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EFFECTOFPLYOMETRICTRAININGONSELECTEDPHYSICALFITNESSVARIABLESAMONGCRICKETPLAYERS

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Abstract:

The purpose of the study was to find out the effect of plyometric training on selectedphysical fitness variables among Cricket players. To achieve this purpose, thirty maleCricket players were selected as subjects, their aged between 18 to 25 years, they arestudying in the ANU Affiliated Colleges.. The selected subjects weredivided into two equal groups of fifteen subjects each, namely plyometric training groupand control group. The plyometric training group trained for three sets per exercise persession at 60 to 80% with a progressive increase in load with the number of weeks.Strength endurance and agility were selected as criterion variables and they were testedbyusingsit-upsandshuttlerunrespectively.ANCOVAwasusedtofindoutthesignificant difference if any between the groups. The results of the study showed thatthere was a significant difference on strength endurance and agility between plyometrictraining groupandcontrol group.

Keywords:Plyometrictraining,physicalfitness,strengthendurance,agility.

Introduction:

Physical fitness is one of the components of the total fitness of the individual,whichalsoincludesmutual,socialandemotionalfitness.Itisoneofthebasicrequirements of life broadly speaking it means the ability to carry out our daily taskswithoutunder fatigue.

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Strength endurance is required in all sports movement, whether fast or slow,movements have to be done under lesser or higher conditions of fatigue. Agility is acombination of several athletic traits such as strength, reaction time, speed of movement,powerandco-ordination.It'sdisplaybecomesessentialinsuchmovementsasdodging, Zigzagrunning,stoppingandstartingandchangingbodypositionsquickly.Plyometricisamethodofdevelopingexplosivepower,animportantcomponentoftheathleticperformance as plyometric movements are performed in a wide spectrum of sports. InCricket, it can be played more skillfully when players have the power that combines withstrengthandspeedtodevelopexplosivepowerforparticipatinginvarioussportsactivities. The plyometric exercises improve significantly in developing physical fitnessvariablesof Cricketplayers.

Methodology:

The purpose of the study was to find out the effect of plyometric training onselected physical fitness variables such as strength endurance and agility among collegemen Cricket players.To achieve this,thirty maleCricket players are studying in theANU Affiliated Colleges in the age group of 18 to 25 years wereselected as subjects at random. The selected subjects were divided into two equal groupsof fifteen subjects each namely plyometric training group and control group. The selectedcriterion variables such as strength endurance and agility were assessed using standardtests and procedures, before (pre test) and after (post test) training Regimen for bothexperimentalandcontrol groupsbyusing sit-upsandshuttlerun respectively.

The selected subjects had undergone the plyometric training for eight weeks, withthree days per week in alternate days. After 10 to 15 minutes of warm-up the subjectsunderwent their respective plyometric training programme and the subjects performedplyometric exercises. The control group did not participate in any specialized trainingduring theperiod ofstudy.

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EXPERIMENTALDESIGNANDSTATISTICALPROCEDURE

The experimental design used for the present investigation was random groupdesigninvolving30subjectsfortrainingeffect.AnalysisofCovariance(ANCOVA)was used as a statistical technique to determine the significant difference, if any, existingbetweenpretestandposttestdataonselecteddependentvariablesseparatelyandpresen tedinTable-I.

TABLE –I

ANALYSISOF COVARIANCEAMONGPLYOMETRICTRAININGEXPERIMENTAL GROUP AND CONTROL GROUP ON STRENGTH ENDURANCEANDAGILITY

Variables	Test	Plyometric Training Group	Control Group	Source of Variance	SS	df	Mean Square	"F" Ratio
Strength Endurance	Pretest Mean	47.00	47.27	Between	0.533	1	0.533	0.112
	S.D	1.93	2.40	Within	132.92	28	4.75	
	Posttest Mean	52.92	47.52	Between	218.700	1	218.7	48.344
	S.D	2.16	2.10	Within	126.67	28	4.53	
	Adjusted Posttest Mean	52.94	47.52	Between	233.785	1	233.785	112.55
				Within	56.081	27	2.077	
Agility	Pretest Mean	10.93	10.99	Between	0.033	1	0.033	0.742
	S.D	0.252	0.162	Within	1.259	28	0.04495	
	Posttest Mean	10.73	10.96	Between	0.385	1	0.385	22.049
	S.D	0.123	0.141	Within	0.489	28	0.0175	
	AdjustedPost test Mean	10.73	10.96	Between	0.336	1	0.336	20.307
				Within	0.446	27	0.01653	

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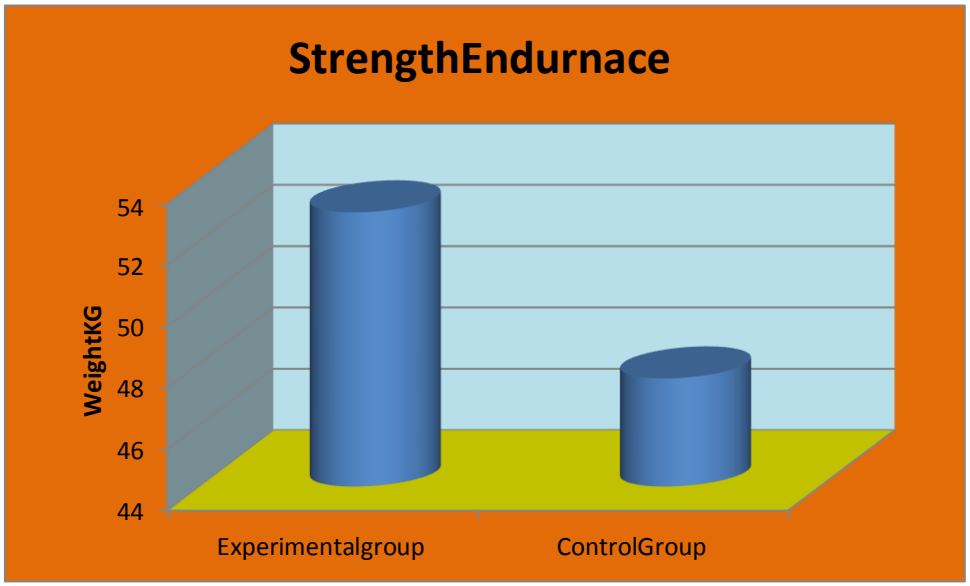
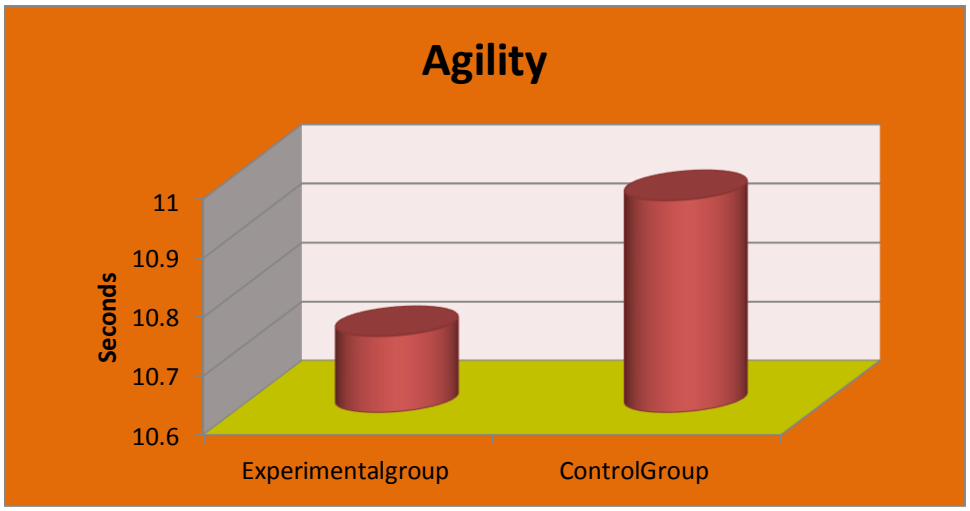
BAR DIAGRAM FOR ADJUSTED MEAN VALUES OF EXPERIMENTAL GROUPAND CONTROLGROUPON STRENGTHENDURANCE



BAR DIAGRAM FOR ADJUSTED MEAN VALUES OF EXPERIMENTAL GROUPAND CONTROLGROUPON AGILITY



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Results

- Theposttestmeanofplyometrictraininggroupandcontrolgrouponstrengthendurance(52.92,2.16Vs47.52,2.10)resultedina 'F'ratioof48.344.
- The adjusted posttest mean of plyometric training group and control group onstrength endurance (52.94 Vs 47.52) resulted in a 'F'ratio of 112.55. The resultsofthestudyindicatethattherewasasignificantdifferencebetweenplyometric traininggroupandcontrolgroupon strengthendurance.
- The posttest mean of plyometric training group and control group on agility(10.73,0.123Vs10.96,0.141)resulted inaF' ratio of22.049.
- The adjusted posttest mean of plyometric training group and control group onagility (10.73 Vs 10.96) resulted in an "F'ratioof 20.307. The results of thestudyindicatethattherewasasignificantdifferencebetweenplyometrictraining groupandcontrol groupon agility.

CONCLUSION

Based on the results of the study, it was concluded that the plyometric trainingprogram has resulted in significant increase in selected physical fitness variables such asstrengthenduranceandagility.

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