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An Effective Approach through Strength, Endurance and Skill Training Program Combinations on Flexibility and Dribbling of Male Basketball Players

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Abstract:

The purpose of the study was to find the effective approach through strength, endurance and skill training program combinations on male basketball players to develop skill and fitness related variables. To achieve the purpose of the study, 60 male basketball players were selected from Excel group of Institutions, Namakkal, Tamil Nadu, India. The subjects age ranged between from 18 – 25 years and the subjects were tested by flexibility (sit and reach) and dribbling (Johnson Basket Ball Test), pre-test was taken before the training and the post test data was collected after the completion of the twelve-week training periods. The subjects assigned as random group design in which the first group (n=20, SES group) underwent strength and endurance training with skill training, the second group (n=20; SE group) will be performing strength and endurance training without skill training, the third group (n=20, CON group) did not practice any specific training, but they allowed to play regular practice without any specific workouts. Based on this study 't' ratio was applied to find out the significant difference between the pre and post tests in the selected variables. The results reveal the training programme showed significant improvement on the selected dependent variables on flexibility and dribbling of male basketball players.

Keywords: SETWST-strength and endurance training with skill training, SETWOST-strength and endurance training without skill training, Flexibility, Dribbling

1. Introduction

Basketball is one of the world's most popular and widely viewed sports (Griffiths, Sian September 20, 2010). Basketball has evolved many commonly used techniques of shooting, passing, dribbling, and rebounding, as well as specialized player positions of offensive and defensive techniques. The sports of basketball is demanding and requires speed, agility, upper and lower body strength, maximal aerobic power, and aerobic endurance (Noyes, FR et al , 2012) .The tallest members of a team will play center, "power forward" or "small forward" positions, while shorter players or those who possess the best ball handling skills and speed play "point guard" or shooting guard.

Basketball is also one of the most popular team based sports. (The game includes the components, flexibility, muscular strength, endurance aerobic and anaerobic energy). Many factors contribute to the performance of the basketball players. This includes a combination of technical and tactical abilities as well as a high degree of physical fitness (Smith and Thomas 1991).

The critical factor in fitness testing is to test both the anaerobic and aerobic exercise systems but to importantly allow it to preferably involve the sports specific actions. Theoretically testing procedures and results should also possibly consider the different player positions and requirements.

The guards tend to originate attacking patterns, requiring them to control and dribble the ball up the court. They generally stay further away from the basket than the forwards. The forwards perform some dribbling skills but are expected to help guards in setting up attacking patterns while also defending and rebounding close to the basket (Stone and Steingard 1993).

1.1. Objectives of the Study

1. To find out whether the strength and endurance training along with skill training would significantly improve the flexibility and dribbling of male basketball players.

- To find out whether the strength and endurance training without skill training would significantly improve the dribbling and flexibility of male basketball players.

1.2. Hypothesis

- It was hypothesis that the strength and endurance training with skill training would significantly improve the flexibility and dribbling of male basketball players.
- It was hypothesis that the strength and endurance training without skill training would significantly improve the flexibility and dribbling of male basketball players.
- It was hypothesis that the strength and endurance training with skill training would significantly improve better than the strength and endurance training without skill training and control group on dribbling and flexibility of male basketball players
- It was hypothesis that the strength and endurance training without skill training would significantly improve better than the control group on flexibility and dribbling of male basketball players

2. Methodology

The purpose of the study was to find out the effective approach through strength, endurance and skill training program combinations on flexibility and dribbling of male basketball players. Sixty male inter collegiate level basketball players were selected from Excel group of Institutions, Namakkal, Tamil Nadu (their range of age, height, weight: 20.3 ± 2.4 ; 170 ± 4.6 ; 65 ± 3.8). The selected subjects were randomly divided into three equal groups from various colleges affiliated to Anna university, Chennai. (The subjects were assigned as one of the three groups, in which the first group (n=20, SEWST group) has performed strength and endurance training with skill training, the second group (n=20; SEWOST group) performed strength and endurance training without skill training, the third group (n=20, CG group) did not performed any specific training but they were allowed to play basketball game daily. The physical variables of flexibility and dribbling were selected for this study. To find the dribbling values knox basketball skill test used and to find flexibility values sit and reach test used. To find the mean difference between pre- test and post test 't' ratio used. Anova used to find out the mean difference among the groups.

Variables	Test	Mean	M.D	S.D	S.E.M.	't' Ratio
Dribbling	Pre-Test	22.8780	2.38	1.16783	.15218	9.98*
	Pos-Test	20.4945		1.30521		
Flexibility	Pre-Test	25.3000	4.05	2.00263	.08980	16.48*
	Post-Test	29.3500		2.00722		

Table 1: Significance of mean gains / losses between pre and post test of strength and endurance training with skill training on Dribbling and flexibility of male basketball players
*Significant at 0.05 level (2.09)

Table -1 shows the SETWST group dribbling pre test mean ($22.87 \pm$ S.D 1.16) and post test mean was ($20.49 \pm$ S.D 1.30). The difference between the mean value was 2.38 and flexibility pre test mean ($25.30 \pm$ S.D 2.00) and post test mean was ($29.35 \pm$ S.D 2.00). The difference between the mean value was 4.05. The obtained 't' ratio's for pre and post test mean difference in strength and endurance training with skill training on dribbling (9.98) flexibility (16.49) respectively. The obtained t ratio was when compared with the table value of 2.09 for the degrees of freedom (1, 19), it was found to be statistically significant at 0.05 level of confidence for the experimental groups.

Variables	Test	Mean	M.D	S.D	S.E.M.	't' Ratio
Dribbling	Pre-Test	22.8410	1.01	1.35470	0.126	7.99*
	Pos-Test	21.8315		1.20082		
Flexibility	Pre-Test	25.5000	1.55	1.63836	0.135	11.46*
	Post-Test	27.0500		1.66938		

Table 2: Significance of mean gains / losses between pre and post test of strength and endurance training without skill training on Dribbling and flexibility of male basketball players
*Significant at 0.05 level (2.09)

Table -2 shows the SETWOST group dribbling pre test mean ($22.84 \pm$ S.D 1.35) and post test mean was ($21.83 \pm$ S.D 1.20). The difference between the mean value was 1.01 and flexibility pre test mean ($25.50 \pm$ S.D 1.63) and post test mean was ($27.05 \pm$ S.D 1.66). The difference between the mean value was 1.55. The obtained 't' ratio's for pre and post test mean difference in strength and endurance training without skill training on dribbling (7.99), flexibility (11.46) respectively. The obtained t ratio was when compared with the table value of 2.09 for the degrees of freedom (1, 19), it was found to be statistically significant at 0.05 level of confidence for the experimental groups.

Variables	Test	Mean	M.D	S.D	S.E.M.	't' Ratio
Dribbling	Pre-Test	22.8635	0.38	1.23030	0.099	3.81*
	Pos-Test	22.4855		1.19518		
Flexibility	Pre-Test	25.4000	0.50	1.69830	0.021	2.36*
	Post-Test	25.9000		1.51831		

Table 3: Significance of mean gains / losses between pre and post test of control group on Dribbling and flexibility of male basketball players *Significant at 0.05 level (2.09)

Table -3 shows the CG group dribbling pre test mean ($22.86 \pm S.D 1.23$) and post test mean was ($22.48 \pm S.D 1.19$). The difference between the mean value was 0.38 and flexibility pretest mean ($25.40 \pm S.D 1.69$) and post test mean was ($25.90 \pm S.D 1.51$). The difference between the mean value was 0.50. The obtained 't' ratios for pre and post test mean difference in control group on Dribbling (3.81), flexibility (2.36), respectively. The obtained t ratio was when compared with the table value of 2.09 for the degrees of freedom (1, 19), it was found to be statistically significant at 0.05 level of confidence for the control group.

Variables	Test	Sum of variance	Sum of Squares	df	Mean Square	F
Dribbling	Pre-Test	Between Groups	.014	2	.007	.004
		Within Groups	89.541	57	1.571	
Flexibility		Between Groups	.400	2	.200	.063
		Within Groups	182.000	57	3.193	
Dribbling	Post-Test	Between Groups	41.196	2	20.598	13.51*
		Within Groups	86.906	57	1.525	
Flexibility		Between Groups	123.433	2	61.717	20.29*
		Within Groups	173.300	57	3.040	
Dribbling	Adjusted Post-Test	Between Groups	41.890	2	20.945	41.591*
		Within Groups	28.201	56	.504	
Flexibility		Between Groups	131.381	2	65.691	86.245*
		Within Groups	42.654	56	.762	

Table 4: Analysis of variance on pre test means-post test means, Analysis of c-variance on adjusted post test means among SETWST, SETWOST and CG on dribbling and flexibility of male basketball players

3. Discussion and Findings

3.1. Dribbling

The strength endurance training with skill training, strength endurance training without skill training significantly improved the dribbling from pretest to post test. The flexibility increased in the strength endurance training with skill training (SETWST) group pre test mean ($22.87 \pm S.D 1.16$) and post test mean was ($20.49 \pm S.D 1.30$). The difference between the mean values was 2.38. Strength endurance training without skill training (SETWOST) group pre test mean ($22.84 \pm S.D 1.35$) and post test mean was ($21.83 \pm S.D 1.20$). The difference between the mean values was 1.01. pre test mean ($22.86 \pm S.D 1.23$) and post test mean was ($22.48 \pm S.D 1.19$). The difference between the mean values was 0.38. Dribbling significantly improved pre test to post test in experimental groups and control group. The result of the present study are in line with previous study Chtara M (2005) finding found that the intra-session concurrent endurance and strength training resulted in a improvement of flexibility. J. Mikkola, et.al (2007) found that the concurrent endurance and explosive type strength training improved dribbling.

3.2. Flexibility

The strength endurance training with skill training, strength endurance training without skill training significantly improved the dribbling from pretest to post test. The flexibility increased in the strength endurance training with skill training (SETWST) group pre test mean ($25.30 \pm \text{S.D } 2.00$) and post test mean was ($29.35 \pm \text{S.D } 2.00$).The difference between the mean value was 4.05. Strength endurance training without skill training (SETWOST) group flexibility pre test mean ($25.50 \pm \text{S.D } 1.63$) and post test mean was ($27.05 \pm \text{S.D } 1.66$). The difference between the mean value was 1.55.pre test mean ($22.86 \pm \text{S.D } 1.23$) and post test mean was ($22.48 \pm \text{S.D } 1.19$). The difference between the mean values was 0.50. flexibility was significantly improved pretest to posttest in experimental groups and control group. The result of the present study are in line with previous study Chtara M (2005)] finding found that the intra-session concurrent endurance and strength training resulted in a improvement of flexibility.J.Mikkola , et.al (2007) found that the concurrent endurance and explosive type strength training improved dribbling.

4. Conclusion

It was concluded that strength endurance training with skill training improved dribbling and flexibility of male basketball players.

It was concluded that strength endurance training without skill training improved dribbling and flexibility of male basketball players.

It was concluded that control group also improved dribbling and flexibility of male basketball players.

5. References

- i. Noyes, F. R., Barber-Westin, S. D., Smith, S. T., Campbell, T., & Garrison, T. T. (2012). A training program to improve neuromuscular and performance indices in female high school basketball players. *The Journal of Strength & Conditioning Research*, 26(3), 709-719.
- ii. Smith, H. K., & Thomas, S. G. (1991). Physiological characteristics of elite female basketball players. *Canadian journal of sport sciences= Journal canadien des sciences du sport*, 16(4), 289-295.
- iii. Stone, W. J., & Steingard, P. M. (1993). Year-round conditioning for basketball. *Clinics in sports medicine*, 12(2), 173-191.
- iv. Suthakar, S., and A. Pushparajan. "Effects of Silambam and Karate with Yogic Training on Agility and Arm Explosive Power of Collegiate Male Students." *International Journal of Innovative Research and Development* (2014).