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R Ravichandran
Ph.D. Research Scholar, Sri Ramakrishna Mission Vidyalaya, College of Arts and Science, Coimbatore, Tamil Nadu, India

Dr. S Ramesh Kumar
Head & Director, Dept. of Physical Education, Sri Ramakrishna Mission Vidyalaya, College of Arts and Science, Coimbatore, Tamil Nadu, India

Dr. G Balsundar
Head & Assistant Professor, Department of Physical Education, Sri Ramakrishna Mission Vidyalaya, College of Arts and Science, Coimbatore, Tamil Nadu, India

Corresponding Author:
R Ravichandran
Ph.D. Research Scholar, Sri Ramakrishna Mission Vidyalaya, College of Arts and Science, Coimbatore, Tamil Nadu, India

Influence of various training plans on high altitude on selected specific skill performance variables among Nilgiris soccer players

R Ravichandran, Dr. S Ramesh Kumar and Dr. G Balsundar

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Abstract
Plyometrics are exercises that involve a jumping or explosive movement. For example, skipping, bounding, jumping rope, hopping, lunges, jump squats, and clap push-ups are all examples of plyometric exercises. Resistance Training is any exercise that causes the muscles to contract against an external resistance with the expectation of increases in strength, tone, mass, and endurance. The purpose of the study was forty five Nilgiris District level football players were selected for this study and they were given Plyometric and Resistance training. Pretest was conducted for the subjects in the selected specific skill performance variables. After twelve weeks of plyometric, and resistance training post test data were collected for the variables. To test the significant changes made from the base line to post test due plyometric and resistance training group, 't' test was applied. The significance of the means of the obtained test results was tested at 0.05 level of confidence. The collected data have been processed by using Analysis of covariance to determine, if there was any significant difference among the treatment means of each variable. When "F" ratio showed significant differences between treatment means, Scheffe's post hoc test was applied to test the significance of difference between the paired means at 0.05 level of confidence. The data was analyzed by using the software SPSS. Practice of the resistance training and plyometric training was significant effective in bring desirable changes in skill performance variables such as dribbling shooting among district level football players.

Keywords: Resistance training, plyometric training, changes

Introduction
Plyometrics are exercises that involve a jumping or explosive movement. For example, skipping, bounding, jumping rope, hopping, lunges, jump squats, and clap push-ups are all examples of plyometric exercises. Resistance training is any exercise that causes the muscles to contract against an external resistance with the expectation of increases in strength, tone, mass, and endurance.

Methodology
To achieve this purpose of the study, forty five (N=45) male football players who were selected in Nilgiris District football players were randomly selected as subjects. Their age ranged from 18 to 25 years. The subjects were divided at into three groups of fifteen in each (n=15). Group-I Plyometric training, Group-II resistance training and Group -III was act as the Control group. The experimental group namely Plyometric training and resistance training Group underwent their respective training programmers for three sessions (days) per week for eight weeks. And Group-III acted as control group in which they did not undergo any special training programme apart from their regular programme.

Training programme
The subjects underwent their respective training programme as per schedules under the supervision of researcher who provided motivation, advice and encouragement to the subjects. Each day the training schedule was conducted for experimental groups only in the morning session.

That lasted for sixty minutes. Prior and after every training session subjects of experimental groups had ten minutes of warm up and ten minutes of warm down exercises.

Statistical technique

The collected data before and after training period of 12 weeks on the above said variables due to the influence of plyometric and resistance training was statistically analyzed with 't' test to find out the significant improvement between pre and posttest. In all cases the criterion for statistical significance was set at 0.05 level of confidence (p<0.05).

Results and Discussion

The influence of independent variables on each of the criterion variables is analyzed and presented below. The training period was limited to twelve weeks. The dependent variables selected for this study was skill related performance variable of Dribbling and Kicking All the subjects were tested prior to and immediately after the experimental period on the selected dependent variables. The data obtained from the experimental groups before and after the experimental period were statistically organized with dependent't'-test and Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post-test means was found to be outstanding performance study. The Scheffe's Post hoc test was organized to determine the paired mean differences.

Table 1: The level of confidence was fixed at 0.05 level for all the cases.

Test	Group	Mean	Source	Sum of square	df	Mean square	F-ratio
Kicking							
Pre-test	PTG	83.43	B/S	1.15	2	0.57	0.06
	RTG	83.09					
	CG	83.09	W/S	410.39	42	9.77	
Post test	PTG	88.66	B/S	933.41	2	466.70	41.05*
	RTG	94.02					
	CG	82.87	W/S	476.37	42	11.34	
Adjusted posttest mean	PTG	88.42	B/S	933.03	2	466.51	104.09*
	RTG	94.1					
	CG	82.95	W/S	183.75	41	4.48	
Dribbling							
Pre-test	PTG	20.1	B/S	0.22	2	0.11	1.19
	RTG	20.04					
	CG	20.21	W/S	3.98	42	0.09	
Post test	PTG	19.16	B/S	10.74	2	5.37	63.8.*
	RTG	19.29					
	CG	20.25	W/S	3.53	42	0.08	
Adjusted posttest mean	PTG	19.18	B/S	8.90	2	4.45	78.28*
	RTG	19.35					
	CG	20.21	W/S	2.33	41	0.57	

*Significant at 0.05 level of confidence

Table 1 reveals that the computation of f-value on skill performance variables of plyometric and resistance training group on kicking and dribbling. To be significant at 0.05 level for degree of freedom 2, 41 the required table value was 3.15. Since the observed mean difference among the three groups were found to be statistically significant, in order to find out which of the pairs of group means are significant, the Scheffe's post hoc test was applied.

Table - 2 revealed that the mean differences between the paired adjusted posttest means of all groups. The mean difference between Plyometric training group and resistance training and between Plyometric training group and control group between Resistance training group and Control group were 5.68,5.47 and 11.15 respectively. The required confidence interval value was 1.68.

Table 2: Scheffe's post hoc test on kicking and dribbling

Plyometric training group	Resistance training group	Control group	M.D	C.I
88.42	94.10		5.68*	1.68
88.42		82.95	5.47*	
	94.10	82.95	11.15*	
19.18	19.35		0.17	0.58
19.18		20.21	1.03*	
	19.35	20.21	0.86*	

*Significant at 0.05 level of confidence

The mean difference between Plyometric training group and resistance training and between Plyometric training group and control group between Resistance training group and Control group were higher than the obtained confidence interval value on kicking.

The mean differences between the paired adjusted posttest means of all groups. The mean difference between Plyometric training group and resistance training and between Plyometric training group and control group between Resistance training group and Control group were 0.17,1.03 and 0.86 respectively. The required confidence interval value was 1.68. The mean difference between Plyometric training group and control group between Resistance training group and Control group were higher than the obtained confidence interval value on dribbling. The mean difference between Plyometric training group and resistance training group were lesser than the obtained confidence interval value on dribbling.

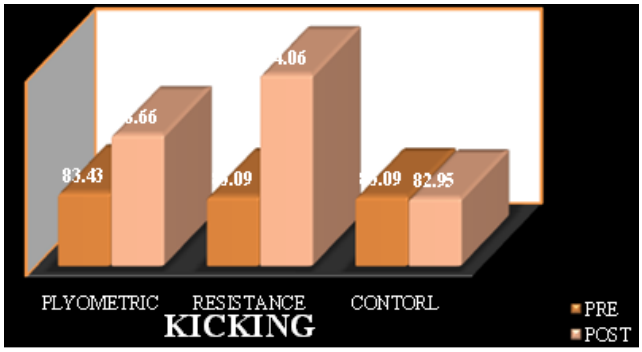

Fig 1: Bar diagram showing the mean values of pretest and post test of plyometric resistance training and control group on kicking

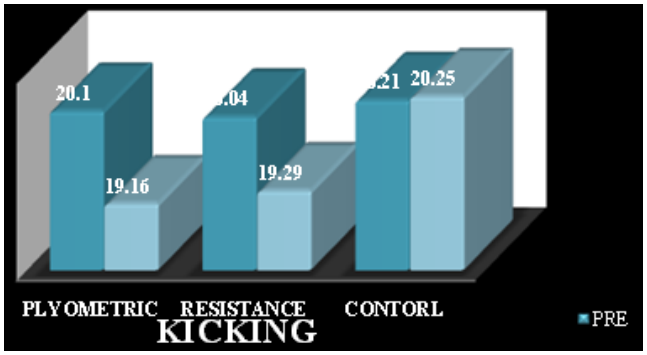

Fig 2: Bar diagram showing the mean values of pretest and post test of plyometric resistance training and control group on dribbling

Discussion and findings

Purpose of the study analyzed to find out plyometric and resistance training group on skill performance variables among district level football players. On dribbling and kicking. Here two variants of training modules were used in

this study namely plyometric training and resistance training.

Conclusions

Practice of the resistance training and plyometric training was significant effective in bring desirable changes in skill performance variables such as dribbling shooting among district level football players.

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