ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2016; 2(3): 849-851
www.allresearchjournal.com
Received: 18-01-2016
Accepted: 16-02-2016

Dr. Sunil Dabas
Associate Professor, Govt. PG College, Gurgaon, Haryana, India

Corresponding Author:
Dr. Sunil Dabas
Associate Professor, Govt. PG College, Gurgaon, Haryana, India

Impact of training programme on anthropometry of male basketball players

Dr. Sunil Dabas

Abstract
The purpose of this study was to compare the impact of Training programme on Anthropometry of male Basketball players. For this present study, one hundred twenty (120) male basketball players were selected; all subjects who have participated at Inter District Competition, age ranging from 12 to 16 years would be selected randomly. These players were divided into two groups: Experimental Group (n=60) and Control Group (n=60). Anthropometry (Height, Weight, Body Mass Index, Upper Leg Length, Fore Leg Length, Thigh Girth, Knee Girth, and Calf Girth) was measured using standardized equipment, before and after a six-week training period. Mean, Standard Deviation, and Correlation of all the variables were calculated. But there was very less difference in Anthropometric Measurements that was significantly greater than Control Group. It was analyzed through statistical procedure by using Correlation. Results of this study showed significant difference between Experimental and Control Groups in pre-test and post-test for dependent measurements (p<0.05).

Keywords: Training, plyometric training, circuit training, anthropometry, basketball

Introduction
Training is an important activity which improves physical performance of the individual or a group. When we are talking about physical performance, it means sports performance and performance of our body to sustain our daily routine life. This shows that player's performance is important for the performance of the organization and the training and development is beneficial for the players to improve their performance. Players practice to achieve a specific goal through structured and focused training. The intent of training is to increase the player's ability and work capacity to optimize player's performance. Training is undertaken across a long period of time [1]. The player learns to cope with highly stressful stimuli in training and competitions. Physical excellence may grow through a well-planned training program based on practice.

Training is good for all the games. "Games for the fun of it", is a common saying and it is indicative of the pleasure one derives through participation in the games and sports. Basketball is one, among the most popular of modern games. It takes its pride of place as the most popular and more people in the U.S.A. play Basketball than any other game. Basketball has progressed to be a "world-wide game", internationally popular and universally accepted [2]. The basketball player needs to be trained for multiple components of fitness. Thus, the athlete will concurrently perform various modes of training. So it has been seen that many training processes have evolved through research for the improvement of specific components of fitness. Mainly sports need severe energy bursts either throughout the entire movement as in sprinting or intermittently as in field game. Plyometric training is an excellent way to get trained for fulfilling the demands of basketball players.

Plyometric exercises are used mainly to increase the maximal power output and jumping ability. It includes training loads with a number of rebounds and intervals between sets of exercises and drills. In plyometric training, athletes perform stopping, starting and changing direction in an explosive way, which helps to improve agility. One of the most effective mean of training for power is through plyometric training. It is not so surprising then, to see that the athletes who train with plyometric are normally the better sports person because they are much more explosive than their counterpart. The training method is also getting popular among people who want variety in their workout routine.

It offers performance improvement in almost all sports. Plyometric training is also reducing lower-extremity injuries and crossed over into the rehabilitation field. There is more training programme which improves the fitness of a sportsman. Circuit training is an excellent way to simultaneously improve mobility and build strength and stamina. The circuit training is a form of training that is enjoyable, measureable and generates immediate positive changes in all fitness components. The intensity and vigour circuit training exercises challenges and motivates the sportspersons, thus making against teammates and against time. There are numerous factors which are responsible for the performance of an athlete. The physique and body composition, including the size, shape and form are known to play a significant role in this regard. The performance of the athlete in any game or event depends on skill training, motivation and on various other factors of physiological and biochemical nature. But the game of basketball has evolved to have a high priority on body size and physical fitness by coaches and athletes. 'Anthropometry' means the measurement of man, whether living or dead, and consists primarily in the measurement of the dimensions of the body. Anthropometry- the measurements of man- provides scientific method and observations on the living man and the skeleton. Anthropometry represents the typical and traditional tool of human biology, physical anthropology and auxology. Recently it has taken a strong bonded relationship with physical education and sports sciences [3].

Basketball coaches and sports scientist often use of sports-specific physical tests to evaluate body size. Anthropometry has developed as a special branch, not only as a parameter of selective diagnostic procedure but also as a performance prediction tool. Anthropometry has been used to measure gross structure and function. There are many factors which are responsible for the performance of athletes. The figure and body composition, including the size, shape and form are known to play a significant role in this regard. At present, sportsman for better performance in any sports is selected on the basis of physical structure and body size.

Materials and Methods

To achieve the objectives of the study, 120 male basketball players of Punjab were taken. All subjects who have participated at Inter District Competition; age ranging from 12 to 16 years would be selected randomly. The samples of 120 male players were divided into four groups each including 30 male players. Every group is divided into two sub-groups, Group I as Experimental Group (EG) and group II as Control Group (CG). There were 30 male players in each group (15 in Experimental Group and 15 in Control Group). Experimental group went through Plyometric and Circuit Training for one hour, after 15 minutes of warm-up and stretching exercise, for six weeks. The data would be collected by the pre- test and the post-test after Six-week of training programme.

The training schedule for Experimental Group has been given in the form of indicating the intensity, repetitions and set. The subjects of Group-I (Experimental group) was restricted with Plyometric and Circuit Training for one hour for three days each in a week on alternate days continued for six days. Plyometric Training would be carried out on Monday, Wednesday and Friday whereas Circuit Training on Tuesday, Thursday and Saturday.

Statistical Techniques**:** For analysis of the data collected from pre-test and post-test of Experimental Group and Control Group of basketball players. For this purpose Mean, SD and Co-relation (r) were applied and for testing the hypotheses, the level of significance was set at 0.05%.

Results and Discussions

Table 1: Descriptive statistics of anthropometry between experimental group and control group during Pre and Post-test situations

Anthropometry		Pre-Data			Post-Data		
		Mean	SD	Correlation (r)	Mean	SD	Correlation (r)
Height	Experimental Group	163.1	7.79	0.34	166.37	7.66	0.37
	Control Group	162.58	10.54		164.22	10.6	
Weight	Experimental Group	49.63	8.51	0.14	51.57	7.85	0.19
	Control Group	51.6	11.48		53.92	11.16	
Body Mass Index	Experimental Group	18.68	3.04	0.16	18.67	2.79	0.20
	Control Group	19.52	4.09		20.02	3.99	
Upper Leg Ength	Experimental Group	43.07	4.67	0.13	44	4.78	0.12
	Control Group	42.92	4.81		43.47	4.94	
Fore Leg Length	Experimental Group	36.5	2.91	0.04	37.42	2.69	
	Control Group	36.03	4.02		36.63	4.03	0.03
Thigh Girth	Experimental Group	40.88	5.03	0.02	43.6	5.25	0.04
	Control Group	39.93	5.08		41.58	5.03	
Knee Girth	Experimental Group	33.6	2.89	0.11	35.68	2.98	0.14
	Control Group	32.43	3.36		34.02	3.31	
Calf Girth	Experimental Group	31.08	3.37	0.44	33.93	3.54	0.38
	Control Group	30.92	325		32.4	3.28	

Table-1 represent the correlation between Experimental and Control Group during Pre-test and Post-test on Height (r=0.34; $p<0.01$) and (r=0.36; $p<0.01$), Weight (r=0.14; $p>0.05$) and (r=0.19; $p>0.05$), Body Mass Index (r=0.16;p>0.05) and (r=0.20; $p<0.05$), Upper Leg Length (r=0.13; p>0.05) and (r=0.12; $p>0.05$), Fore Leg Length (r=0.04; p>0.05) and (r=0.03; $p>0.05$), Thigh Girth (r=0.02; $p>0.05$) and (r=0.04; P>0.05), Knee Girth (r=0.11; $p>0.05$) and (r=0.14; $p>0.05$) and Calf Girth are (r=44; $p<0.01$) and (r=0.38; $p<0.01$) respectively.

From the computed value, it can be interpreted that there is a significant moderate positive relationship (between +0.25 and +0.75) on Height and Calf Girth and low positive relationship (between 0 and +0.25) on Weight, Body Mass

Index, Upper Leg Length, Fore Leg Length, Thigh Girth and Knee Girth of male basketball players.

Conclusion

1. It was observed that there was significant relationship between Experimental Group and Control Group in pre-test and post-test on Height of male basketball players.
2. There was no significant relationship between Experimental and Control Group in pre-test and post-test of Calf Girth of Punjab state basketball players" is rejected.

Recommendations & Suggestions

1. In the present study, the effect of training programe has come out to be positive on Explosive Strength, Agility and Anthropometry of basketball players. The Physical Education teachers, trainers and coaches can prefer this type of training so as to achieve their aim i.e. to enhance their performance.
2. In the present study, it has been shown that the combined Plyometric and Circuit Training enhance Explosive Strength and Agility of basketball players. Players can do this type of training as module in order to achieve high level skill performance in the game of Basketball.
3. Another training strategy is known as complex training in which a player alternates biomechanically similar weight with Plyometric exercises, set for set, in the same workout. Since this type of training also proves to be effective in developing the Explosive Strength, Agility and Anthropometric measurements of the basketball players, the coaches can utilize this technique in their conditioning programe to develop fitness and performance.
4. In selecting the physical exercises while designing the training program, it is recommended that the form of exercise should be structured for fitness and better performance.
5. It has been recommended that the Plyometric and Circuit Training may be useful for other group of players by modifying the load, repetition and volume.

References

1. Ali Z, Mohammad A. Anthropometric Profile of Children's of Himachal Pradesh, India. International Journal of Physical Education Health and Sports Sciences. 2012;1(1):47-53.
2. Bompa TO, Haff GG. Periodization: Theory and Methodology of Training (Fifth Edition). U.S.A: Kendall / Hunt Publishing Company, 2009, 3.
3. Gomathi N, Radhakrishnan T. Pace Analysis on BMI Classification among Engineering College Women Students. Journal of Physical Education, sports and Fitness. 2016;1(4):17-20.
4. Kaira KCS, Pant G. Comparison of Selected Anthropometric Variables among Basketball and Volleyball Players. International Journal of Physical Education, Sports and Health. 2016;3(6):63-64.
5. Kovacevic E, Klino A, Babajic F, Bradic A. Effects of Maximum Isometric Contraction on Explosive Power of Lower Limbs (Jump Performance). International Scientific Journal of Kinesiology. 2010;7(1):69-75.
6. Meethal A, Najeeb AM. Effects of Circuit Training on Different Surfaces on Selected Physical and Physiological Variables of School Boys. International Journal of Physical Education, Fitness and Sports. 2013;2(4):56-59.
7. Pant G, Parsekar S. Anthropometric Characteristics Contributing to Success at Different Level. International Journal of Physical Education, Sports and Health. 2017;4(3):21-23.
8. Reyment CM, Bonis ME, Lundquist JC, Tice BS. Effect of a Four Week Plyometric Training Program on Measurements of Power in Male Collegiate Hockey players. International Scientific Journal of Kinesiology. 2006;1(2):44-62.
9. Sodhi HS. Sports Anthropometry. Mohali: Anova Publications, 1991, 68-69.
10. Srivatsan S. Basketball. India: N.I.S. Publication, 1971, 2-4.
11. Taylor AW. (n.d.). Training: Scientific Basis and Application, 1971, 35.