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PHYSICAL EDUCATION

EFFECT OF BLOCK PERIODOZATION AND DAILY UNDULATING PERIODIZATION TRAINING ON SELECTED SPEED PARAMETERS AMONG BASKETBALL PLAYERS

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ABSTRACT

The purpose of the study was to find out the effect of block periodozation and daily undulating periodization training on selected speed parameters among basketball players. To achieve the purpose of the present study, forty five men basketball players from Madurai district, Tamilnadu, India were selected as subjects at random and their ages ranged from 17 to 23 years. The subjects were divided into three equal groups of fifteen each. Group I acted as Experimental Group I (Block periodozation training), Group II acted as Experimental Group II (Daily undulating periodization training) Group III acted as Experimental Group III (control group). The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Pre test was conducted for all the subjects on selected speed and strength parameters. This initial test scores formed as pre test scores of the subjects. The duration of experimental period was 12 weeks. After the experimental treatment, all the forty five subjects were tested on their selected speed and strength parameters. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, Scheffe's post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses. The block periodozation training group had shown significant improvement in all the selected speed parameters among basketball players after undergoing the training for a period of twelve weeks. The daily undulating periodization training had shown significant improvement in all the selected speed parameters among basketball players after undergoing the training for a period of twelve weeks.

KEYWORDS: Periodization, Daily Undulated, Block, Basketball.

INTRODUCTION

Periodization is an organized approach to training that involves progressive cycling of various aspects of a training program during a specific period of time. Periodization is a form or resistance training that may be defined as strategic implementation of specific training phases. Block training periodization is the system is to use concentrated workloads directed towards improving a minimal number of qualities which are split across different training cycles (Bunsen, 2012). A training system that relies on a sequential series of blocks to increase sports performance. Each block targets a specific training quality, with all qualities building on each other to a cumulative higher state of sports performance. The goal of periodization is progression towards maximizing strength while minimizing fatigue and injury. With daily undulated periodization, the daily variation of periodization places enough stress on body to continually make progress, yet it doesn't allow it to adapt to the stress and plateau. A periodisation of hypertrophy, strength, and power, normally in that order, in blocks consisting of 4-6 weeks on average. Training volume usually starts high, and then decreases over time. Due to minimal changes in volume and intensity during these blocks, there's reduced recruitment of motor units. The basketball is a ball game played by two teams of 5 players, plus 7 substitutes in each team. The players may pass, throw, roll bat or dribble the ball. The main aim of a basketball player is to obtain points by putting the ball into the basket of the opponent team's court.

METHODOLOGY

The purpose of the study was to find out the effect of block periodozation and daily undulating periodization training on selected speed parameters among basketball players. To achieve the purpose of the present study, forty five men basketball players from Madurai district, Tamilnadu, India were selected as subjects at random and their ages ranged from 17 to 23 years. The subjects were divided into three equal groups of fifteen each. Group I acted as Experimental Group I (Block periodozation training), Group II acted as Experimental Group II (Daily undulating periodization training) Group III acted as Experimental Group III

(control group). The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Pre test was conducted for all the subjects on selected speed and strength parameters. This initial test scores formed as pre test scores of the subjects. The duration of experimental period was 12 weeks. After the experimental treatment, all the forty five subjects were tested on their selected speed and strength parameters. This final test scores formed as post test scores of the subjects. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) to find out the significance among the mean differences, whenever the 'F' ratio for adjusted test was found to be significant, Scheffe's post hoc test was used. In all cases 0.05 level of significance was fixed to test hypotheses.

TABLE - I

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF BLOCK PERIODIZATION TRAINING, DAILY UNDULATING PERIODIZATION TRAINING AND CONTROL GROUPS ON SPEED

	BPTG	DUPTG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	7.07	7.08	7.06	**BG**	0.002	2	0.001	1.24
				WG	0.04	42	0.001	
Post-Test Means	6.83	6.79	7.05	**BG**	0.59	2	0.29	109.48*
				WG	0.11	42	0.003	
Adjusted Post-Test Means	6.83	6.79	7.05	**BG**	0.54	2	0.27	100.32*
				WG	0.11	41	0.003	

An examination of table I indicated that the pre test means of block periodization training, daily undulating periodization training and control groups were 7.07, 7.08 and 7.06 respectively. The obtained F-ratio for the pre-test was 1.24 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups. The post-test means of the block periodization training, daily undulating periodization training and control groups were 6.83, 6.79 and 7.05 respectively. The obtained F-ratio for the post-test was 109.48 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the block periodization training, daily undulating periodization training and control groups were 6.83, 6.79 and 7.05 respectively. The obtained F-ratio for the adjusted post-test means was 100.32 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on speed. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table-II.

TABLE - II
THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON SPEED

Adjusted Post-test means			Mean Difference	Required CI
BPTG	**DUPTG**	**CG**		
6.83	**6.79**	**---**	0.04	**0.05**
6.83	**---**	**7.05**	0.22*	
---	**6.79**	**7.05**	0.26*	

*** Significant at 0.05 level with CI value = 0.05**

The multiple comparisons showed in Table II proved that there existed significant differences between the adjusted means of block periodization training and control group (0.22), daily undulating periodization training and control group (0.26) at 0.05 level of confidence with the confidence interval value of 0.05. The adjusted mean difference between block periodization training and daily undulating periodization training group (0.04) was failed to reach the significant level. The pre, post and adjusted means on speed were presented through bar diagram for better understanding of the results of this study in Figure-I.

FIGURE I

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, BLOCK PERIODIZATION TRAINING, DAILY UNDULATING PERIODIZATION TRAINING AND CONTROL GROUPS ON SPEED

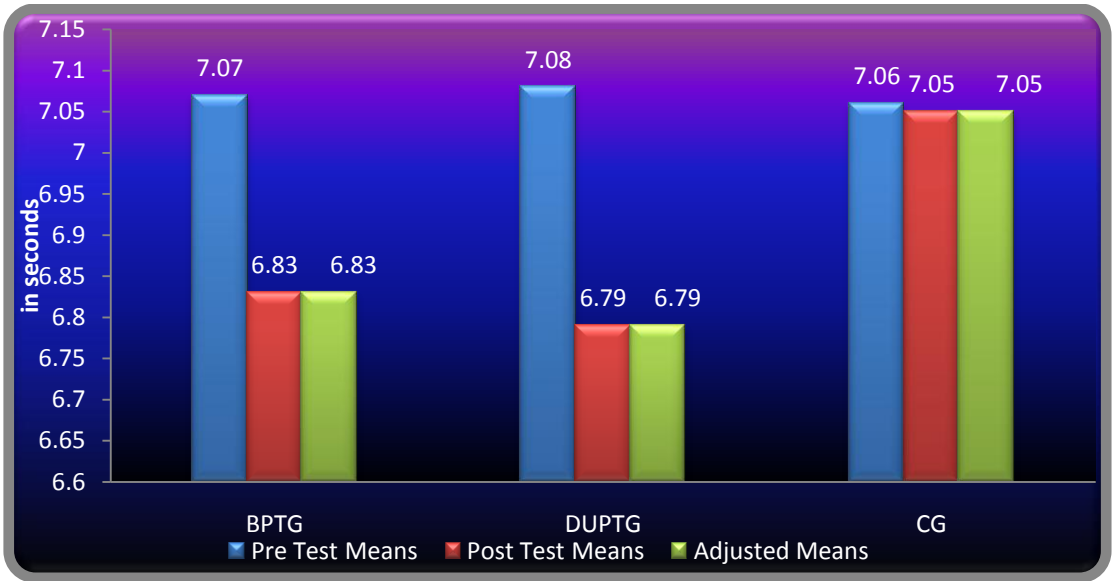


TABLE III

COMPUTATION OF ANALYSIS OF COVARIANCE OF MEAN OF BLOCK PERIODIZATION TRAINING, DAILY UNDULATING PERIODIZATION TRAINING AND CONTROL GROUPS ON SPEED ENDURANCE

	BPTG	DUPTG	CG	Source of Variance	Sum of Squares	df	Means Squares	F-ratio
Pre-Test Means	19.71	19.76	19.74	**BG**	0.01	2	0.008	0.49
				WG	0.66	42	0.01	
Post-Test Means	18.81	18.87	19.69	**BG**	7.21	2	3.60	116.73*
				WG	1.29	42	0.03	
Adjusted Post-Test Means	18.81	18.87	19.69	**BG**	7.19	2	3.59	113.99*
				WG	1.29	41	0.03	

An examination of table III indicated that the pre test means of block periodization training, daily undulating periodization training and control groups were 19.71, 19.76 and 19.74respectively. The obtained F-ratio for the pre-test was 0.49 and the table F-ratio was 3.22. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that there were no significant difference

between the experimental and control groups indicating that the process of randomization of the groups was perfect while assigning the subjects to groups. The post-test means of the block periodization training, daily undulating periodization training and control groups were 18.81, 18.87 and 19.69 respectively. The obtained F-ratio for the post-test was 116.73 and the table F-ratio was 3.22. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 42. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the block periodization training, daily undulating periodization training and control groups were 18.81, 18.87 and 19.69 respectively. The obtained F-ratio for the adjusted post-test means was 113.99 and the table F-ratio was 3.23. Hence the adjusted post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 41. This proved that there was a significant difference among the means due to the experimental trainings on speed endurance. Since significant differences were recorded, the results were subjected to post hoc analysis using Scheffe's post hoc test. The results were presented in Table IV.

TABLE IV

THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON SPEED ENDURANCE

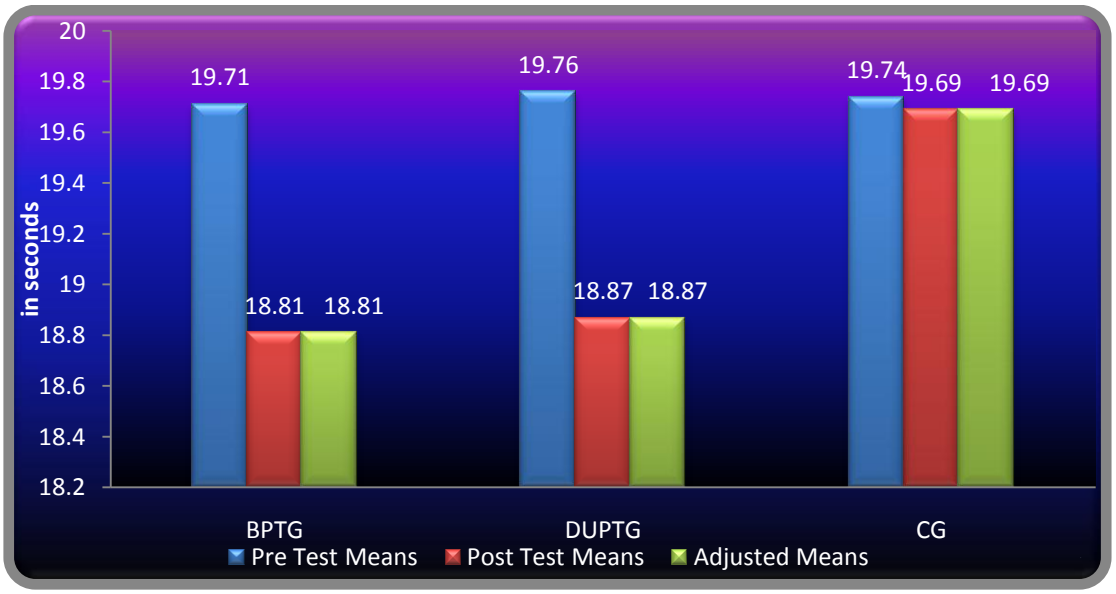
Adjusted Post-test means			Mean Difference	Required CI
BPTG	**DUPTG**	**CG**		
18.81	**18.87**	**---**	0.06	**0.16**
18.81	**---**	**19.69**	0.88*	
---	**18.87**	**19.69**	0.82*	

*** Significant at 0.05 level with CI value = 0.16**

The multiple comparisons showed in Table IV proved that there existed significant differences between the adjusted means of block periodization training and control group (0.88), daily undulating periodization training and control group (0.82) at 0.05 level of confidence with the confidence interval value of 0.16. The adjusted mean difference between block periodization training and daily undulating periodization training group (0.06) was failed to reach the significant level. The pre, post and adjusted means on speed endurance were presented through bar diagram for better understanding of the results of this study in Figure-II.

FIGURE II

PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE, BLOCK PERIODIZATION TRAINING, DAILY UNDULATING PERIODIZATION TRAINING AND CONTROL GROUPS ON SPEED ENDURANCE



Conclusion

1. The block periodozation training group had shown significant improvement in all the selected speed parameters among basketball players after undergoing the training for a period of twelve weeks.
2. The daily undulating periodization training had shown significant improvement in all the selected speed parameters among basketball players after undergoing the training for a period of twelve weeks.

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