INTERNATIONAL RESEARCH JOURNAL OF PHYSICAL EDUCATION AND SPORTS SCIENCES
ISSN: 2394 –7985 PEER REVIEWED ONLINE
VOLUME: II ISSUE: II FEBRUARY 2016

EFFECT OF SELECTED EXERCISES ON EXPLOSIVE STRENGTH, SPEED, ENDURANCE AND AGILITY OF MEDIUM FAST BOWLERS IN CRICKET

Kumar Praveen* **Navnit Ansi****

*Assistant Prof. Department of Physical Education, CCS University, Meerut (U.P)-INDIA.
**DPE, GDM Art Comm. & Science College Jamner, Jalgaon, (M.S)-INDIA.
E.Mail:praveenn008@gmail.com

Abstract:

The main objective of the Study was to find out the effect of selected exercises on Explosive Strength, Speed, Endurance and Agility of Medium Fast Bowler in Cricket. The researcher had selected 60 medium fast bowlers. Their fitness was tested by some selected exercises for Explosive Strength, Speed, Endurance and Agility. The scores were arranged in descending order. Ten (10) of high performance along with Ten (10) of low performance, were eliminated. It was done to select the subjects of an average standard. Remaining forty (40) was finally selected for the study, twenty subjects in each group. Initial or pre test was conducted before the start of the experiment and was conducted on both the groups "A" and "B". The analysis of the data revealed that the motor fitness of control and experimental group significantly differed as the obtained't' value of experimental group of pre and post test of 3.377 was greater than 't' value 2.09 required to be significant at 0.05 level. Post test experimental group had better motor fitness (Explosive Strength, Speed, Endurance, Agility).

Keywords: Explosive Strength, Speed, Endurance & Agility of Medium Fast Bowler.

Introduction:

Sports and Games sports are accepted as a cultural phenomenon. There is a constant endeavour to achieve higher standard of performance. As a result, today's sports and games demand optimum fitness and highest degree of performance. In today's ever advancing and professionally competitiveness best performance in sports can be made only through a systematic, planned and controlled training system, base on scientific system of sport training system, base on scientific system of sport training. Sports in today's life play very important role in bringing about physical, mental and social growth of nations. The Sport Scientists and the physiologists have been of the view that human capacity of performances has its limits. But, this has been proved false and the barriers of performance have been surpassed by the athletes as result of improvement in the techniques, method of training coaching and fitness test. The participation in sports and physical education activities for good health, high degree of physical fitness, increases an individual's productivity. It also social harmony and discipline. It is the need of every citizen irrespective of age and sex to participate and enjoy games, sports

recreational activities. In endurance sports, coordinative abilities ensure higher movement effectiveness and movement economy. Where as in sport events they facilitate a higher movement frequency with high explosiveness and force application. In strength dominating sport they help in the application of short time maximum strength.

It must be remembered that surprise is a big element in bowling, and bowlers will often shun these common tactical approaches in the hope of simply confusing the batsman into playing the wrong shot. For example, bowling Fast bowling, sometimes known as pace bowling, is one of the two approaches to bowling in the sport of cricket. The other is spin bowling. Practitioners are usually known as fast bowlers or pace bowlers although sometimes the label used refers to the specific fast bowling technique the bowler prefers, such as swing bowler or seam bowler.

Categorisation of fast Bowling:

It is possible for a bowler to concentrate solely on speed, especially when young, but as fast bowlers nature they pick up new skills and tend to rely more on swing bowling or seam bowling techniques. Most fast bowlers will specialize in one of these two areas and will sometimes be categorised as strike, swing or seam bowler. However, this classification is not satisfactory because the categories are not mutually exclusive and a skilled bowler will usually bowl a mixture of fast, swinging, seaming and also cutting balls, even if he prefers one style to the others. Classification of fast bowlers.

Type	***mph***	***km/h***
Fast	90+	145+
Fast-Medium	80 to 89	129 to 145
Medium-Fast	70 to 79	113 to 129
Medium	60 to 69	97 to 113
Medium-Slow	50 to 59	80 to 97
Slow-Medium	40 to 49	64 to 80
Slow	below 40	below 64

As per the experiences as a researcher, I have observed that the physical fitness which is required for the Medium Fast Bowlers needs some sort of attention. so, the researcher has studies this problem.

Objective of the Study:

The main objective of the Study was to find out the effect of selected exercises on Explosive Strength, Speed, Endurance and Agility of Medium Fast Bowler in Cricket.

Hypothesis:

It was hypothesised that there might be a positive significant effect of some selected exercises on the development of Speed, Agility, Explosive Strength and Endurance necessary for Medium Fast Bowlers in Cricket.

Methodology:

The researcher had selected 60 medium fast bowlers. Their fitness was tested by some selected exercises for Explosive Strength, Speed, Endurance and Agility. The scores were arranged in descending order. Ten (10) of high performance along with Ten (10) of low performance, were eliminated. It was done to select the subjects of an average standard. Remaining forty (40) was finally selected for the study, twenty subjects in each group. Group 'A'- Experimental Group. Group 'B' - Control Group. The data were collected before the training programme and after the completion of six weeks of training programme by administering some selected exercises. The test was administered at the 400 mts. track and cricket ground of DCPE Amravati. The statistical analysis of the data consisting of raw scores made by the subjects by constructing a motor fitness (4 item , 1) Soft Ball Throw To measure Explosive strength of shoulders.2)50 yard dash - To measure Speed.3) 600 yard run- To measure Endurance .4)Shuttle run- To measure Agility, test by the help of AAHPERD Fitness Test . The level of significance to test the hypothesis in term of 't' ratio obtain was chosen as 0.05 level of confidence. The obtain raw scores in each test items were converted into standard scores with the help of 't' scale and composite score was formed, which were subjected to 't' test to find out the overall significant difference between the two groups i.e. pre-test and post-test. After calculating the overall significant difference in pre and post test, each item of test was subjected to 't' test to find out the significant difference.

Table No: 1

Significance of Mean Difference between Pre-Test and Post-Test of Control Group

Group	Mean	Mean Diff.	S.D.	't' ratio
Pre Test	205.18	15.21	25.781	1.88
Post Test	220.39		25.194	

Tabulated $t_{0.05}(20) = 2.09$

If calculated't' is greater than the tabulated $t_{0.05}$, then there is a significant difference between the means of two test performance of group. It is observe that calculated the't' value of

1.88 is less than the tabulated't' value of 2.09. Hence there is no significant difference between the means of pre and post test of control group.

Figure :1

Graph Showing Mean Difference Between Pre-Test and Post-Test of Control Group

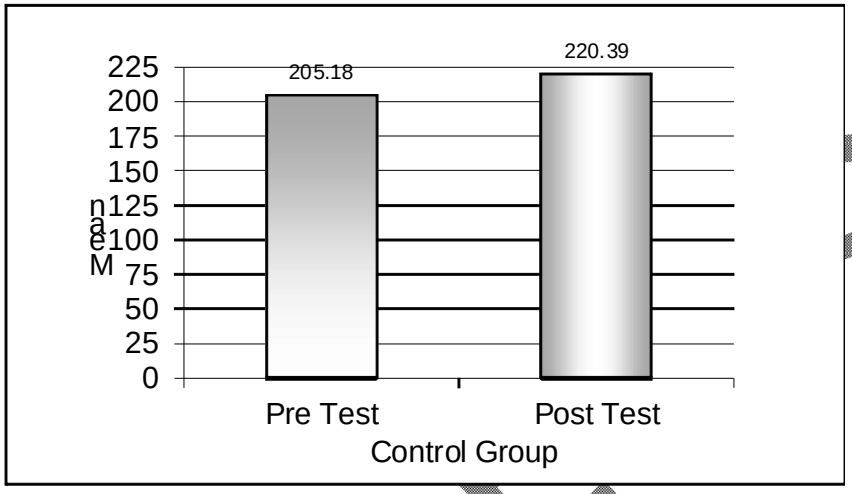


Table No: 2

Significance of Mean Difference between Pre-Test and Post-Test of Experimental Group

Group	Mean	Mean Diff.	S.D.	't' ratio
Pre Test	200.77	45.93	31.413	5.186
Post Test	246.70		24.118	

Tabulated $t_{0.05}(20) = 2.09$

If calculated 't' is greater than the tabulated $t_{0.05}$, then there is a significant difference between the mean of two test performed of group. It is observed that calculated the 't' value of 5.186 is greater than 't' value of 2.09. Hence there is significant difference between the means of pre and post test of experimental group.

Cal. t = 5.186 > tab. $t_{0.05}(20)=2.09$

Figure : 2
Graph Showing Mean Difference Between Pre-Test and Post-Test of Experimental Group

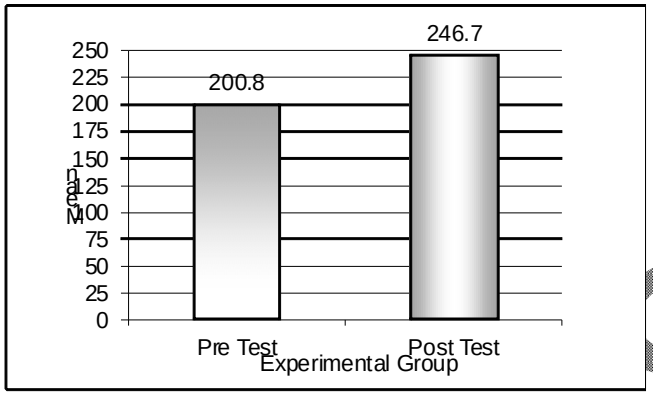


Table : 3
Significance of Mean Difference between Post Test of Control Group and Experimental Group

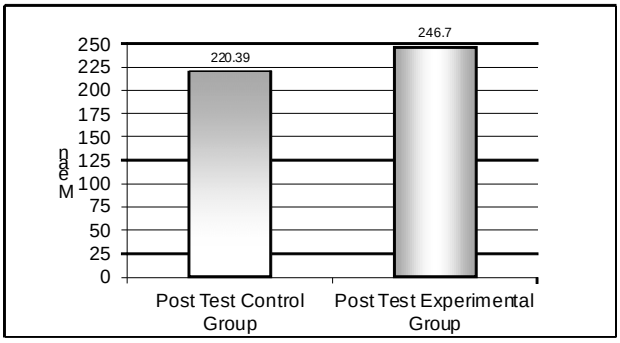
Group	Mean	Mean Diff.	S.D.	't' ratio
Post Test Control Group	220.39	26.31	25.194	3.377
Post Test Experimental Group	246.70		24.118	

Tabulated $t_{0.05}(20) = 2.09$

If calculated 't' is greater than the tabulated $t_{0.05}$, then there is a significant difference between the mean of two test performance of groups. It is observed that calculated 't' value of 3.377 is greater than the tabulated 't' value of 2.09. Hence there is a significant difference between the means of post test of control and experimental group.

Cal. $t = 3.377 > tab.\ t_{0.05}(20) = 2.09$

Figure: 3
Graph showing Mean Difference between Post Test of Control Group and Experimental Group



Study of the selected motor fitness training programme of medium fast blower of age group 17 to 25 years of DCPE Amravati indicates there is a significant difference between the motor fitness of both the group i.e. control and experimental group.

Discussion of Findings:

Table:1 it shows that the mean differences between the pre-test and post-test of control group is 1.88, so it is found that there is no significant difference in both the tests. Table: 2, found that the experimental group have more speed, explosive strength, endurance and agility compare to the control group as their performance is found to be significant. Table: 3, show that experimental group of post test have more mean in their motor fitness as compared to the pre-test and performance is found to be significant. It has been observed from the result of the finding of the study that the pre and post test experimental group between the age group of 17 to 25 years had better motor fitness (Explosive Strength, Speed, Endurance and Agility) of pre and post test of control group as measured by their overall performance by some selected exercises of motor fitness.

Hypothesis Testing:

It was hypothesized that there is a significant difference between selected exercise on the development of speed, agility, explosive strength and endurance of the medium fast blowers of DCPE Amravati. From the above result and discussion, it is observed that the hypothesis stand proves to be correct.

Conclusion:

On the basis of the analysis of data, the following conclusions were drawn -:

- Overall there was significant in motor fitness performance of control and experimental group of the age group of 17-25 years of DCPE Amravati.
- The Agility, Explosive Strength, Endurance, and Speed can be developed by applying some selected exercises.
- Control group was also of regular cricket players, they also showed slight improvement but not significant development in their motor fitness.
- Medium fast bowlers of experimental group were better in motor fitness as compared to the control group.

References:

- Berdene Wyse, "Relationship Between Hand Arm Shoulder Strength, Height-Weight Ratio and Ability to Perform the Bent Arm Hang", Unpublished Master's Thesis, IOWA University of IOWA, M.A. in Physical Education, 1964, Completed Research in Health, Physical Education and Recreation, Vol.7 (1965).
- Chui, Edward F. "Effect of Isometric and Dynamic Weight Training Exercises Upon Strength and Speed of Movement", 1964.
- Daniel P. McNair, "Effect of Different Exercise Programme on the Development of Cardio-Vascular Fitness, Strength and Muscular Endurance", Completed Research in Health, Physical Education and Recreation, X (1968).
- Dave J. Rowlands, "The Effect of Weight Training Exercise Upon the Throwing Power and Strength of College Baseball Players", Unpublished Master's Thesis, Washington : University of Washingon M.S. in Physical Education, 1962, Completed Research in Health Physical Education and Recreation, Vol.5, 1963.
- Francis V.Schuermann, "A Study of the Overall Gains in Muscular Strengths Made by High School Boys Participated in an Isometric Exercise Program for Six Weeks", M.S. in Physical Education, 196.