Research Paper
Impact Factor: 3.567
Peer Reviewed Journal

IJMDRR
E- ISSN –2395-1885
ISSN -2395-1877

EFFECT OF BASKETBALL SKILL TRAINING AND YOGA TRAINING ON PLAYING ABILITY OF COLLEGE BASKETBALL PLAYERS

M.Sathya * Dr. A.Mehaboobjan**
**Research Scholar, Department of Physical Education, Bharathiyar University, Coimbatore, Tamilnadu, India.*
***Professor of Head Department of Physical Education, Bharadhidasan University, Trichirapalli, Tamilnadu, India.*

Abstract
The objective of the present investigation was to examine the effect of basketball skill training and yoga training on playing ability of college basketball players. To achieve the purpose of the study 45 college level female basketball players of SSM Arts and Science College, Komarapalayam, Salem, District were selected subjects. The age of the subjects ranges between 18-25 years. They were randomly assigned into three groups equally so that each group has 15 subjects. The first group was named as the skill training group (STG).The second group was named as the skill training group and yoga training group (SYTG) and the third was control group (CG). After assigning the subjects into various groups the pretest was conducted on the selected variables namely speed dribble and wall bounce. After completion of the pre test the subjects were treated with their respective training programs. The training period was scheduled for 12 weeks. Experimental group 1 (STG) underwent skill training program. Experimental group 2 (SYTG) underwent a combination of both skill training and yogic training and the control group did not undergo any specific training. After 12 weeks of the training period post test was conducted on the dependent variables for all the groups. To analyze the treatment effect of pre and post test training't' ratio was used. To compare the significance of mean differences among all the three groups analysis of covariance was used. Results: The skill training group (STG) and the combined training group (SYTG) has shown significant improvement (P<0.05) in the selected variables speed dribble and wall bounce. The experimental group 1(STG) skill training group has also given better results than the control group. The skill training group had not shown significant results than combined training group. The experimental group 2 (SYTG) the combined skill training and yoga training group, while comparing with the control group had shown better results than the control group. The skill and yoga training group (that is the combined group) was better than the skill training group. The control group did not show any significant improvement on any of the selected variables. Conclusion: Based on the results it was concluded that the implication of skill training and yoga training program in a combined form is specific to the basketball game and this might have been the source of its dominance on the improvement of speed dribble ability and wall bounce ability of the college basketball players.

Introduction

Tammer Farid (2015) the lead trainer of One Basketball's club located in the Westchester/New York City says that every basketball player wants to perform at their highest possible level. We are always looking for an edge to get better. We all are willing to put our bodies through rigorous workouts and practices to achieve these basketball goals. But one way we may not think off at first, that a lot of NBA and College teams are using to enhance their performance on court was actually located in the yoga studio and not in the weight room.

A well-rounded yoga routine includes dynamic flexibility, core stabilization, muscular endurance, proper breathing and balance work. By focusing on these vital elements, yoga can be a great thing to do to recover from a series of tough workouts. Some of the most popular yoga movements directly improve the range of motion at your joints, which helps to stay on the court longer and move more fluidly. We all know yoga is not as easy as it may seem which why it is great for those who need a new or different challenge in their training programs. And lastly, when we are feeling the most pressure about the big game or try out, yoga for basketball players and its emphasis on breathing and relaxation can really boost the mental energy, focus and concentration.

So the researcher was interested find whether yoga in combination with the regular skill training given for basketball players of the college she worked in really produces any significant effect.

Selection Of Subject And Variables

The present study was designed to examine the effect of skill training and yoga training on selected playing ability parameters of college basketball players. 45 college level female basketball players of SSM Arts and Science College, Komarapalayam, Salem, District were selected subjects. The age of the subjects ranges between 18-25 years. The selected skills were tested on speed dribble and wall bounce ability. Tests were conducted to all the selected subjects before and after the training. The experimental group underwent a twelve week skill training program.

Experimental Design

In this study forty-five college basketball players were randomly divided into three groups namely, experimental group 1skill training program (n=15 SYG) experimental group 2 skill training along with yoga training program (n=15, SYTG) and control group (n=15, CG). Each group consists of fifteen subjects. The selected subjects were initially tested on the selected parameters namely speed dribble and wall bounce. After the completion of the pre test, the subjects belonging to experimental group 1and 2 were treated with their respective training program for twelve weeks. The experimental group 1 underwent skill training and experimental group 2 underwent skill training along with yoga training and control group had not actively participated in any specific training. After 12 weeks of training period post test was conducted on the selected skills wall bounce and speed dribble, for all the three groups.

Test Procedure

The following tests were chosen for testing variables. Speed dribble and wall bounce was measured by using Knox basketball test. The chosen tests were highly standardized, appropriate and ideal to assess the selected variables.

Speed Dribble Test: Purpose: To develop high bounce dribble with cross dribble. Equipment: Ball, measurement tape and hurdles or chairs. Procedure: The subject places the ball on the start. Finish line and then stands back of it, with hands on knees, with the signal "Go" the subject pick up the ball and dribble down and back through the line of chairs(obstacles). The watch is started with the signal "Go" and is stopped as the subject returns to the start finish line. Scoring: The score is the total number of seconds from the command "Go" until the subject returns to start-finish line.

Wall Bounce Test: Purpose: To develop the speed pass and rebound. Equipment: Ball, measurement tape. Procedure: A line is marked on the floor 5 feet from the wall and parallel to it. The subject stands behind the line and rebounds the basketball from the wall as rapidly as possible fifteen times, using the chest pass. Scoring: The score is the number of seconds from the signal "Go" until the ball hits the wall fifteen times. If it rebounds and it requires the subject to take more than one step for recovery, the test is repeated.

Training Programme

i. **Skill training schedule:** Skill training was given for twelve weeks as for one hour a session for six days a week. The specially designed skill training program was given to the experimental group 1 (STG). Load was managed by increasing the repetition of the exercises once and reducing the rest for the second six weeks.

Table-I

S.No	Exercise	Repetition	Set	Rep rest	Set rest	Time
1	Warm up	1*5min	1	-	-	5 min
2	Conditioning	1*4min	1	-	60 sec	5 min
3	Ball juggling	5*30 sec	1	15 sec*4	30 sec	4 min
4	Stance & stops	5*30 sec	1	15 sec*4	30 sec	4 min
5	Pivoting	3*60 sec	1	15 sec*2	30 sec	4 min
6	Give and go	3*60 sec	1	30 sec*2	30 sec	4.5 min
7	Fast break drill	2*45 sec	1	30 sec*1	60 sec	3 min
8	Defense shuffling	3*30 sec	2	30 sec*2	60 sec	6 min
9	Stationary dribble (Low, medium& high)	3*30 sec	1	-	30 sec	2.5 min
10	Game situation					7 min
11	Warm down	1	1			4 min
12	Push ups	10*15 sec	2	-	30 sec	5.5 min
13	Abdomen ex	10*15 sec	2	-	30 sec	5.5 min
	Total time					60 Min

ii. **Combined training group (SYTG):** The skill training and yoga training group (SYTG) was given 40 minutes of yoga training and 20 minutes of skill training for twelve weeks as one session a day for 6 days a week.

Table -II

S.No	Exercise	Repetition	Set	Rep rest	Set rest	Time
1	Warm up	1*5min	1	-	-	5 min
2	Conditioning	1*4min	1	-	60 sec	5 min
3	Ball juggling	5*30 sec	1	-	-	2.5 min
4	Stance & stops	4*30 sec	1	20 sec*3	-	3 min
5	Pivoting	3*60 sec	1	15 sec*2	-	3.5 min
6	Give and go	2*60 sec	1	60 sec	-	3 min
7	Fast break drill	1*60 sec	2	-	60 sec	3 min
8	Defense shuffling	3*30 sec	1	30 sec*2		2.5 min
9	Stationary dribble (Low, medium& high)	5*30 sec	1	-		2.5 min
10	Game situation					5 min
11	Warm down		1			5 min
	Total Skill training time					40 Min
Sno	**Exercise**	Repetition	Set	Rep rest	Set rest	Time
1.	**Prayer**	1	1	-	-	2 min
2.	**Loosening exercise**	1*120 sec	1	-	-	3 min
3.	**Surya Namaskar**	1 rounds = 60 sec	15	-	20sec	20 min
4.	**Savasana**	1*300 sec	1	-	-	5 min
	Total yoga training time					30 min

The above mentioned training programs were executed for the respective groups in the morning sessions only as one session a day.

Statistical Analysis

To analyses the comparative treatment effects of training's' ratio was used. To compare the significance of the mean differences among the three groups analysis of co-variance was used. When the F-ratio was significant, Scheffe's post-hoc test was used to identify the significant differences between the training groups. To test the significance of the derived results, the alpha level was set at 0.05 level of confidence.

Result of the Study

Analysis of covariance was applied to determine whether the training programs produced any significant difference by improvements in speed dribble and wall bounce skill training and combined skill and yoga training group. The analysis is presented in the following tables.

Table – III

Significance of the mean difference of pre and posttest of skill training group, combined group and control group on speed dribbling and wall bounce

Variables	**Groups**	**Pre-test Mean±SD**	**Post-test Mean±SD**	**'t ' ratio**	**% changes**
Speed dribble	STG	19.13±4.58	14.93±4.23	3.474	22%
	SYTG	20.27±6.12	13.60±4.17	5.290	33%
	CG	19.13±4.03	20.33±4.61	1.829	6%
Wall bounce	STG	19.03±4.58	15.00±2.85	2.674	22%
	SYTG	20.15±6.12	12.40±2.77	5.400	39%
	CG	19.30±4.03	20.33±4.61	1.829	6%

The above shows that the obtained t-ratio's between the pre and posttest means of the control group, skill training group and combined (skill and yoga) training group on speed dribble of college basketball players were 3.474, 5.290 and 1.829 respectively. The obtained t-values of skill training group, combined training group, were found to be higher than the

required table value2.145 df 1 and 14 at 0.05 level of significant. Hence the null hypothesis was rejected at 0.05 level of significance. Thus it may be concluded that speed dribble increased by 22%, 33%, and 6% for skill training group, combined training group and control training group respectively.

It also shows that the obtained t-ratio's between the pre and post test means of the control group, skill training group and combined (skill and yoga) training group on wall bounce of college basketball players were 2.674, 5.400 and 1.829 respectively. The obtained t-values of skill training group, combined (skill and yoga) training group were found to be higher than the required table value2.145 df 1 and 14 at 0.05 level of significant. Hence the null hypothesis was rejected at 0.05 level of significance. Thus it may be concluded that wall bounce increased by 22%, 39%, and 6% for skill training group, combined training group and control training group respectively.

Table – IV

Analysis of covariance on pre, post and adjusted post test means on hand eye co ordination, finger dexterity wall bounce and speed dribble of skill training group (STG), combined training group (SYTG) and control group (CG)

Variables	Groups	Test			F – value		
		Pre-test	Post-test	Adjusted post-test	Pre-test	Post-test	Adjusted post-test
Speed dribble(Scores in minutes)	STG	19.13	14.93	15.30	1.01	6.70*	9.19*
Wall bounce (Scores in minutes)	STG	19.03	15.00	15.28	1.01	12.68*	15.64*
	CG	19.30	20.12	20.61			

* Significant at 0.05 level

It indicates that the pretest means value of STG, SYTG, and CG were 19.13, 20.27, 19.13respectively on speed dribble. The obtained F ratio 1.01 was found to be lower than the table value 3.23 for df 2 and 42,it is found to be insignificant at 0.05 levels. It is inferred that statistically there was no significant variation among STG, SYTG, and CG on speed dribble before commencement of the training. The posttest means values of STG, SYTG, and CG 14.93, 13.60, 20.33 respectively on speed dribble. The obtained F ratio of 6.70was found to be higher than the table value 3.23 for df 2 and 42,it is found to be significant at 0.05 levels. It reveals that there was a significant difference among STG, SYTG, and CG. It is concluded that speed dribble had a significant improvement after 12 weeks of training. The obtained adjusted posttest F ratio of 9.19 was also found to be statistically significant.

In addition to this, Table -2 also indicates that the pre test means value of STG, SYTG, and CG was19.03, 20.15, and 19.30 respectively on wall bounce. The obtained F ratio of 1.01 was found to be lower than the table value 3.23 for df 2 and 42, it is found to be insignificant at 0.05 levels. It is inferred that statistically there was no significant variation among STG, SYTG, and CG on wall bounce before commencement of the training. The post test means values of STG, SYTG, and CG 15.00, 12.40, 20.33 respectively on wall bounce. The obtained F ratio of 12.68was found to be higher than the table value 3.23 for df 2 and 42,it is found to be significant at 0.05 levels. It reveals that there was a significant difference among STG, SYTG, and CG. It is concluded that wall bounce had a significant improvement after 12 weeks of training. The obtained adjusted post test F ratio of 15.64 was also found to be statistically significan

Table –V

Scheffe's - Post –Hoc test Analysis

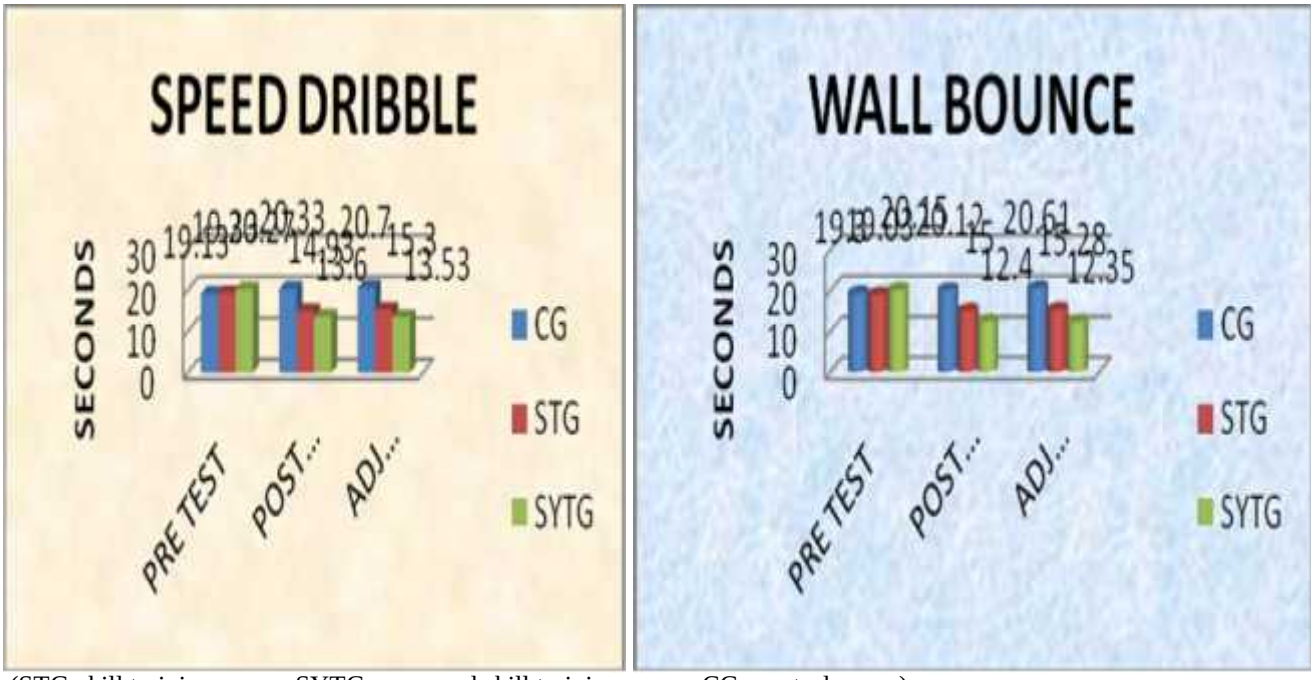
Scheffe's F test was done as post –hoc test to identify significant differences among mean values and presented in

VARIABLES	GROUP	ADJ. MEAN	(k-1)F 5%			
			CG	STG	SYTG	
Speed dribble	CG	20.700		13.913	24.529	8.318
	STG	15.300			1.495	
	SYTG	13.530				
Wall bounce	CG	20.610		19.078	45.819	
	STG	15.280			5.65	
	SYTG	12.350				

The above table shows the Scheffe's F test analysis obtained by adjusted posttest means of speed dribble and wall bounce abilityIn case of speed dribble it was observed that the obtained Scheffe's F test for combined group had significantly improved than the skill training group. All the two experimental groups had significantly improvement in speed dribble, than the control group.

In case of wall bounce it was observed that the obtained Scheffe's F test for the combined group had significantly improved than skill training group. All the two experimental groups had significantly improvement in wall bounce, than the control group.

Figure -1,Diagram showing pretest, posttest and adjusted posttest means of STG, SYTG and CG on speed dribble and wall bounce.



(STG-skill training group, SYTG- yoga and skill training group, CG- control group)

Discussion

This study confirms that skill training and yoga training had produced improvements in speed dribble and wall bounce of the college basketball players but there was a trend in favor of the combined training.

Speed dribble: The skill training group and combined training group significantly improved the speed dribble from pretest to post test. The speed dribble increased in skill training group from pre test (19.13) to post test (14.93), skill and yoga training group from pre test (20.27) to post test (13.60). Thus speed dribble had significantly improved pre test to post test in all the two groups with no changes in control group.

Wall bounce: The skill training group and combined training group significantly improved the wall bounce from pretest to post test. The wall bounce increased in skill training group from pre test (19.13) to post test (15.00), skill and yoga training group from pre test (20.27) to post test (12.40). Thus wall bounce had significantly improved pre test to post test in all the two groups with no changes in control group.

Conclusion

The present article discussed the features of skill training program in a two way approach comparing to skill training and its combination with yoga training. This suggested the potential benefits of such training for basketball players. It is hoped that future research will continue to investigate skill training components and programs to further build the theoretical bases for such interventions and examine their efficacy.

Observing the result derived from the effect of skill training, it is concluded that the skill specific practices along with yoga are the sources to develop wall bounce and speed dribble of the college basketball players.

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