



COMBINATION OF STRENGTH AND SPECIFIC SKILL TRAINING ON PERFORMANCE VARIABLES AMONG COLLEGE LEVEL WOMEN BASKETBALL PLAYERS

Dr. V. Vallimurugan¹, M. Pavithra², and S. Senthil kumaran³

¹Assistant Professor, Department of Physical Education, Bharathiar University, Coimbatore, Tamilnadu

²Master of Physical Education, Department of Physical Education, Bharathiar University, Coimbatore, Tamilnadu

³PhD Research Scholar, Department of Physical Education, Bharathiar University, Coimbatore, Tamilnadu

ABSTRACT

This research aims to assess the effect of Combination of Strength and Specific Skill Training on Performance Variables among College Level Women Basketball Players. To achieve the purpose of the study thirty basketball players were selected as subjects from Bharathiar University Coimbatore, Tamilnadu. The age of the subjects were ranged from 19 to 23 years. The subjects were further classified at random into two equal groups of 15 subjects, Group-I underwent strength with specific skill training and group-II acted as Control Group (CG). Training period limited with three days in a week for six weeks of training. The selected criterion variables dribbling, passing and shooting were assessed by AAHPERD Women Basketball Skill Test before and after the training period. The collected data were statistically analysed by using dependent 't' test. From the results of the study it was found that there was a significant enhancement on dribbling, passing and shooting among women basketball players.

KEYWORDS: Strength Training, Specific Skill Training, Basketball, Dribbling, Passing and Shooting.

1. INTRODUCTION

Basketball is one of the fastest games in which high level conditioning and coordinative abilities with technical and tactical potentials are essential to perform every skill at desired or required level (James Naismith, 1897). Basketball is agile. Strength training includes fitness and training designed specifically for athletic performance enhancement. Specific Skill Training programs for game performance enhancement could include such areas as dribbling, passing, shooting and to develop speed, power, endurance, flexibility, mobility, agility, mental preparedness (including goal setting), sleep, recovery/regeneration techniques and strategies, nutrition, rehabilitation, and injury risk reduction. A general program should include all of these components and more specific program may only include a few, depending upon the athlete's specific needs (based on strengths, weaknesses and/or imbalances) and the demands of the sport they participate in. Sports performance training is exercising with the specific goal of improving your effectiveness as an athlete in your particular sport. A traditional type of fitness training might include some cardio work, strength training and some stretching for flexibility. Strength training and specific skill training might get someone in general shape and have them improve as an athlete somewhat. In sport, the team training refers the set of physical exercise used to develop either physical or motor fitness aspects of a player. When the training for players at higher level or above the basic level,

they have to trained with specific objectives in sport, the training program should be designed specifically based on the components that are needed for the particular skill or technique in sport. Thus, such type of training program is a need for the player to excel in sport. Thus, the present study has been carried out to study the combination of strength and specific skill training on performance variables of basketball players.

Playing basketball requires agility, strength, and stamina. Must quickly move and change directions using high-intensity, short-duration muscle contractions. Also need muscular endurance, which is the ability of muscles to repeatedly apply force for an extended period. It increases muscular endurance by playing basketball and doing exercises to build lower and upper body strength. It also focuses on strengthening the core and back muscles. This will have a positive effect on stamina, energy, levels and performance.

2. STATEMENT OF THE PROBLEM

This experimental study was to find out the Combination of strength training and specific skill training on performance variables among college level women basketball players.

3. HYPOTHESES

The formulated hypotheses in the present study were as follows



1. It was hypothesized that there would be significant improvement on selected skill performance variables of college level women basketball players due to combination strength and specific skill training.
2. It was hypothesized that it enhanced the skill performance variables, the performance of players pertain to combination of strength and specific skill training would perform better than the players practicing traditional play.

4. METHODS

4.1 Experimental approach of the problem

In order to address the hypothesis presented herein, 30 college level women basketball players from Bharathiar University, Coimbatore were selected randomly on the voluntary response to participate in. The selected subject (N=15) was divided into two groups (n=15) of which strength with specific skill training group I underwent strength with specific skill training and group II was considered as control group (CG). The strength with specific skill training group underwent the dribbling, shooting and passing drills for a period of six weeks. After Pre-test, Group I was treated with dribbling, shooting and passing drills, group II was not treated with any training but they were doing their regular activity.

4.2 Training Program

The total duration of combination of strength training and specific skill training. The load was increased one in two skill training progress and lasted for 45 minutes. During the training period the subject were treated with combination of strength training and specific skill training for three alternative days (Monday, Wednesday, Friday) per week.

Phase I

During the 1st & 2nd weeks of combination of strength training and specific skill training, the subjects were treated with warm up for 10 minutes. Followed by

5. RESULTS

Table 1: Computation of 't' ratio between pre and post-test means of Experimental group on Performance variables

Experimental Group					
Performance Variables	Pre/Post test	Mean	Std. Deviation	Std Error Mean	't' Ratio
Dribbling	Pre-Test	12.73	2.05	0.26	7.25*
	Post-Test	10.80	1.56		
Passing	Pre-Test	14.13	2.97	0.25	11.61*
	Post-Test	17.13	3.13		
Shooting	Pre-Test	18.66	2.97	0.49	8.32*
	Post-Test	22.80	3.09		

*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table 1 reveals that the Computation of 't' ratio between pre and post-test means of experimental group on Performance variables. The 't' ratio on dribbling, passing and shooting are 7.25, 11.61 and 8.32 respectively. The required table value

Strengthening exercises namely wall sit, plank, Shoulder taps and Pelvic Bridges underwent 1 repetition with 2 sets. Specific skill training drills namely Box dribble, 2-man pass with set shot, Rotational wall chest pass and lay up underwent different repetitions with 2 sets. Further the session ended with warming down for 10 minutes.

Phase II

During the 3rd & 4th weeks of combination of strength training and specific skill training the subjects were treated with warm up of 10 minutes. Followed by Strengthening exercises namely wall sit, plank, Shoulder taps and Pelvic Bridges underwent 1 repetition with 3 sets. Specific skill training drills namely Box dribble, 2-man pass with lay-up, Pivot and Shoot, 1 Dribble Jump Shot underwent different repetitions with 3 sets. Further the session ended with warming down for 10 minutes.

Phase III

During the 5th & 6th weeks of training, combination of strength training and specific skill training the subjects were treated with warm up for 10 minutes. Followed by Strengthening exercises namely wall sit, plank, Shoulder taps and Pelvic Bridges underwent 1 repetition with 4 sets and Specific skill training drills namely crossover Dribble, 4-man Pass, Dribble sprint jump shot, Set Shot underwent different repetitions with 4 sets. Further the session ended with warming down for 10 minutes.

4.3 Statistical Analysis

The collected data were systematically processed, assemble around subject to tabulation on completion of analysis results derived from dependent 't' test was used to find out the combined effect of strength training and specific skill training on dribbling, shooting and passing variables. In all cases the criterion for statistical significance was set at 0.05 level of confidence ($P < 0.05$)

was 2.14 for the degrees of freedom 14 at 0.05 level of significance. Since the obtained 't' ratio values were greater than the table value, it was found statistically significant.

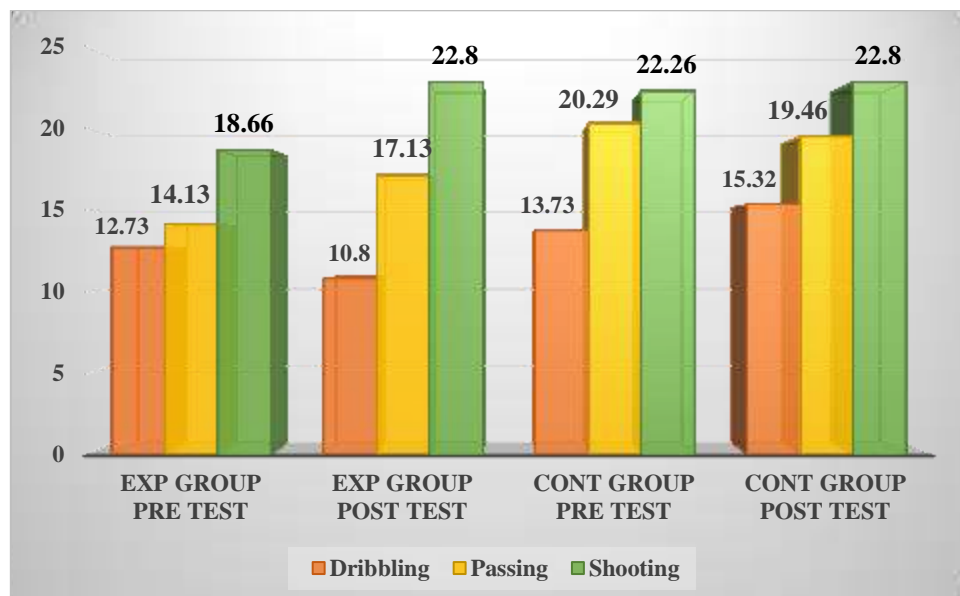
**Table 2: Computation of 't' ratio between pre and post-test means of Control group on Performance variables**

Control Group					
Performance Variables	Pre/Post test	Mean	Std. Deviation	Std Error Mean	't' Ratio
Dribbling	Pre-Test	13.73	1.33	0.26	1.47
	Post-Test	15.32	1.29		
Passing	Pre-Test	20.29	2.37	0.42	1.87
	Post-Test	19.46	2.06		
Shooting	Pre-Test	22.26	3.10	0.41	1.29
	Post-Test	22.80	3.27		

*Significant at 0.05 level of confidence (2.145), 1 & 14.

Table 2 reveals that the Computation of 't' ratio between pre and post-test means of Control group on Performance variables. The 't' ratio on dribbling, passing and shooting are 1.47, 1.87 and 1.29 respectively. The required

table value was 2.14 for the degrees of freedom 14 at 0.05 level of significance. Since the obtained 't' ratio values were lower than the table value, it was found statistically not significant.



6. DISCUSSION ON FINDINGS

The results of the study indicated that the performance variables like dribbling, passing and shooting were improved significantly after undergoing combination of strength training with specific skill training. The changes in the selected parameters were attributed proper planning, preparation and execution of the training package given to the players.

The combination of strength training and specific skill training is a fantastic training which has been found to be beneficial for the basketball players. To study the strength training and specific skill training on performance variable of women basketball players at college level, it was tested under, to differentiate between combination of strength training and specific skill training group and control group. The specific skill training includes on dribbling, shooting and passing. The Strength training exercises are namely, wall sit, plank, Shoulder taps, Pelvic bridge. The Specific Skill training drills are namely, pound dribble series, 1 man pass with layup, Pivot

and set shot, Rotational chest pass, 1 dribble jump shot, crossover dribble, 4-man pass, Dribble sprint jump shot and set shot. It also improves the dribbling ability, game tactics, anaerobic capacity, quickness, eye hand coordination and other than some physical fitness components namely speed, agility, and power. The passing drills are namely wall chest pass, double hand pass, wall head pass, double hand bounce pass. It also improves the hand strength, eye hand coordination, control. The obtained result proved positively the strength training and specific skill training group significantly improved. The result of the present study showed that the combination of strength training and specific skill training has significant improvement on college level women basketball players.

The following studies were revealed that **Battaglia, G., et al., (2014)¹**, **Eylen et al., (2017)⁴** and **Lemos, L., et al., (2021)¹⁰**. The result of the study supports the result of the present study. These finding had not been previously



replicated for a sample of college students. The result of the study showed that the control group was not significantly improved.

7. DISCUSSION ON HYPOTHESES

1. In first hypothesis, it was hypothesized that there would be significant improvement on selected performance variables of college level women basketball players due to combination of strength training and specific skill training. The result of study indicates that performance variables improved significantly to strength with specific skill training. Hence, the first hypothesis of the investigator was accepted.
2. In second hypothesis, it was hypothesized that in enhanced the performance variables, the performance of players pertains due to combination of strength training and specific skill training. The results of study indicate that strength with specific skill training would perform better than the players practicing traditional play. Hence, the second hypothesis of the investigator was accepted.

8. CONCLUSIONS

Based on the findings and within the limitation of the study, it is noticed that practice of combination of strength with specific skill training helped to improve dribbling, shooting and passing ability of college level women basketball players. It was also seen that there is progressive improvement in the selected criterion variables of combination of strength training and specific skill training group of college level women basketball players after six weeks. Further, it also helps to improve dribbling, shooting and passing skills

1. It was concluded that individualized combined effect of strength training and specific skill training group showed a statistically significant positive sign over the course of the treatment period on performance variables of college level women Basketball players.
2. It was concluded that individualized effect of control group showed a statistically insignificant over the course of the period on performance variables of college level women Basketball players.

The results of comparative effects lead to conclude that the combination of strength training and specific skill training group had better significant improvement on performance variables (dribbling, shooting and passing) of college level women Basketball players as compared to their performance with control group.

9. RECOMMENDATIONS

The following are the recommendations based on the result of the study

1. It is recommended that combined effect of strength training and specific skill training may be included in the training program of men basketball players in order to improve their abilities and skill performance.

2. Similar research studies can be conducted for the players at various school levels.

3. The training programme can be used as the initial mode of skill performance training for any type of specific skill development programme.

4. Similar studies can also be conducted on other physical fitness.

5. Similar studies can be conducted on grass root level players.

6. Specific skill development training may be organized for a remarkable and significant improvement of the players.

10. REFERENCES

1. Battaglia, G., et al., (2014) Influence of a sport-specific training background on vertical jumping and throwing performance in young female basketball and volleyball players. *J Sports Med Phys Fitness*, 54(5), 581-587.
2. Coelho e Silva et al., (2008) Functional capacities and sport-specific skills of 14-to 15-year-old male basketball players: Size and maturity effects. *European Journal of Sport Science*, 8(5), 277-285.
3. de Assis Lauria et al., (2021) Physical-motor indicators and specific skills of young basketball players after periodization training. *Revista Brasileira de Cineantropometria & Desempenho Humano*, 23.
4. Eylen et al., (2017) The Effects of Different Strength Training on Static and Dynamic Balance Ability of Volleyball Players. *Journal of Education and Training Studies*, 5(13), 13
5. Falk, B., & Dotan, R. et al., (2019) Strength training in children. *Journal Harefuah*, 158(8), 515-519.
6. Figueira et al., (2020) Effects of a 4-week combined sloped training program in young basketball players' physical performance. *Science & Sports*, 35(3), 172-e1.
7. Hammami et al., (2019) Effects of a complex strength-training program on athletic performance of junior female handball players. *International Journal of Sports Physiology and Performance*, 14(2), 163-169.
8. Hoff (2004) Endurance and strength training for soccer players. *Sports medicine*, 34(3), 165-180.
9. Jackson et al., (2017) The effect of an isometric hip muscle strength training protocol on valgus angle during a drop vertical jump in competitive female volleyball players. *International Journal of Kinesiology and Sports Science*, 5(4), 1-9.
10. Latorre Román et al., (2018) Effects of a contrast training programme on jumping, sprinting and agility performance of prepubertal basketball players. *Journal of sports sciences*, 36(7), 802-808.
11. Lemos, L., et al., (2021) Sport Specific Skills Differentiates Performance Levels Better Than Anthropometric or Physiological Factors in Beach Handball. *Research Quarterly for Exercise and Sport*, 1-6.
12. Lu, L., & Wei, W. et al., (2021) Influences of Core-strength Training on the Balanced Capacity and Partial Blood Biochemical Indexes of University Basketball Players. *Frontiers in Educational Research*, 4(7).
13. Lubyshv et al., (2020) Team sports and active games to improve speed-strength training of young volleyball players. *Theory and Practice of Physical Culture*, (9), 16-18.



14. Mambetzhumaev, T. T. et al., (2021) Features of special strength training of young basketball players of training groups. *Eurasian Journal of Sport Science*, 1(2), 172-176
15. Ogawa et al., (2019) Relationship between basketball free-throw accuracy and other performance variables among collegiate female players. *The Journal of Physical Fitness and Sports Medicine*, 8(3), 127-136.