

Effect of six week callisthenic exercise on bowling speed performance of medium pace bowlers

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Abstract: Purpose: The purpose of the study was to investigate the effect of six week callisthenic exercise on bowling speed performance of medium pace bowler. Method: For this study twenty five (25) male medium pace bowlers selected. All subjects were from cricket match practice group of Laxmibai National Institute of Physical Education, North East Regional Center, Guwahati, Assam. All subjects undergone with a specific training which include callisthenic exercises for three days per week for six weeks. The bowling speed of medium pace bowlers was measured by Speed Gun Instrument namely BUSHNELL® Speedster™ which available in Institute. For the purpose of the study Dependent “t” test used and 0.05 level of significance was set. Result: Mean score of bowling speed of medium pace bowlers is 105.55 which are significant higher than pre treatments mean score which was 101.73. It was indicated that the post bowling speed after 6 weeks callisthenic training was significantly differ to the pre bowling speed of subjects. Conclusion: On the basis of the analysis of data the conclusion were drawn as there is significant effect callisthenic exercise on bowling speed of medium pace bowlers.

Key Words: Cricket training, callisthenic exercise, Bowling speed, Medium pacers.

1. INTRODUCTION:

Calisthenics is a form of exercise consisting of a variety of gross motor movements running, standing, grasping, pushing, etc. often performed rhythmically and with minimal equipment, as bodyweight exercises. They are intended to increase strength, fitness and flexibility, through movements such as pulling, pushing, bending, jumping, or swinging, using one's bodyweight for resistance. Calisthenics can provide the benefits of muscular and aerobic conditioning, in addition to improving psychomotor skills such as balance, agility and coordination. Urban calisthenics are a form of street workout; calisthenics groups perform exercise routines in urban areas. Individuals and groups train to perform advanced calisthenics skills such as muscle-ups, levers, and various freestyle moves such as spins and flips.

Muscular endurance is health-related component of physical fitness and can be defined as; the ability of a muscle group to continue muscle movement over time. Muscular endurance is important in cricket and more specifically in pace bowlers. Pace bowlers need to be able to do a very similar routine 100s of times. By having good muscular endurance a pace bowler can do the bowling routine numerous times with a decreased risk of injury. Muscular strength is a health related component of fitness and can be defines as the amount of force a muscle can produce in one contraction.

Power is important in cricket for pace bowler, fielders and batsman; it can be defined as the ability to do strength work at an explosive pace. It is important for bowlers as it allows them to gather the power and strength the bowl the ball. The shoulder muscles rotate round and generate the power needed to bowl the ball batsmen to move the bat. Fielders also need power as it allows them to return the ball to the wicketkeeper at pace and quickly.

2. Material and Methods:

For the purpose of this study twenty five (25) male medium bowlers were selected from the cricket match practice group of LNIPE, Guwahati. Their age ranged was from 18 to 24 years. All subjects were introduced and requested to cooperate fully throughout the training and during the time of data collection. The complete demonstration of each test and training and purpose of the test were explained in detail to them. The bowling speed of medium pace bowlers was measured by Speed Gun Instrument namely BUSHNELL® Speedster™ used as criterion measures. To obtain the data of bowling speed, equipments speed gun, cricket stumps, cones, markers and SG cricket balls were used. The equipments were all standard equipments available in the Exercise Physiology Laboratory of Lakshmibai National Institute of Physical Education, NERC Guwahati and there reliability was ensured by manufacturer. For the purpose of the study Dependent “t” test used to determine the effect of calisthenics exercise on bowling speed of medium pace bowlers. For testing the hypothesis at 0.05 level of significance was set.

3. Result and Discussion:

Table 1 Descriptive Statistics of Medium Pace Bowlers

	Height	Age	Weight	BMI
Mean	179.4	20.8	74.7	23.78
Standard Error	2.37	0.2	2.67	0.62
Standard Deviation	7.49	0.64	8.45	1.96

Table 1 revealed that descriptive statistics of Medium pace bowlers in which Mean height is 179.4 cm, weight is 74.7 kg and BMI is 23.78.

Table 2 Descriptive Statistics of Medium Pace Bowlers (Pre and post-delivery of ball)

	Mean	Standard Deviation
Pre test (Speed)	101.73	5.97
Post test (Speed)	105.55	5.65

As per table 2 Mean score of bowling speed of medium pace bowlers is 105.55 which is significant higher than pre treatment mean score which was 101.73. It was indicated that the post bowling speed after 6 weeks callisthenic training was significantly differ to the pre bowling speed of subjects. Does the post bowling speed was same before and after callisthenic training.

4. Discussion:

Table was obtained the callisthenic exercises significantly affect the speed of the ball. Therefore, we can conclude that callisthenic exercises improve the muscle strength of the subjects. Callisthenic exercises included the arm, shoulder and lower limbs exercises. Calisthenics appear to be utilized in more muscular endurance and strength activities. These include high repetition exercises with minimal rest intervals between sets. Callisthenic exercise (bodyweight training) is a form of Resistance Training that continues to increase in popularity over the last couple years. Calisthenics are exercises that rely solely on body weight for resistance that can be performed anywhere. No gym, no cash, no problem. Calisthenics are a great way to build muscle and improve your mood, all without stepping foot in a gym

Yang Yu-Jie et al. (2015) concluded exercise program with strength training were significantly more effective than one without it. But there is no significantly difference on duration of exercise test [SMD (95%CI) = 0.17 (-0.04, 0.39)] in strength training group than in control group.

Muscular strength training may not optimally induce adaptations for power; strength is a component of power and has some influence in its development. It is because of this relationship that power training is usually integrated into a strength training program. In addition, there is opportunity to explore the benefits calisthenics exercise may have on joint health and injury prevention in medium or fast bowlers. Calisthenics use a resistance that is never heavier than the lifters own mass and incorporates movements requiring multiple muscles for stabilization that may help develop these muscles in proportion to one another, rather than isolating muscles and lifting progressively heavier external loads.

This study is the validation that the variations of callisthenic exercises can be used to improve upper and lower body muscle strength in the medium pace bowlers. Due to the improvement of muscular strength we obtained the bowling speed also may be improve.

5. Conclusion:

The training helped to improve increase the bowling speed. The analysis of data seemed to have permitted the following results-

1. The shoulder strength was improved as a result of six weeks calisthenics exercises.
2. The bowling speed was improved as result of six weeks calisthenics exercise.

References:

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