Research Paper Physical Education

Effect of Plyometrics Exercises on Playing Ability of Cricket Players

Dr. DABIR Ur-RAHAMAN QURESHI | Associate Prof.Shri Shivaji College of Physical. Education Amravati

ABSTRACT

Plyometric exercise involves and uses practicing plyometric movements to enhance tissues abilities and train nerve cells to stimulate a specific pattern of [muscle contraction] so the muscle generates as strong a contraction as possible in the shortest amount of time. A plyometric contraction involves first a rapid muscle lengthening movement (eccentric phase), followed by a short resting phase (amortization phase), then an explosive muscle shortening movement (concentric phase), which enables muscles to work together in doing the particular motion. Plyometric exercise engages the myotatic reflex, which is the automatic contraction of muscles when their stretch sensory receptors are stimulated. In the post test of control and experimental group significant difference found in cardio-vascular endurance, Off Side Batting Ability, Defend Batting Ability, Length Bowling Ability, Full Length Bowling Ability and Overall playing Ability. But insignificant in Fielding Ability.

KEYWORDS

INTRODUCTION

Plyometrics are not inherently dangerous, but the highly focused, intense movements used in repetition increase the potential level of stress on joints and musculo-tendonous units. Therefore safety precautions are a strong prerequisite to this particular method of exercise. Low-intensity variations of plyometrics are frequently utilized in various stages of injury rehabilitation, indicating that the application of proper technique and appropriate safety precautions can make plyometrics safe and effective for most people. Plyometrics have been shown to have benefits for reducing lower-extremity injuries in team sports while combined with other neuromuscular training (i.e. strength training, balance training, and stretching). Plyometric exercises involve an increased risk of injury due to the large forces generated during training and performance, and should only be performed by well-conditioned individuals who are under supervision.

The main purpose of the present study was to determine the effect of Plyometrics Exercises on playing ability of inter-collegiate Cricket players.

DESIGN OF THE STUDY

For the present study the data was collected from inter-collegiate Cricket Players of Sant Gadge Baba Amravati University, Amravati. The study was delimited to 30 male inter-collegiate Cricket players. Age of the cricket players was ranging from 18 to 28 years.The researcher divided the Cricket players into two equal groups on the basis of the mean performance of pre-test score. The groups were equated and distributed into two homogeneous groups namely, Experimental Group and Control Group.

ANALYSIS OF THE STUDY:

o determine the significant difference in the means of Cardio-vascular endurance and playing ability of Cricket players between the two groups as well as between the pre-test and post test means of experimental and control group t-test was employed.

Table-01

Mean, Standard Deviation and t-ratio for the Data on Playing Ability in Batting of Cricketers Between the Means of Pre and Post-tests of Control Group Experimental Group

Batting	Group	Mean	S.D.	M.D.	S.E.	t-ratio
Off Side	Control	4.267	0.704	0.800	0.275	2.910*
	Experimental	5.067	0.799			
Defend	Control	3.733	0.961	1.800	0.314	5.738*
	Experimental	5.533	0.743			

* Significant at 0.05 level Tabulated t0.05(28) = 2.048

The above Table-01 reveal that, mean difference of Off Side Batting Ability calculated t-value of 2.910 and Defend Batting Ability calculated t-value of 5.738 between the Post-test of Control and Experimental groups are significant, because the calculated t-value are greater than the tabulated t-value of 2.048 at 0.05 level of confidence of 28 degree of freedom.

Table-02

Mean, Standard Deviation and t-ratio for the Data on Playing Ability in Bowling of Cricketers Between the Means of Post-tests of Control and Experimental Groups

Bowling	Test	Mean	S.D.	M.D.	S.E.	t-ratio
Good Length	Control	4.333	0.900	1.000	0.314	3.188*
	Experimental	5.333	0.816			
Full Length	Control	4.067	1.033	1.000	0.377	2.652*
	Experimental	5.067	1.033			

* Significant at 0.05 level Tabulated t0.05(28) = 2.048

The above Table-02 reveal that, mean difference of Good Length Bowling Ability calculated t-value of 3.188 and Full Length Bowling Ability calculated t-value of 2.652 between the Post-test of Control and Experimental groups are significant, because the calculated t-values are greater than the tabulated t-value of 2.048 at 0.05 level of confidence of 28 degree of freedom.

Table-03

Mean, Standard Deviation and t-ratio for the Data on Fielding Ability Between the Means of Post-tests of Control and Experimental Groups

Group	Mean	S.D.	M.D.	S.E.	t-ratio
Control	4.600	0.910	0.400	0.321	1.247@
Experimental	5.000	0.845			

@ Not Significant at 0.05 level Tabulated t0.05(28) = 2.048

The above Table 03 show that, Fielding Ability mean difference between the Post-test of Control and Experimental

groups was not significant, because the calculated t-value of 1.247 is less than the tabulated t-value of 2.048 at 0.05 level of confidence of 28 degree of freedom.

Table-04
Summary of Mean, Standard Deviation and t-ratio for the Data on Playing Ability of Cricketer Between the Means of Post-tests of Control and Experimental Groups

Group	Mean	S.D.	M.D.	S.E.	t-ratio
Control	21.000	2.138	5.000	0.805	6.213*
Experimental	26.000	2.268			

* Significant at 0.05 level Tabulated t0.05(28) = 2.048

The above Table 04 show that, Playing Ability mean difference between the Post-test of Control and Experimental group is significant, because the calculated t-value of 6.213 is much greater than the tabulated t-value of 2.048 at 0.05 level of confidence of 28 degree of freedom.

Conclusion of the study:
After the statistical Analysis Pre-test and Post-test of Off Side Batting Ability (t = 0.807), Defend Batting Ability (t = 0.784) and Length Bowling Ability (t = 0.464), Full Length Bowling Ability (t = 0.354), Fielding Ability (t = 0.209) and Overall playing Ability (t = 0.738), because these t-values are less than the tabulated t-value of 2.144 at 0.05 level of confidence of 14 degree of freedom.

After the statistical Analysis Pre-test and Post-test of Experimental group was not significant, in Off Side Batting Ability (t = 4.299), Defend Batting Ability (t = 3.930) and Length Bowling Ability (t = 3.371), Full Length Bowling Ability (t = 2.567), Fielding Ability (t = 2.347) and Overall playing Ability (t = 7.407), because these t-values are less than the tabulated t-value of 2.144 at 0.05 level of confidence of 14 degree of freedom.

Also significant difference found between Post test of Control and Experimental groups in Off Side Batting Ability (t = 2.910), Defend Batting Ability (t = 5.738) and Good Length Bowling Ability (t = 3.188), Full Length Bowling Ability (t = 2.652), and Overall playing Ability (t = 6.213), because these t-values are less than the tabulated t-value of 2.048 at 0.05 level of confidence of 28 degree of freedom.

It is also observed that insignificant difference in Fielding Ability (t = 1.247) which was less than tabulated t-value of 2.048 at 0.05 level of confidence of 28 degree of freedom.

Recommendation
Researcher given some recommendation are as-

- Similar study may be conducted on girls players.
- If the training schedule increase may given the positive result on fielding ability.
- Similar study may be conducted on different level of players i.e. district, state, national etc.
- For the better and reliable result number of subjects may be increase.
- Similar study may be conducted on different age groups of players
- Similar study may be conducted on the other games players.

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