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NAIRJC JOURNAL PUBLICATION

North Asian
International
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ISSN NO: 2454 - 2326

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ISOLATED EFFECTS OF SPECIFIC PRE-SEASON TRAINING PACKAGE ON SELECTED PHYSICAL, PHYSIOLOGICAL AND SKILL PERFORMANCE VARIABLES OF COLLEGE LEVEL MEN BASKETBALL PLAYER

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ABSTRACT

The purpose of the study was to find out the isolated effect of specific preseason training package on selected physical, physiological and skill performance variables of college level male basketball players. The age of the subjects ranged from 18-23 years. To achieve the purpose of the study, 220 basketball players who had participated in inter collegiate level tournaments were selected randomly. The selected basketball players were tested on their overall playing ability using the fundamental skills and technique during the game situation by expert rating method. Among the selected subjects (n=220) 74 were found in the range of 35 to 40 percentile of the overall playing ability. From the screened subjects (n=74) 60 were randomly selected. The selected subjects were randomly divided into two groups of thirty each. Group I is the experimental group which underwent a specific preseason basketball training package and Group II acted as the conventional group which had not participated in any specific training other than their regular routine like warming up then go for under basket shots and then play games without any skill workout and other kind of fitness training. The following statistical procedures were applied in the present study to achieve its purposes. To test the individualized effect of both combination of experimental and conventional groups on selected Physical, Physiological and Skill performance variables, paired t-test was used. Further, to test the comparative effects, Analysis of Covariance was applied. In case of significant mean difference was observed on variables used, where post-hoc test was not necessary since the two groups had been used. The findings of the present study suggest that isolated effect of specific preseason training package on selected physical, physiological and skill performance variables of college level male basketball players.

Keywords: specific preseason training, Skill performance and fundamental skills and technique

INTRODUCTION

In the modern world due to the growing awareness on sports large number of young men and women participate in all over the world. Basketball is one of the most popular sports in the world. success in basketball depends upon an athlete's speed, power, strength, agility, endurance, skill, flexibility and tactical knowledge. Basketball apart from being a highly skilled game, the rules governing this game has been frequently changed in order to make the game much faster than ever. Federation of international basketball association (FIBA), the governing body of the game basketball in its amendments during the year 2000 in-order to advance the ball from back court to the front court and to speed up the game it reduces the 10 seconds rule to 8 seconds and similarly the shot clock rule from 30 second rule to 24 seconds. The rules of the game had been improvised continuously. The most important among the changes came during the year 2000. The game has been made to play in 4 ten-minute quarters. In this new format two time outs shall be taken at any time during the first two quarters and three time outs shall be taken at any time during the last two quarters, one time out for each extra period is also permitted, a brief interval of fifteen minutes at the end of second quarter and two minutes interval in between the first two quarter and between the third and fourth quarter is also given. These rule changes have brought in tremendous changes in the mode of playing and training methods.

NEED AND IMPROTANCE OF THE STUDY

Basketball is fundamentally a game of effective spacing and movement that requires precision in passing, communication and team chemistry that helps to synchronize the movement of the player with the ball and his teammates without the ball. In fact, when it comes to pure efficiency and effectiveness on the basketball court, it is equally, if not more important to move well without the ball when compared to move with the ball. And it is these dynamics that separate the great players from the rest. To become a complete player one has to be trained systematically in various aspects such as physical, physiological and skill performance factors. This study is intended to find out the effect of the pre-season training package on the selected physical, physiological and skill performance variables of intercollegiate level male basketball players.

STATEMENT OF THE PROBLEM

The purpose of this study is to test the effect of the specific preseason training package on the physical, physiological and skill performance variables of college level male Basketball players.

HYPOTHESIS

- a. It was hypothesized that the specific pre-season training package would produce significant changes on selected physical fitness variables from baseline to post-treatment on Subjects of the experimental group.
- b. It was hypothesized that the specific pre-season training package would produce significant changes on selected physiological fitness variable from baseline to post-treatment on subjects of the experimental group.
- c. It was hypothesized that the specific pre-season training package would produce significant changes on selected skill performance variables from baseline to post-treatment on Subjects of the experimental group.

SIGNIFICANCE OF THE STUDY

1. The results of the study may help to train the selected physical variables of college level men basketball players.
2. The results of the study may help to train the selected physiological variable of college level men basketball players.
3. The results of the study may help to train the selected skill performance variables of college level men basketball players.

DELIMITATIONS

1. This study was confined to a training period of 12 weeks with six days per week.
2. This study was delimited to variables such as,
 - a. Physical variables: Speed, flexibility, muscular strength, endurance, agility and explosive power
 - b. Physiological variable: VO₂ Max
 - c. Skill performance variables: dribbling, passing, shooting and defensive movements

LIMITATIONS

- 1 The previous experience of the subjects in the field of sports and games, which might be influencing on the training and data collection, was not considered.
- 2 Psychological factors, food habits, rest period; lifestyle etc. could not be controlled.

METHODOLOGY

Selection of Subjects

The purpose of the study was to find out the effect of specific preseason training package on selected physical, physiological and skill performance variables of college level male basketball players. The age of the subjects ranged from 18-23 years. To achieve the purpose of the study, sixty basketball players who had participated in inter collegiate level tournaments were selected randomly as the subjects. In order to validate the subjects of the present study initially 220 players who had participated in the inter collegiate level basketball tournaments were selected. The selected basketball players were tested on their overall playing ability using the fundamental skills and technique during the game situation by expert rating method. Among the selected subjects (n=220) 74 were found in the range of 35 to 40 percentile of the overall playing ability. From the screened subjects (n=74) 60 were randomly selected.

Selection of Variables

The independent variable included in this study was specific preseason training in basketball. The dependent variables included the following components such as physical, physiological and skill performance variables are as follows. Physical variables such as speed, agility, flexibility, explosive power and abdominal muscular strength and endurance Physiological variable such as VO₂ max (maximal oxygen up taking capacity) Skill performance variables such as dribbling, passing, shooting -close range, shooting - long range and defensive movement.

Experimental Design

The selected subjects were randomly divided into two groups of thirty each. Group I is the experimental group which underwent a specific preseason basketball training package and Group II acted as the conventional group which had not participated in any specific training other than their regular routine like warming up then go for under basket shots and then play games without any skill workout and other kind of fitness training.

Selection of Tests

The present study was undertaken primarily to find out the effect of specific preseason training package on selected physical, physiological and skill performance variables of college level male basketball players. As per the available literature, the following tests were used to collect relevant data on the selected criterion variables, and they are presented in the Table 1.

TABLE 1: LIST OF DEPENDENT VARIABLES AND TEST

Sl.No	Variables	Test	Unit of Measurement
1	Speed	50 yards dash (AAHPERD 1976 - Youth fitness test)	In seconds
2	Agility	30 Feet Shuttle run (AAHPERD – 1976 Youth fitness test)	In seconds
3	Flexibility	Sit and Reach Test (AAHPERD – 1980 Health related physical fitness test)	In centimetres
4	Explosive power	Vertical jump test (Texas jump test 1973)	In inches
5	Abdominal muscular strength endurance	Modified sit-ups test (AAHPERD 1980 - Health related physical fitness test)	In numbers
6	Maximal oxygen consumption	Queens college step test	In millilitres
7	Shooting – close range	Field goal speed test – Johnson basketball test	In numbers
8	Shooting – long shorts	Speed spot shooting test (AAHPERD 1984)	In numbers
9	Defensive movement	Basketball defensive movement (AAHPERD 1984)	In seconds
10	Passing	Basketball passing ability test (AAPEHRD 1984)	In numbers
11	Dribbling	Basketball control dribble test (AAHPERD 1984)	In Seconds

Tble-2 ANALYSIS OF CO-VARIANCE ON ADJUSTED MEANS

Dribbling	Conventional Group	25.01	Between sets	26.17	1	26.17	60.14
	Experimental Group	23.68	Within sets	24.80	57	0.44	
Passing	Conventional Group	80.04	Between sets	1653.02	1	1653.02	86.37
	Experimental Group	90.59	Within sets	1090.95	57	19.14	
Defensive movement	Conventional Group	23.34	Between sets	32.10	1	32.10	93.07
	Experimental Group	20.86	Within sets	19.66	57	0.34	
Speed spot shooting	Conventional Group	16.44	Between sets	493.25	1	493.25	86.80
	Experimental Group	20.86	Within sets	323.92	57	5.68	
Shooting from close	Conventional Group	30.58	Between sets	206.83	1	206.83	93.96
	Experimental Group	36.32	Within sets	125.47	57	2.20	
VO ₂ Max	Conventional Group	54.20	Between sets	126.77	1	126.77	53.58
	Experimental Group	57.16	Within sets	134.86	57	2.37	
Variables	Group	Adjusted Post Test mean	Source of Variation	Sum of Squares	Degrees of freedom	Mean square	F ratio
Speed	Conventional Group	6.52	Between sets	2.54	1	2.54	34.58
	Experimental Group	6.11	Within sets	4.19	57	0.07	
Agility	Conventional Group	9.66	Between sets	4.24	1	4.24	11.21
	Experimental Group	9.13	Within sets	21.58	57	0.38	
Explosive power	Conventional Group	17.60	Between sets	595.89	1	595.89	221.67
	Experimental Group	23.92	Within sets	153.23	57	2.69	
	Conventional Group	39.42	Between sets	270.29	1	270.29	
Abdominal muscular strength and endurance							14.44
	Experimental Group	43.78	Within sets	1067.29	57	18.72	
Flexibility	Conventional Group	30.53	Between sets	414.81	1	414.81	95.75
	Experimental	35.80	Within sets	246.93	57	4.33	

Significant at 0.05 levels (4.09)

STATISTICAL PROCEDURE

The following statistical procedures were applied in the present study to achieve its purposes. To test the individualized effect of both combination of experimental and conventional groups on selected Physical, Physiological and Skill performance variables, paired t-test was used. Further, to test the comparative effects, Analysis of Covariance was applied. In case of significant mean difference was observed on variables used, where post-hoc test was not necessary since the two groups had been used.

DISCUSSION ON FINDINGS SELECTED

Physical Fitness Variables: The experimental group had improved the speed better than the conventional group after the training for 12 weeks. The better performance of experimental group in reducing the timing of speed is due to the scientific and systematized training like short distance resistance running, muscle strengthening exercises, regular stretching exercises etc., were given to this group. This makes them better suited for anaerobic activities. The experimental group had improved the agility better than the conventional group after 12 weeks training period.

Physiological Variable: The experimental group had improved the maximal oxygen up taking capacity than the conventional group after training for 12 weeks. The better performance of experimental group was due to the prolonged performance of various drills and exercise.

Skill Performance Variables: The experimental group had improved the dribbling skills better than the conventional group after a training period of 12 weeks. The experimental group performed better Skill Performance for systematic ball control drills, quick hand drills, and various dribbling drills from basic to advance levels skills playing without any tiresome for a prolonged period of time and with ease. The experimental group had improved the passing skills than the conventional group after a training period of 12 weeks.

FINDINGS:

1. It is found that the specific training package produced significant difference on selected physical fitness variables among the experimental group than the conventional group
2. It is found that the specific training package produced significant difference on selected physiological variable among the experimental group than the conventional group.
3. It is found that the specific training package produced significant difference on selected skill performance variables among the experimental than the conventional group.

CONCLUSIONS

1. The experimental group trained with specific preseason training package has significantly improved the physical variables such as speed, agility, explosive power, strength and flexibility which are very essential physical components for any basketball player to achieve maximum success in their playing career.
2. The experimental group trained with specific preseason training package has significantly improved in the only important physiological variable VO₂ max.
3. The experimental group trained with specific preseason training package has significantly improved in all the selected skills variables. Passing and Dribbling skills which are the most basic one but also the most important one for any basketball player to excel showed significance. Also the major skills shooting and defensive movements are also showed significant difference than the conventional group.
4. Thus the experimental group trained with specific pre-season training package on selected physical, physiological and skill performance variables proved to be effective.

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