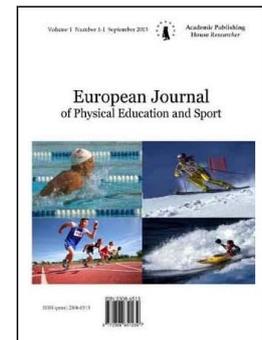


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The Reciprocal Relationship between Training with Weights and the Bliometrical Training and Their Effect on the Muscles Capacities Growth for Basketball Players

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Abstract

The research aims to determine the effect of each of the training with weights and biometry in muscle capacity and jump for the basketball players development, and also reciprocal relationship of the impact of the three training types in the development of muscle ability and improve upon the research sample groups. The researchers used the experimental method to design three experimental groups, and the control group the results showed the extent of the progress made with the experimental groups, especially the mixed training group, which confirms that the proposed mixed training style has a distinctive effectiveness of the force development characterized by the speed as indicated by Talha Hossam El-Din (2008) where he shows the necessity to use a mixed training throughout the training season. This consist with Yasser Dabour's study (1996) which confirms that the mixed training (weights and bliometric) is more effective than training separately.

Keywords: training with weights, Bliometrical Training, Muscle Ability.

Introduction

Sports training has widespread its area towards Science by the use of various sciences to build its operations and plans, Ahmed Abdel rahman and Azzedine Bakri (2004) say that sports training is the overall process of improving aiming for sporty performance which is achieved through the scheme for the preparation and competition program, it is the process of the exercise of organization characterized by a dynamic and continuous change (Ahmed abderahmane & Azzedine bakri 2004)

The basketball is one of the collective games which has been practiced for a quite long time and no soon it has occupied a position among the other games due to its enthusiasm (Mouawad, 2009).

Like other activities, basketball game has become a keep pace with technology using the sciences to find effective ways and modern methods in order to achieve the highest form by obtaining the highest scores in physical performance and skill outstanding and good preparation

for the physical characteristics of the game, mainly distinctive strength speed, which is a prerequisite to reach higher level.

The training with weights has an important role in the development of muscle strength of the basketball player as the nature of the performance skills in the this sport requires a force characterized by the speed and then the training with weights is necessary among the contents of training programs (Kamel darrouich & all 1999)

For many researchers, bliometrical training becomes one of the methods more commonly used in the development of the distinctive force as fast as many of the sporting activities that require the integration of the maximum speed with maximum force muscle where this method contributes to overcome the problems that the development of the distinctive strengths characterized by the speed r faces (bastawisi Ahmed 1999)

Abdel-Maksoud(1997) mentioned that an attempt is made to reach a maximum degree of efficiency through the use of force with methods which are different or opposite in the direction inside the module or within a range of exercises, and it's possible to reach the contrast across the exchanging between weight either by using the explosive manner/method or by changing the load level or by changing the kind of contraction and muscle tension or from weight to bliometric. (Abdelmaksoud1997)

According to previous studies, the researchers concluded that the use of bliometrical training has utmost importance in the development of the physical characteristics and so does the training with weight. These studies agreed on the necessity of using both methods to develop the muscle power, especially the lower limbs and the process of upgrading, in correspondence a study of Sylva Sohak(2000), and a study Toplica stojanovié. Radmila kostié (2002),Vladan milié. Dragan nejíé.radomir kostié (2008), and of Imad Sarssy (2006).

The problem of the study rose while observing the training sessions concerning the national championship teams of basketball. It was obvious that there was a lack of diversification and combining modern method of training, particularly about special physical attributes development. Referring to this point of view the current study focus on the use of both weight and bliometrical training to know the exchanging relationship between both methods in muscle and acclivity development for the basketball players.

This study aims to find out the reciprocity relationship between the weight and bliometrical training and its impact on the muscle capacity and the acclivity for the basketball players through a proposed training program to identify:

1. The effect or the impact of weight and bliometrical training on the muscle capacity and accession for the basketball players
2. Differences indication between the effect of training with weights and training with bliometric and weight and bliometrical training on the muscle capacity for the basketball players.
3. The reciprocity relationship impact between the effect of training with weights and training with bliometric and weight and bliometrical training on the muscle capacity for the basketball players.

Methods

1. Methodology: researchers used the experimental method by choosing four groups, three of them experimental and one static.

2. The Research sample:

The sample included 64 basketball cadet category players exercising in four teams from the West regional championship divided into equal four groups, with 16 players for each group.

The first group t using weight training, the second group using bliometrical training, the third group using both kind of training and the fourth group is the static sample.

Physical tests:

- 1- Three partridge with right leg.
- 2- Three partridge with left leg.
- 3- Push medical ball (3kgs).
- 4- Vertical jump test fixture.

5-‘peacefully’ scoring test.

The Main experiment:

The fundamental experiment was applied for twelve weeks at a rate of three training sessions per week. The duration of each session was 90 mn taking into account the training load principals. The first group used weight training program, the second team Biometrical training while the third group applied a mixed training program combining training with weights and bliometric, while the fourth group receive an ordinary training program.

Results

Table (01): shows the parity homogeneity between the four groups in the variable under research.

Tests	Source of variation	Total square deviations	Degree of freedom	Average squares	P value calculated	Level significance
Three (3) partridge with right leg	Between groups	0.28	03 60	0.09	0.45	Non significant
	Within groups	12.01		0.20		
Three (3) partridge with right leg	Between groups	0.04		0.01	0.16	Non significant
	Within groups	4.02		0.06		
push medical ball (3kgs).	Between groups	0.89		0.29	0.78	Non significant
	Within groups	22.44		0.37		
vertical jump test fixture.	Between groups	0.25	0.08	1.60	Non significant	
	Within groups	3.59	0.05			
“peacefully” scoring test	Between groups	0.55	0.18	0.08	Non significant	
	Within groups	129.69	2.13			

P tabular value at the significance level $0.05=2.76$

It's obvious from the table that there were not statistical significant differences between the four groups (experimental & controlled) which confirmed parity before starting the basic study.

Table (02): shows the differences between the tests averages under research for all the groups.

Statistical study	Tests	Pas-test		Post-test		T value calculated
		X	Y	X	Y	
Training with weights group	Three partridge with right leg	3.66	0.18	4.79	0.10	20.06
	Three partridge with right leg	3.23	0.07	4.46	0.5	18.16
	Push medical ball 3kgs.	8.12	1.26	11.18	1.60	9.02
	vertical jump test fixture	3.04	0.33	3.67	0.25	6.30
	Peaceful scoring	03	1.52	07	1.57	8.38
training with bliometric group	Three partridge with right leg	3.51	0.11	4.47	0.21	17.04
	Three partridge with right leg	3.21	0.06	4.18	0.20	19.41
	Push medical ball 3kgs.	8.06	1.28	12.18	1.42	7.77
	vertical jump test fixture	3.12	0.22	3.92	0.27	6.41
	Peaceful scoring	03	1.49	07	1.58	16.35
Mixed training group (weight & Plyometric)	Three partridge with right leg	3.52	0.12	4.92	0.22	23.51
	Three partridge with right leg	3.15	0.211	4.55	0.30	19.97
	Push medical ball 3kgs.	8.00	1.25	12.31	1.29	10.26
	vertical jump test fixture	3.14	0.24	4.02	0.37	6.67
	Peaceful scoring	04	1.52	08	1.48	17.39
The control group	Three partridge with right leg	3.49	0.36	4.41	0.29	7.75
	Three partridge with right leg	3.19	0.39	3.58	0.36	7.81
	Push medical ball 3kgs.	8.25	1.38	10.06	1.33	8.24
	vertical jump test fixture	2.98	0.40	3.34	0.56	4.50
	Peaceful scoring	03	1.26	05	1.35	14.66

Tabulated T value at 63 degree of freedom and significant level 0.05= 2.13.

Through the results obtained and mentioned in the above table, it's clear that the differences were statically significant compared to the Tabular T value 2.13 in all tests for all the groups in favor of post-measurement.

Table (03): shows the contrast analysis between the four groups for the physical tests under study.

Tests	Variation Source	Total square deviations	Degree of freedom	Average squares	P value calculated	Level of significance															
Three (3) partridge with right leg	Between groups	6.27	03 60	2.09	41.8	Significant															
	Within groups	3.43		0.05			Three (3) partridge with right leg	Between groups	9.18	3.06	38.25	Significant	Within groups	4.95	0.08	push medical ball 3kg	Between groups	52.39	17.46	8.15	Significant
Three (3) partridge with right leg	Between groups	9.18		3.06	38.25	Significant															
	Within groups	4.95		0.08			push medical ball 3kg	Between groups	52.39	17.46	8.15	Significant	Within groups	128.68	2.14						
push medical ball 3kg	Between groups	52.39		17.46	8.15	Significant															
	Within groups	128.68		2.14																	

Vertical jump test fixture	Between groups	4.39		1.64	8.58	Significant
	Within groups	10.52		0.17		
“peacefully” scoring test	Between groups	351.68		117.22	46.33	Significant
	Within groups	151.80		2.53		

Tabular P value at the significance level $0.05=2.76$.

From the results illustrated in table (03), it's obvious that there are statistical significant differences; tabular P with 2.76 is lesser than calculated P for all the tests. This needs to use “Tioki” method to find out the accurate moral difference.

Discussion

- Table (02): it's clear that there were no moral differences between the four groups (experimental & controlled) which mean that there was a case of homogeneity.

- Table (03) shows the presence of statistically significant differences between pre and post measurements for each group in favor to post-measurement in the test under research. The presence of statistically significant differences for the controlled group in favor to post test is due to the effect of the executed training but this was slight improvement.

- For the bliometrical training group also the statistically significant differences were in favor of the post test things which confirm the study held by Ibtissam Djabara (1998) concerning the force development characterized by the fastness, the same results obtained by the weight training group and this also agreed with Islam Toufik Mohammed study (1998).

But in the opposit, the results of the mixed training group were the best. This means that the mixed training which combine both weights and bliometric is better than the training with each one of them separately and its use is necessary for the players muscles force development.

It's clear from what has been said above that there are a great progress which confirm, also, that the mixed training method has a huge effectiveness in the power development characterized by speed and this what Talha Hossam-eddine (1999) mentioned inviting to use this kind of training throughout the training season.

- In the test of three partridge with right and left leg, we notice the superiority of the weight training group on the bliometrical training group, this is due to the motor performance nature of basketball game than long jump.

- Concerning the push of medical ball test the differences were not statistically significant between weight and bliometrical training and mixed training in favor to the mixed training. Hence the differences were statistically significant between the mixed training group and the controlled group in favor to the mixed training. These results are conforming to studies held by Mohammed Abdel Aal and others.

- Through the results obtained by the mixed training group which were the best, we are convinced that the diversity in the use of both weight and bliometrical training is very important to obtain the best results in the force development characterized by fastness (muscle capacity) for basketball players.

- For the vertical jump, the differences were statistically significant between all the groups so found Mahmoud Hamdi Abdelkarim, Imad Abdelfattah Sarssy and Toplica stojanović. Radmila kostić (2002) in their study.

The researcher attributed this that the vertical jump was the best for the bliometrical training because of the quick muscle strength use. In other hand the researcher explained this by noticing that the biometrical training consisted on high jump exercises which increase muscles fibers

excitability that lead to the involvement of a large number of them giving birth to a strong and fast contraction increasing exploding performance, this is in conformity with what Abouela Abdel-Fattah said (2003), Rahman rahimi, naser behpur (2005), and so did Vladan milié. Dragan nejié.radomir kostié (2008).

In other hand the mixed training group was the best among all the experimental groups proving the study held by Mohammed Abdel Aal and others which mentioned That the differences between weight training with bliometric has more effect than training separately.

The researcher also believes that the jump is necessary in the basketball game. This is clear through the results obtained during the “peacefully” scoring test which reflects how the jump is linked to the execution (scoring).

Conclusion

Nowadays we're facing a great scientific progress concerning the players physical preparation, many of problems were solved in this field. To ensure continuity of progress in games and sports activities, a tight layout training is needed.

In order to raise the level of the basketball game, we have to focus on the best preparation of the training program which take in account the requirement of efficiency by the use of the most appropriate and most successful training methods. This study tried to show that the use of weight and bliometrical training methods together and knowing the presence of reciprocity in the relationship between them in muscle capacity and jump development for the basketball players.

The research aims to determine the impact of the use of the weight training and bliometrical training in muscle capacity development and jump for basketball players. Also this research aims to check the reciprocal relationship of the three types of training impact in the muscle capacity progress for the group sample of the research. The researchers used the experimental method by choosing three groups and a controlled group. The results showed the progress held by the experimental groups especially those who used mixed training which is in conformity with a study of Rahman rahimi, naser behpur (2005),Vladan milié.Dragan nejié.radomir kostié(2008) and Yasser Debbour (1996) who focus that the mixed training (weights & bliometric) has a great impact instead of using each one of them separately. The results obtained are in conformity, also, with the results obtained by Mohammed Abdel Aal and others in their study (2006). And it remains to mention that there is reciprocal relationship of the impact of the three groups in some muscle capacity development for the basketball players.

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