

ANALYSIS OF PHYSICAL FITNESS REGIMEN AMONG THE ATHLETES AND NON-ATHLETES OF BANGALORE- AN EXPERIMENTAL STUDY

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ABSTRACT:

Physical Fitness plays a key role in enhancing the performance of an individual. Physical Fitness depends on the activity which an individual regularly practices. Different games require different physical fitness. Today many people suffer from diabetes and heart diseases; these are caused due to in active or sedentary life style. Regular physical fitness programme reduces coronary heart diseases and diabetes. Regular Physical activity enhances and maintains the muscular strength, muscular endurance and flexibility. The Purpose of the study is to identify how the regular physical activity enhances the physical fitness among athletes and non-athletes. For the study 300 subjects, from that 150 are taken act as a Sports Persons (athletes) group and 150 act as a Non-Sports Persons group (Non- athletes). Statistical Techniques like Mean, Standard Deviation, T-test and Level of Significance at 0.05 are used for the study.

KEYWORDS: - Physical Fitness, Athletes and Non- Athletes.

INTRODUCTION:

Physical Fitness is the most important components to tone the human body for good looking, feeling good and to live long. Now a day's Obesity, Over Weight, Diabetes and Cardiac Arrest are one of the major problems in the country. To avoid these problems to the younger generation physical fitness is most important. If the younger generation involve

in the physical activity with the combination of proper nutrition they can avoid most of the physical problems.

The Health Benefits of Physical Activity or Physical Fitness is very high and it increases the efficiency of heart and lung capacity, reduces cholesterol levels, increases muscle strength and reduces blood pressure.

There are psychological benefits, if a person involves in the regular physical activity improves the quality of sleep, Increases the mental sharpness, improves the ability to cope with stress.

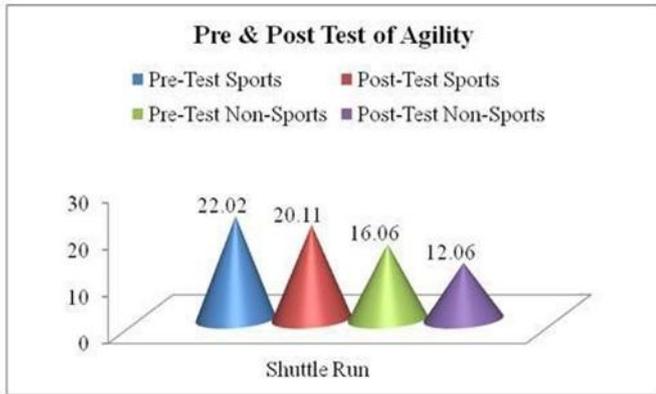
METHODOLOGY:

This study was designed to compare the Level of Physical Fitness among the athletes and non- athletes. To achieve this purpose over all 300 students were selected from the secondary school boys in that, 150 athletes and 150 Non- athletes from different sports and games from CBSE Board, State Board and ICSE Board were randomly picked as subjects. Both the groups were given regular physical activity for five days a week and one hour every day. Athletes were taken as an observation group and Non-Athletes were taken as an experimental group. The groups were tested with the help of AAHPER youth physical fitness test. The Subjects were tested below mentioned tests. Statics are used t-test to find 0.05 significant levels.

| Sl. No. | Variables | Test | Unit |
|---------|------------------------------|---------------------|-------------------|
| 1 | Abdominal Muscular Endurance | Sit-Up | Numbers |
| 2 | Speed | 50 mts dash | Seconds |
| 3 | Explosive Power Leg | Standing Broad Jump | Meter |
| 4 | Respiratory Endurance | 800mts Walk/Run | Minutes / Seconds |
| 5 | Agility | Shuttle Run | Seconds |
| 6 | Flexibility | Sit and Reach | Meter |
| 7 | Strength | Pull-Ups | Numbers |

Chart 1.

Agility (Shuttle Run).



| | | Group | N | Mean | Standard Deviation | t-test | Significant Level |
|--------------------|-----------|-------|-----|-------|--------------------|--------|-------------------|
| Sports Persons | Pre-Test | A | 150 | 22.02 | 106.6 | 1.647 | ** |
| | Post-test | A | 150 | 20.11 | 103.11 | | |
| Non-Sports Persons | Pre-Test | B | 150 | 16.06 | 1.03 | 1.147 | NS |
| | Post-test | B | 150 | 12.06 | 1.95 | | |

**=0.05, NS=No Significance (critical value = 1.645)

From Table- 1

It is observed from the above table that the sports persons group's the agility mean score of the pre- test is 22.02, which has decreased to 20.11 in the post-test, where among the non-sports person, the pre-test mean is 16.06 and post-test mean score of agility is 12.06 respectively.

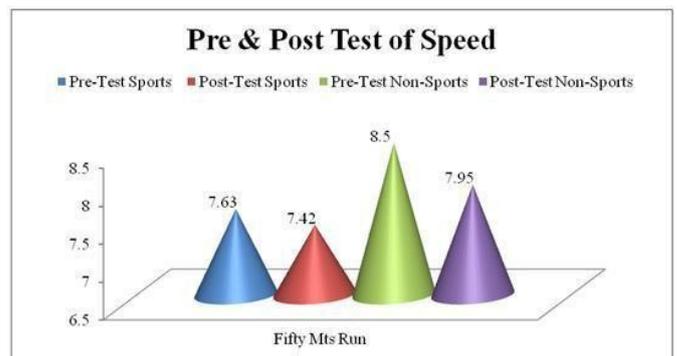
It is also evident from the above table that the obtained t-value 1.645 is greater than the critical value 1.645 even at 0.05 level of significance in the sports persons group and t-value of non-sports person is 1.14 is less than the critical value 1.645 at 0.05 level of significant.

DISCUSSION ON AGILITY:

The study shows that there is a significant improvement in the Agility Performance of Sports Persons and there was no significant improvement in the Non- Sports Persons. It may be because of very less duration for agility training.

Chart 2

Speed (50 mts Dash).



| | Test | Group | N | Mean | Standard Deviation | t-test | Significant Level |
|--------------------|-----------|-------|-----|------|--------------------|--------|-------------------|
| Sports Persons | Pre-Test | A | 150 | 7.63 | 0.24 | 1.99 | ** |
| | Post-test | A | 150 | 7.42 | 0.23 | | |
| Non-Sports Persons | Pre-Test | B | 150 | 8.50 | 0.35 | 3.81 | ** |
| | Post-test | B | 150 | 7.95 | 0.32 | | |

**=0.05, NS=No Significance ,(critical value = 1.645)

From Table- 2

It is observed from the above table that sports persons group’s **speed** mean score of pre-test is **7.63**, which has decreased to **7.42** in post-test, where among the non-sports person the pretest mean is 8.50 and post-test mean score of **speed** is 7.95 respectively.

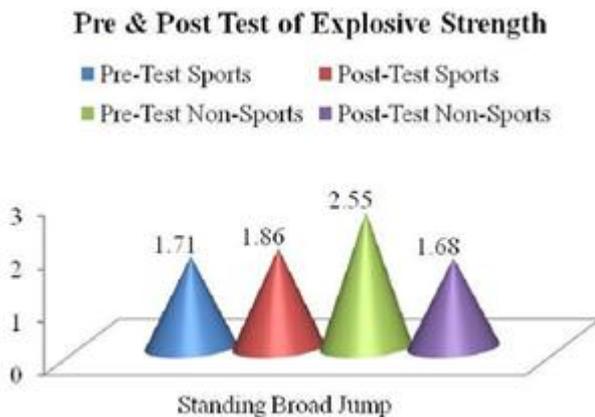
It is also evident from the above table that the obtained t- value 1.99 is greater than the critical value 1.645 even at 0.05 level of significance in sports person and t- value of non-sports person is 3.81 is greater than the critical value 1.645 at 0.05 level of significant.

Discussion on speed:

The study shows that there is a Significant Improvement in the speed performance of Sports Persons and Non- Sports Persons. It may be due to the regular speed training, stretching and genetic factor of sports person.

CHART 3:

EXPLOSIVE STRENGTH (STANDING BROAD JUMP).



| | Group | N | Mean | Standard Deviation | t-test | Significant Level |
|--------------------|-------------|-----|------|--------------------|--------|-------------------|
| Sports Persons | Pre-Test A | 150 | 1.71 | 0.22 | 2.456 | ** |
| | Post-test A | 150 | 1.86 | 0.37 | | |
| Non-Sports Persons | Pre-Test B | 150 | 2.55 | 0.20 | 0.6737 | NS |
| | Post-test B | 150 | 1.68 | 0.21 | | |

**=0.05, NS=No Significance,(critical value=1.645)

From Table- 3

It is observed from the above table that the sports persons group’s explosive strength mean score of the pre-test is 1.71, which has decreased to 1.86 in post-test, where among non-sports person the pretest mean is 2.55 and post-test mean score of agility is 1.68 respectively.

It is also evident from the above table that the obtained t-value 2.456 is greater than the critical value 1.64 even at 0.05 level of significance in the sports person and t- value of non-sports person is 0.67 is less than the critical value 1.64 at 0.05 level of significant.

DISCUSSION ON STANDING BROAD JUMP:

The study shows that there is a significant improvement in the explosive strength performance of Sports Persons and there is no significant improvement in Non-Sports Persons.

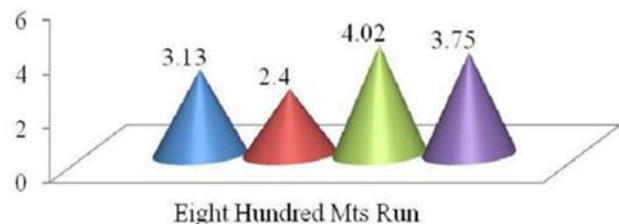
It may be because of irregular explosive strength training.

CHART 4:

RESPIRATORY ENDURANCE (800MTS WALK/RUN)

Pre & Post Test of Endurance Training

■ Pre-Test Sports ■ Post-Test Sports
 ■ Pre-Test Non-Sports ■ Post-Test Non-Sports



| | Test | Group | N | Mean | Standard Deviation | t-test | Significant Level |
|--------------------|-------------|-------|-----|------|--------------------|--------|-------------------|
| Sports Persons | Pre-Test A | A | 150 | 7.63 | 0.24 | 1.99 | ** |
| | Post-test A | A | 150 | 7.42 | 0.23 | | |
| Non-Sports Persons | Pre-Test B | B | 150 | 8.50 | 0.35 | 3.81 | ** |
| | Post-test B | B | 150 | 7.95 | 0.32 | | |

** = Significant 0.5, (critical value=1.645)

From Table- 4

It is observed from the above table that sports persons group’s Endurance Training mean score of pre-test is 3.13, which has decreased to 2.40 in post-test, where among non-sports person the pre-test mean is 4.02 and post-test mean score of agility is 3.75 respectively.

It is also evident from the above table that the obtained t-value 3.64 is greater than the critical value 1.64 even at 0.05 level of significance in sports person and t- value of non-

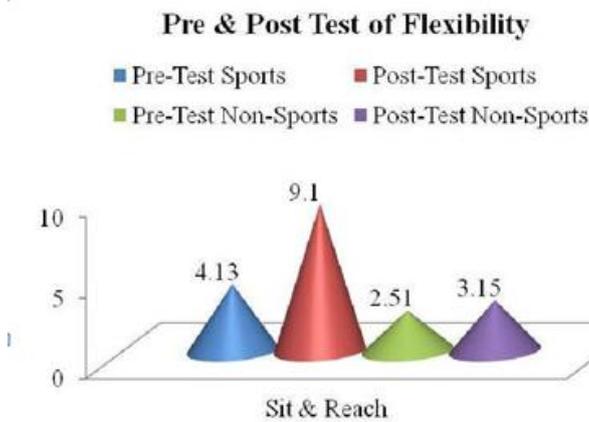
sports person is 1.67 is more than the critical value 1.64 at 0.05 level of significant.

DISCUSSION ON 800MTS WALK/RUN:

The study shows that there is a significant improvement in 800mts walk/run. It is due to the regular Physical Activity which would have strengthened the left vertical muscle. Hence there is a significant improvement in the Respiratory Endurance.

CHART 5

Flexibility



| | Group | N | Mean | Standard Deviation | t-test | Significant Level |
|--------------------|-------------|-----|------|--------------------|--------|-------------------|
| Sports Persons | Pre-Test A | 150 | 4.13 | 1.68 | 2.5187 | ** |
| | Post-test A | 150 | 9.10 | 1.90 | | |
| Non-Sports Persons | Pre-Test B | 150 | 2.51 | 1.09 | 3.758 | ** |
| | Post-test B | 150 | 3.15 | 1.14 | | |

**= Significant 0.05 (critical value=1.645)

From Table- 5

It is observed from the above table that sports persons group's Flexibility mean score of the pre-test is 4.13 which has increased to 9.10 in the post-test, where among the non-sports person the pre-test mean is 2.51 and post-test mean score of agility is 3.15 respectively.

It is also evident from the above table that the obtained t-value 2.5187 is greater than the critical value 1.645 even at 0.05 level of significance in sports person and t-value of non-sports person is 3.758 is less than the critical value 1.645 at 0.05 level of significant.

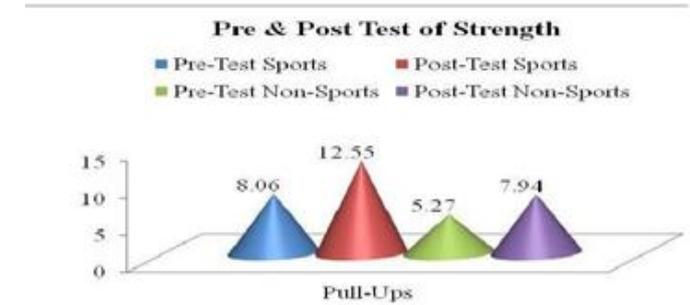
DISCUSSION ON FLEXIBILITY:

The study shows that there is a significant improvement in the Flexibility. It is due to the regular physical activity which

would have improved the range of motion. Hence there is a significant improvement in Flexibility.

CHART: 6

STRENGTH



| | Group | N | Mean | Standard Deviation | t-test | Significant Level |
|--------------------|-------------|-----|-------|--------------------|--------|-------------------|
| Sports Persons | Pre-Test A | 150 | 8.06 | 1.1 | 2.395 | ** |
| | Post-test A | 150 | 12.55 | 1.93 | | |
| Non-Sports Persons | Pre-Test B | 150 | 5.27 | 1.65 | 2.283 | ** |
| | Post-test B | 150 | 7.94 | 1.11 | | |

**=0.05

From Table - 6.

It is observed from the above table that sports persons group's strength mean score of the pre-test is 8.06, which has increased to 12.55 in post-test, where among the non-sports person the pre-test mean is 5.27 and post-test mean score of agility is 7.94 respectively.

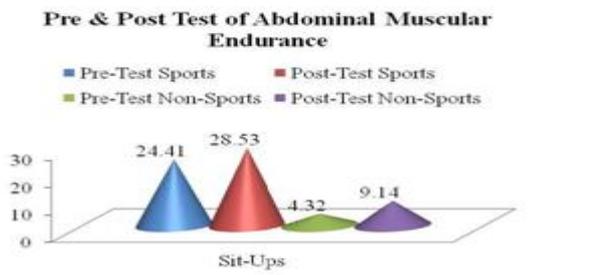
It is also evident from the above table that the obtained t-value 2.39 is greater than the critical value 1.64 even at 0.05 level of significance in sports person and t-value of non-sports person is 2.283 is less than the critical value 1.64 at 0.05 level of significant.

DISCUSSION ON STRENGTH:

The study shows that there is a significant improvement in strength. It is due to the repeated stretching after regular strength training, which has increased the strength of the upper extremity muscle. Hence there is a Significant Improvement in the Strength.

CHART: 7

ABDOMEN MUSCULAR ENDURANCE:



****=0.05, NS=No Significance**

From Table- 7.

It is observed from the above table that the sports persons group's the Abdominal Muscular Endurance mean score of the pre-test is 24.41, which has increased to 28.53 in the post-test, where among the non-sports person the pre-test mean is 4.32 and post-test mean score of agility is 9.14 respectively.

It is also evident from the above table that the obtained t-value 1.979 is greater than the critical value 1.645 even at level of significance in sports person and t-value of non-sports person is 0.789 is less than the critical value 1.645 at 0.05 level of significant.

DISCUSSION ON ABDOMINAL MUSCULAR ENDURANCE:

The study shows that there is significant improvement in Abdominal Muscular. It is due to the repeated core strengthening after regular Physical Activity which has increased the strength of core muscle group. Hence there is a significant improvement in the Abdominal Muscular Endurance.

CONCLUSION:

It was conclude that after twelve weeks of study the performance of the athlete and non- athlete has increased. The primary outcome of the study concludes that there is a significant improvement in both the athlete and non- athlete due to the regular physical activity.

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