87 for control group. The obtain “F” ratio of 0.31 was lesser than the table F-ratio 3.16. Hence the pre-test was not significant at 0.05 level of confidence for the degree of freedom 2 and 57.

The post test mean of explosive power were 1.90 for experimental group I, 1.93 for experimental group II, 1.87 for control group. The obtained “F” ratio of 28.74 was higher than the table F-ratio 3.16. Hence the post test was significant at 0.05 level of confidence for the degree of freedom 2 and 57.

The adjusted post –test mean of explosive power were 1.90 for experimental group I, 1.93 for experimental group II, 1.87 for control group. The obtained “F” ratio of 93.95 was higher than the table F-ratio 3.16. Hence the post –test was significant at 0.05 level of confidence for the degree of freedom 2 and 56.

Since, three groups were compared, whenever the obtain “F”-ratio for adjusted post test was found to be significant, the Scheffe’s test to find out the paired mean difference and it was presented in Table 1

TABLE 1.2
Ordered Scheffe’S Post Hocktest Mean Differences on Explosive Power Among Three Groups (Scores in Meters)

<table>
<thead>
<tr>
<th>Experimental Group I</th>
<th>Experimental Group II</th>
<th>Control Group</th>
<th>Mean Difference</th>
<th>Confidence Interval Value</th>
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<tr>
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<td>-</td>
<td>1.87</td>
<td>0.06</td>
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<tr>
<td>-</td>
<td>1.93</td>
<td>1.87</td>
<td>0.03</td>
<td>0.006</td>
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</tbody>
</table>

Table 1.2 shows the Scheffe’s post –hoc test result. The ordered adjusted final mean difference for explosive power of experimental groups I,II and control group were tested for significant at 0.05 level of confidence against confidential interval value.

The mean difference between experimental group I and experimental group II 0.03, experimental group I and control group 0.06, experimental group II and Control group 0.03 were respectively and it was seen to be greater than the confidential interval value of 0.006. Hence the above comparisons were significant.

The mean value of explosive power are shown graphically in 1.3
Explosive power

The experimental groups Circuit training and Weight training showed significant increase in the explosive power: 1.90 and 1.93 respectively from pre to post training.

The Weight Training group was found significantly better than (f < .05) the Circuit Training group and Control Group. Circuit Training group was better than the Control group in increasing the explosive power as measured by standing broad jump. Therefore weight training is better to improve the explosive power among the Basketball players.

Conclusion:

1. Weight training group produced a significant improvement in explosive Power better than the Circuit training group.

2. Explosive power was favored to weight training group greater than circuit training and control group of college male basketball players

References


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THE EFFECT OF RESISTANCE TRAINING AND CIRCUIT TRAINING ON VITAL CAPACITY AMONG COLLEGEREMALE BASKETBALL PLAYERS

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*Research Scholar, SGSU, Gandhinagar (G.J)-INDIA. **MSM, College of Physical Education, Aurangabad (M.S)-INDIA.

E. Mail: patelamit@gmail.com

Abstract:

The main objective of this study was to find out the Effect of Weight Training and Circuit Training on vital capacity of college male basketball players. To achieve the purpose of the study, sixty male Basketball Players were randomly selected as subjects from Veer Narmad South Gujarat University Surat Affiliated College Students. The age of the subjects were ranged between 18 to 25 years. The study was formulated as pre and post test random group design, in which sixty subjects were divided into three equal groups. Experimental Group-I (N=20, CT Group) performed the Circuit training Group. The Experimental Group-II (N=20, WT group) performed Weight Training program. Control group (N=20; CG) did not undergo any specific training programmed but there practiced the regular game. The analysis of covariance was used to analyze the significant difference, if any among the groups. Three groups were compared, whenever they obtained ‘F’ ratio for adjusted post test was found to be significant, the Schéffe’s test to find out the paired mean differences, if any. The 0.05 level of confidence was fixed as the level of significance to test the ‘F’ ratio obtained by the analysis of covariance, which was considered as an appropriate. The result of the study indicates due to training on vital capacity has been improved significantly.

Keywords: Weight Training; Circuit training, Vital Capacity & ANACOVA.

Introduction:

The Weight Training has two primary functions in a workout program: instability and support. Instability during an exercise forces you to engage your core muscles to maintain your balance, making the exercise more difficult. Training the core with instability helps develop a strong support system for your legs and back, which prevents injuries and helps you get the most out of your exercise routine. The Training can also be used to support your back as you work on developing core stability. For instance, you can place the ball against the wall and lean your back against it as you do a squat. To add lower back support to an abdominal crunch, sit on the ball, walk your feet out in front of you until you are lying back on the ball with a neutral spine, and do crunches from there. Rutherford and Jones (1986) suggested that adaptations from Resistance training resulted in better coordination of synergistic and stabilizer muscles. Behm (2002) and colleagues reported the effect of unstable conditions, as induced by sitting on Swiss ball on force production of the knee extenders. Robert examined the effect of Swiss ball exercises on core stability and stated that there is a improvement in core strength among the subjects.

Objective of the Study:

The main objective of this study was to find out the purpose of the study will be to find out the effect of weight training and circuit training on vital capacity of college male basketball players. To analyses to compare the superiority between weight training and circuit training on male basketball players. Effect of weight training on college male basketball players. To prepare appropriate circuit training program at basketball players.

Methodology:

Selection of Subjects: Sixty male Basketball players were selected from area of Affiliated colleges of Veer Narmad south Gujarat university, Surat who have represented at inter collegiate tournament Twice were randomly selected as subjects for the study. This experimental study was administered to only two experimental groups and one control group of 20 subjects each. The age of subjects ranged from 18 to 25 years only.

Experimental Design: This experimental study was administered to only two experimental groups and one control group of 20 subjects each. For this purpose Group I underwent Circuit training, Group II underwent Weight training and Group III acted as control group. Training in three alternative days for Six weeks.
Training Programs

Experimental group -1

Circuit Training – The Exercise as follows.
1- Patterstep 2- pivoting lateral clip 3- vertical jump 4- Zig Zag dribble 5- lay upshot with right hand 6. Lay up shot with centre side 7. Lay up shot with left hand 8. Vertical jump 9. Side to side Running 7- forward sprint
Training period is 6 week, Duration in between 20 to 45 sec, Intensity – 60% to 90%, Rest time -2 min to 6 min.

Experimental group -2

Weight training - 1 – Pac fly, 2 – Bench press, 3 - Ab Crunches, 4- Squat, 5 – Dynamic Lunges, 6- Leg Standing calf rise.

Statistical Analysis and Interpretations of the Data:

Table No: I

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<th>Test</th>
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<th>Control Group</th>
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<th>Obtain F ratio</th>
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<td>0.13</td>
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*Significance at .05 level of confidence

(The table values required for significance at .05 level of confidence for 2 and 42 and 2 and 41 are 3.22 and 3.23 respectively).

Results of Vital Capacity:

Table no. I show the analysis data on Vital capacity. The pre-test means of Vital capacity were 2.02 for experimental groups I, 2.06 for experimental groups II, and 2.45 for control group. The obtain “F” ratio of 2.26 was lesser than the table F-ratio 3.22. Hence the pre-test was not significant at 0.05 level of confidence for the degree of freedom 2 and 42.

The post –test mean of Vital capacity were 2.26 for experimental group I, 2.94 for experimental group II, 2.44 for control group. The obtained “F” ratio of 8.66 was higher than the table F-ratio 3.22. Hence the post-test was significant at 0.05 level of confidence for the degree of freedom 2 and 42.

The adjusted post –test mean of Vital capacity were 2.41 for experimental group I, 3.04 for experimental group II, 2.18 for control group. The obtained “F” ratio of 45.76 was higher than the table F-ratio 3.23. Hence the post –test was significant at 0.05 level of confidence for the degree of freedom 2 and 41.

Since, three groups were compared, whenever the obtain “F”-ratio for adjusted post test was found to be significant ,the Scheffé’s test to find out the paired mean difference and it was presented in Table VI (a).

Table No: II

Ordered Scheffe’s Post Hock test Mean Differences
On Vital Capacity among Three Groups
(Scores in lit.min⁻¹)

<table>
<thead>
<tr>
<th>Experimental Group I</th>
<th>Experimental Group II</th>
<th>Control Group</th>
<th>Mean Difference</th>
<th>Confidence Interval Value</th>
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<td>2.18</td>
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<tr>
<td>-</td>
<td>3.04</td>
<td>2.18</td>
<td>0.87</td>
<td>0.23</td>
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</table>

*Significance at .05 level of confidence.

‘Curiosity is the best Quality of a Good Researcher’
Table 1.6.1 shows the Scheffe’s post-hoc test result. The ordered adjusted final mean difference for Vital capacity of experimental groups I, II and control group were tested for significant at 0.05 level of confidence against confidential interval value.

The mean difference between experimental group I and experimental group II 0.63, experimental group I and control group 0.24, experimental group II and Control group were 0.87 respectively and it was seen to be greater than the confidential interval value of 0.23 Hence the above comparisons were significant.

The mean value of Vital capacity are shown graphically: I

Vital Capacity:

The experimental groups Circuit training and Weight training showed significant increase in the vital capacity: 2.41 and 3.04 respectively from pre to post training. The Circuit Training group was found significantly better than (f<.05) the Weight Training group and Control Group .Weight Training group was better than the Control group in increasing the vital capacity rate as measured by Digital Dry Spirometer therefore circuit training is more better to improve vital capacity among the basketball players.

Conclusion:

The Weight training and Circuit training has produced significant improvement on performance variables Vital Capacity greater than control group of college male Basketball players.

Vital capacity was favoured to Circuit training greater than Weight training and control group of college male Basketball players.

References:


Participation Certificate

Certified that Prof. Amit D. Patel of Research Scholar, SGSU, Gandhinagar Participated in the National Seminar organized by Gujarat State Universities & Colleges Physical Education Teachers’ Association & M. K. College of Commerce, Bharuch, during April 1st and 2nd 2016. He / She also Presented a Paper entitled The Effect Of Resistance Training And Circuit Training On Selected Physical And Physiological Variables Among College Male Basketball Players

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Organized
One Day National Level Seminar
Under
Internal Quality Assurance Cell (IQAC)
On
A Global Perspective of Physical Education and Sports

Certificate

This is to certify that Amit Patel of Swarnim Gujarat Sports University, Gandhinagar, has actively participated as a Research Scholar in One Day National Level Seminar in the Subject of Physical Education organized on 4th March, 2018. He has presented a paper on Effect Of Weight Training And Circuit Training On Selected Physical And Physiological Variable Of College Basketball Players, under the subject theme of A Global Perspective of Physical Education and Sports.

Dr. Ashish K. Desai
Co-ordinator

Dr. Jagmohan J. Desai
Principal

Shri Suvibhai N. Patel
President

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7th and 8th October, 2016
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Jointly Organised by
Global Economist Forum
Global Sports Federation
and
The Maharastra Sayaji Rao University of Baroda, Vadodara, Gujarat, India

Certificate of Participation

This is to certify that Dr. / Mrs. / Ms. [Name], has attended the World Economic and Sports Conference 2016 in Economics / Sports jointly conducted by Department of Business Economics, Faculty of Commerce and Department of Physical Education.

Har she has also presented a paper titled
"Effect of Weight Training and Circuit Training On Selected Physical and Physiological Variables of College Basketball Players"

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President
Global Economist Forum

Dr. Dinkar Nayak
Conference Director
WeSC-2016

Dr. M. R. Pankhade
Conference Director
WeSC-2016

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PUBLISHED Ph.D THESIS

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http://en.wikipedia.org/wiki/Weight_Training
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**Amit D. Patel**
DECLARATION

I declare that the research work incorporated in the present thesis entitled “Effect of weight training and circuit training on selected physical and physiological variable of college basketball players” is a record of independent work carried out by me under the supervision and guidance of Dr. Makarand S. Joshi. This work has not been submitted to any other University / Institution for the degree of Doctor of Philosophy in Physical Education. I have properly acknowledged the material collected from secondary sources wherever required. I solely own the responsibility for the originality of the entire content.

Date: [Signature of Research Scholar]

Name: Amitkumar Dhansukhbhai Patel

Enrollment No: 0010537
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