

**EFFECT OF PLYOMETRIC AND FUNCTIONAL CORE TRAINING
ON SELECTED PHYSICAL FITNESS COMPONENTS BODY
COMPOSITION AND SKILL PERFORMANCE AMONG
BASKETBALL PLAYERS**

An Abstract

***of the Dissertation Submitted to the Tamil Nadu Physical Education and
Sports University, Chennai for the fulfillment of the requirements
for the award of Degree of***

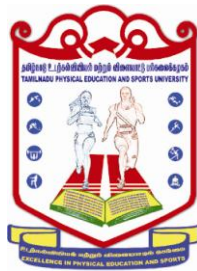
**DOCTOR OF PHILOSOPHY
IN
PHYSICAL EDUCATION**

Submitted by

**SIBY LUKOSE
(Reg.No: 352)**

Guided by

Dr. P. K.SENTHILKUMAR



**DEPARTMENT OF PHYSICAL EDUCATION
TAMIL NADU PHYSICAL EDUCATION AND SPORTS UNIVERSITY
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An abstract of the dissertation of **SIBY LUKOSE**, submitted for the degree of Doctor of Philosophy in Physical Education, Tamil Nadu Physical Education and Sports University, Chennai, March, 2016.

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The purpose of the study was to find out the effect of plyometric and functional core training on selected physical fitness components, body composition and skill performances among basketball players. To achieve the purpose of the present study, forty five men basketball players from Ernakulam district, Kerala state, India were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of fifteen subjects each. Group I acted as Experimental Group I (Plyometric Training), Group II acted as Experimental Group II (Functional Core Training) and Group III acted as 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 physical fitness components, body composition and skill performances. This initial test scores formed as pre test scores of the subjects. The groups were assigned as Experimental Group I, Experimental Group II and Control Group in an equivalent manner. Experimental Group I was exposed to plyometric training, Experimental Group II was exposed to functional core training and Control Group was not exposed to any experimental training other than their regular daily activities. The duration of experimental period was 12 weeks. After the experimental treatment, all the forty five subjects were tested on their physical fitness components, body composition and skill performance variables. 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 paired 't' test and 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.

CONCLUSIONS

From the analysis of the data, the following conclusions were drawn:

1. The plyometric training and functional core training had shown significant improvement in Explosive Strength among basketball players after undergoing plyometric training for a period of twelve weeks.

2. The plyometric training and functional core training had shown significant improvement in Muscular Endurance among basketball players after undergoing plyometric training for a period of twelve weeks.
3. The plyometric training and functional core training had shown significant improvement in Speed among basketball players after undergoing plyometric training for a period of twelve weeks.
4. The plyometric training and functional core training had shown significant improvement in Flexibility among basketball players after undergoing plyometric training for a period of twelve weeks.
5. The plyometric training and functional core training had shown significant improvement in Body mass index among basketball players after undergoing plyometric training for a period of twelve weeks.
6. The plyometric training and functional core training had shown significant improvement in percent body fat among basketball players after undergoing plyometric training for a period of twelve weeks.
7. The plyometric training and functional core training had shown significant improvement in Shooting among basketball players after undergoing plyometric training for a period of twelve weeks.
8. The plyometric training and functional core training had shown significant improvement in Passing among basketball players after undergoing plyometric training for a period of twelve weeks.
9. The plyometric training and functional core training had shown significant improvement in Dribbling among basketball players after undergoing plyometric training for a period of twelve weeks.

10. The plyometric training had shown better performance on explosive strength and speed than the other groups.

RECOMMENDATIONS FOR IMPLICATION

1. The results of this research study clearly indicate that plyometric training and functional core training could enhance the performance of basketball players in almost all the selected physical fitness components, body composition and skill performances. Hence it is recommended that coaches and physical educators in the game of basketball should give due importance to include plyometric training and functional core training in their schedules.
2. It is also recommended that a basketball team at any level should have knowledge about plyometric training and functional core training to train the players for enhancing their performance.

RECOMMENDATIONS FOR FUTURE RESEARCH

1. A similar study may be conducted on players of National Basketball team to assess their level in the selected variables.
2. A similar study may be conducted on different game and sports.
3. A similar study may be conducted in greater detail to assess changes on biochemical, physiological and physical fitness variables.
4. To find out the improvement on criterion measures periodically, the same study may be designed with repeated measures.

RESEARCH FLOW CHART

