



INFLUENCE OF CIRCUIT TRAINING ON SELECTED PHYSICAL FITNESS VARIABLES AMONG WOMEN KABADDI PLAYERS

J.V.SASIREKA

Assistant Professor, Sri Sarada College of Physical Education for Women, Salem.

ABSTRACT

The purpose of the study was to find out the influence of circuit training on selected physical fitness variables among women kabaddi players. It was hypothesized that there would be significant differences on selected physical fitness variables due to the effect of circuit training among women kabaddi players. For the present study the 30 women kabaddi players from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'I' and Group 'II'. Group 'I' underwent circuit training and Group 'II' has not undergone any training. The data was collected before and after twelve weeks of training. Agility was assessed by shuttle run and flexibility was assessed by sit and reach. The data was analyzed by applying ANCOVA. The level of significance was set at 0.05. The results of the study showed that the experimental group that practiced circuit training increased agility and flexibility than the control group.

KEYWORDS: Circuit training, Physical Fitness, Kabaddi Players.

INTRODUCTION

Circuit training is an efficient and tough shape of conditioning. It works properly for developing strength, staying power, flexibility and coordination. Its versatility has made it famous with most of the people proper thru to elite athletes. For sports activities men and women, it can be used all through the closed season and early pre-season to help broaden a solid base of health and prepare the body for extra traumatic subsequent training. Circuit training is an effective organizational shape of doing bodily exercises for enhancing all bodily health additives. earlier than and after schooling, the initial and final checks have been conducted for the variables inclusive of pace, agility, electricity, co-ordination, static stability and dynamic balance for the experimental and manage businesses. Circuit schooling is an exercise program that develops normal fitness. Finished regularly, circuit training will simultaneously enhance muscular strength, endurance, cardiovascular health, and versatility. Circuit schooling changed into invented in 1953 as a green manner for coaches to teach many athletes in a restricted quantity of time with restrained equipment. The exerciser moved via a series of weight education or calisthenics organized consecutively. It became a fast-paced exercise of 15 to forty five seconds according to station with little (15 to 30 seconds) or no rest among stations. Nowadays, that is referred to as "circuit weight training". Research has

shown that it may growth muscular strength and endurance. There's a slight improvement in aerobic stamina but most effective if the relaxation periods are stored very brief (Taskin, 2009).

METHODOLOGY

The purpose of the study was to find out the influence of circuit training on selected physical fitness variables among women kabaddi players. It was hypothesized that there would be significant differences on selected physical fitness variables due to the effect of circuit training among women kabaddi players. For the present study the 30 women kabaddi players from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected at random and their age ranged from 18 to 25 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'I' and Group 'II'. Group 'I' underwent circuit training and Group 'II' has not undergone any training. Agility was assessed by shuttle run and flexibility was assessed by sit and reach. The data was collected before and after twelve weeks of training. The data was analyzed by applying ANCOVA. The level of significance was set at 0.05.

RESULTS

TABLE I
COMPUTATION OF ANALYSIS OF COVARIANCE OF AGILITY AMONG KABADDI PLAYER

	Experimental Group	Control Group	Source Of Variance	Sum Squares	Of df	Mean Squares	Obtained F Ratio
Pre Test Mean	15.94	14.94	Between	7.44	2	7.44	3.91
			Within	53.25	28	1.90	
Post Test Mean	12.79	14.61	Between	24.69	2	12.34	8.18*
			Within	42.24	28	1.50	
Adjusted Post Mean	12.77	14.63	Between	22.74	2	11.37	7.28*
			Within	42.13	27	1.56	

Table F –ratio at 0.05 level of confidence for 1, 28 (df) was 4.18 and 2, 27 (df) was 3.34

*Significant.

Table I shows that the analyzed data on agility. The pre-test means of experimental group and control group were 15.94 and 14.94 respectively. The obtained F-ratio was 3.91, which was not significant at 0.05 levels. The post test means of experimental group and control group were of 12.79 and 14.61 respectively. The F-ratio obtained for post-test was 8.18, it is greater than the table value of 4.17 which

was significant at 0.05 levels. The adjusted test means of experimental group and control group were 12.77 and 14.63 respectively. The F-ratio obtained for adjusted post mean was 7.28 which was greater than the table value of 3.34 which was not significant at 0.05 levels. The obtained mean values of agility presented through bar diagram for better understanding of the result of study in figure-I.

FIGURE I
BAR DIAGRAM SHOWS THE PRE AND POST TEST MEANS VALUES OF EXPERIMENTAL AND CONTROL GROUP ON AGILITY (SCORES IN SECONDS)

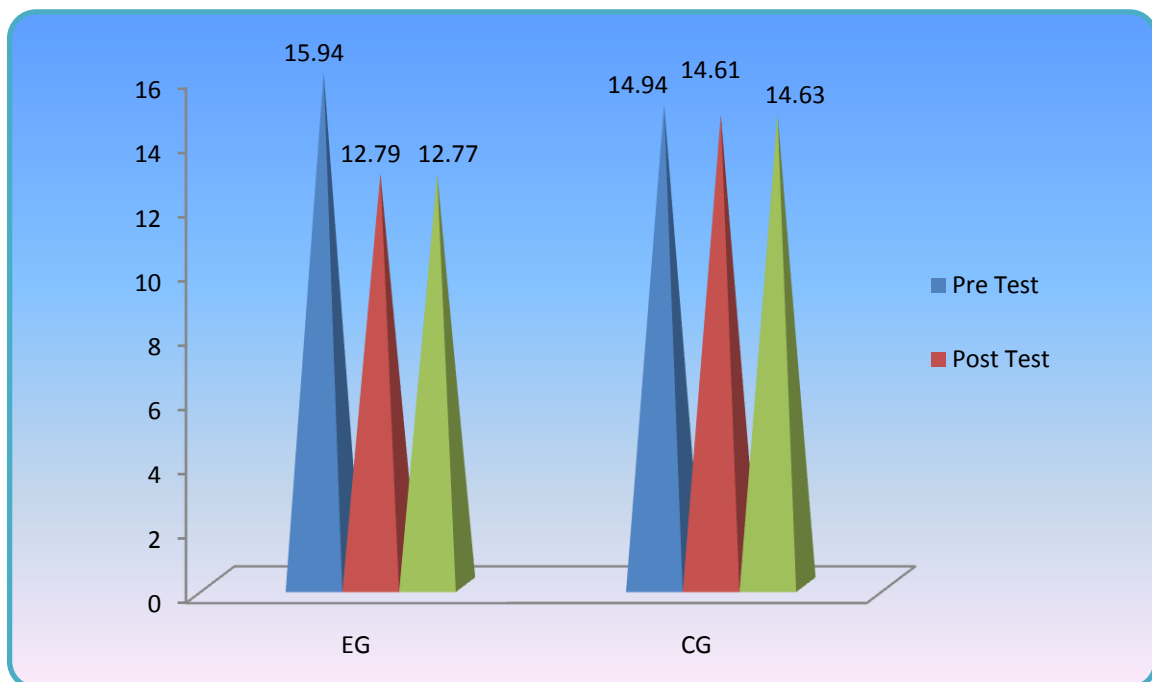


TABLE II
COMPUTATION OF ANALYSIS OF COVARIANCE OF FLEXIBILITY AMONG
KABADDI PLAYER (SCORES IN CENTIMETRE)

	Experimental Group	Control group	Source Of Variance	Sum Squares	Of df	Mean Squares	Obtained F ratio
Pre test mean	11.92	11.91	Between	0.0004	2	0.0004	0.0002
			Within	50.57	28	1.80	
Post test mean	13.31	11.77	Between	17.83	2	8.91	5.21*
			Within	47.89	28	1.71	
Adjusted post mean	13.31	11.77	Between	17.68	2	8.84	30.93*
			Within	7.71	27	0.28	

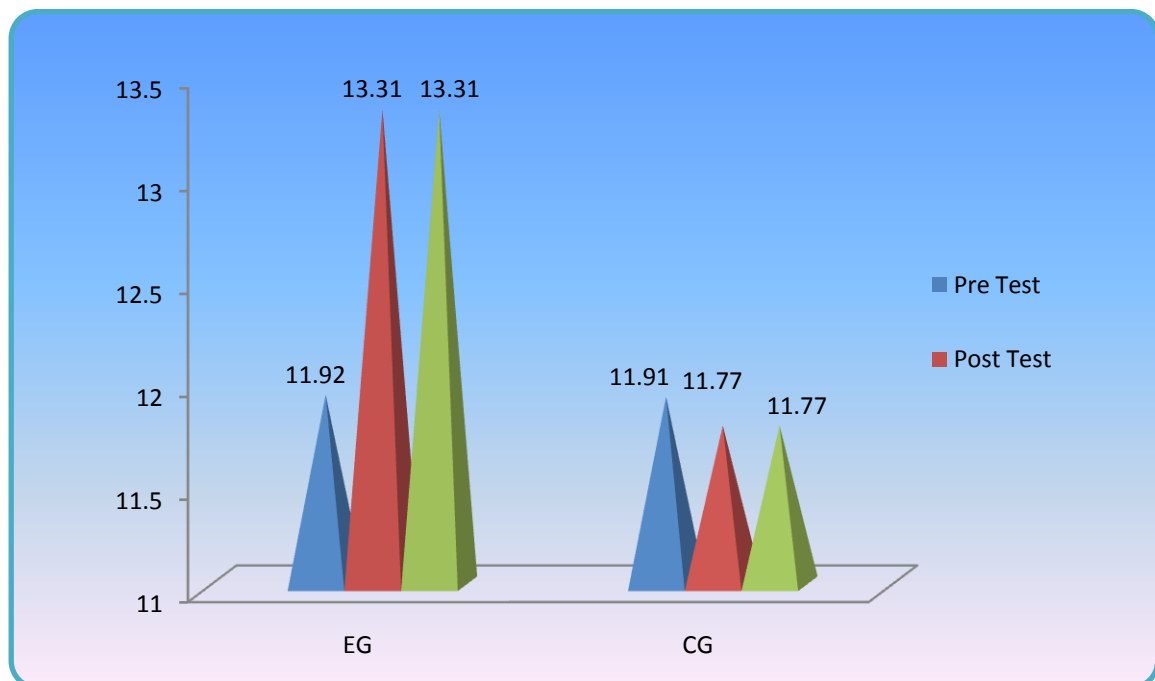
Table F –ratio at 0.05 level of confidence for 1, 28 (df) was 4.18 and 2, 27 (df) was 3.34

*Significant.

Table II shows that the analyzed data on flexibility. The pre-test means of experimental group and control group were 11.92 and 11.91 respectively. The obtained F-ratio was 0.0002, which was not significant at 0.05 levels. The post test means of experimental group and control group were of 13.31 and 11.77 respectively. The F-ratio obtained for post-test was 5.21, it is greater than the table value of 4.17

which was significant at 0.05 levels. The adjusted test means of experimental group and control group were 13.31 and 11.77 respectively. The F-ratio obtained for adjusted post mean was 30.93 which was greater than the table value of 3.34 which was significant at 0.05 levels. The obtained mean values of flexibility presented through bar diagram for better understanding of the result of study in figure-II.

FIGURE II
BAR DIAGRAM SHOWS THE PRE AND POST TEST MEANS VALUES OF EXPERIMENTAL
GROUP AND CONTROL GROUP ON FLEXIBILITY
(SCORES IN CENTIMETRES)



CONCLUSION

1. The results of the study showed that the experimental group that practiced circuit training increased agility and flexibility than the control group.

REFERENCES

1. Antonio, P., Quirico, F., Giuseppe, T.M., Marco, N. and Antonino, B. (2013). "Effects of high-intensity circuit training, low-intensity circuit training and Endurance training on blood pressure and lipoproteins in middle-aged overweight men", *Journal of Strength and Conditioning Research*; 1803-10.
2. Baechle, T.R. and Earle, R.W. (2000). "Essentials of Strength Training and Conditioning, 2nd Edition, Champaign", IL: Human Kinetics
3. Bompa, O.T. (1999) "Periodization training for sports", *Champaign, Illinois: Human Kinetics*.
4. Dick, Frank.W. (1997). "Sports training Principles" (3rd Ed), London; A7 c Publishers, PP,69- 70.
5. Febin Jebaraj, A & Dr. C Robert Alexandar (2016). Effect of aerobic exercise and circuit training on obesity among school students. *International Journal of Physical Education, Sports and Health*. 3, 1.
6. Kumar, R., & Kumar, H. (2005). "Effect of Six-Weeks of Plyometric Circuit Training on the Jumping Performance of Female College Players", *Journal of Exercise Science and Physiotherapy*; Vol. 1, No.1 & 2: 46-59.
7. Malathy, C. & Dr. C Robert Alexandar (2016). A study of the influence of physical exercise, circuit training and yogic practice on strength among college girls in Tamilnadu state. *International Journal of Physical Education, Sports and Health*. 3, 1.
8. Mate-Munoz, J.L., Anton, A.J. M., Jimenez, P. J., and Garnacho-Castano, M. V. (2014). "Effects of Instability versus Traditional Resistance Training on Strength, Power and Velocity in Untrained Men", *Journal of Sports Science and Medicine*; 13, 460-468.
9. Matthew, B. M., Gregory, E. P. P., Farrell, C., McCarthy, H., Shane, B. D. S., Jennifer, C. N., Oftall, S. B., Fabien, A. B., Guang, S., and Duane, C. B. (2014). "The Effect of a Short-Term High-Intensity Circuit Training Program on Work Capacity, Body Composition, and Blood Profiles in Sedentary Obese Men", *Bio Medicated Research International Volume Article*; ID 191797, 10 pages.
10. Melo, B. M., & Cappato de Araujo, R. (2014). "Effect of exercise order on the resistance training performance during a circuit training session", *Rev Bras CineantropomDesempenho Hum*, 16(3):325-333 327.
11. Najeeb, A.M. (2013). "Effects of circuit training on different surfaces on selected physical and physiological variables of school boys". *International Journal of Physical Education, Fitness and Sports*; Vol.2.No.4, ISSN 2277-5447.
12. Paoli A., Paccelli F., Bargossi A.M., Marcolin G., Guzzinati S., Neri M., Bianco A., Palma A. (2010). "Effects of three distinct protocols of fitness training on body composition, strength and blood lactate", *Journal of Sports Medicine and Physical Fitness*; 550, 43-51.
13. Sudhakar Babu, M. & Paul Kumar, P. P. S. (2013). The Effect of Selected Circuit Training Exercises on Sprinters of High School Girls. *International Journal of Science and Research*, 2, 11.
14. Taşkın, H. (2009) "Effect of circuit training on the sprint-agility and anaerobic endurance".
15. Vikesh Kumar (2016). Effect of circuit training program on selected motor abilities among university male. *International Journal of Physical Education, Sports and Health*, 3(4): 255-257.
16. Vishal Kumar (2016). Impact of yogic practices and circuit training on power production and health care. *International Journal of Physical Education, Sports and Health*, 3, 1.
17. Vrachimis, A., Hadjicharalambous, M. & Tyler, C. (2016). The Effect of Circuit Training on Resting Heart Rate Variability, Cardiovascular Disease Risk Factors and Physical Fitness in Healthy Untrained Adults. *Health*, 8, 144-155.
18. Xavier, M. (2013). "Comparative Effects of Plyometric, Circuit Training and Circuit Breaker Programmes on Selected Motor Components of School Level Basketball Players", *Indian Journal of Movement Education and Exercises Sciences*; Volume III No. 1.