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EFFECT OF CIRCUIT TRAINING ON SELECTED STRENGTH PARAMETRES AMONG KHO-KHO PLAYERS

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Abstract:

The purpose of this study was to find out the effect of circuit training on selected strength parameters among kho-kho players. To achieve the purpose of the present study, thirty kho-kho players from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (n= 30) were randomly assigned to two equal groups of fifteen kho-kho players each. The groups were assigned as control group and experimental group in an equivalent manner. The training group participated the training for a period of six weeks and the post-tests were conducted. The subjects were tested prior to and after the experimentation on shoulder strength, upper body strength, explosive power and anaerobic power. The variable to be used in the present study was collected from all subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre-test on all variables used in the present study. This test was assumed as post-test. The following statistical techniques were adopted to treat the collected data in connection with established hypothesis and objectives of this study. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study. It was observed that the six weeks of circuit training have significantly improved the selected strength parameters of kho-kho players.

Key Words: Circuit Training, Strength & Kho-Kho

Introduction:

Circuit training is an efficient and challenging form of conditioning. It works well for developing strength, endurance (both aerobic and anaerobic), flexibility and coordination. Its versatility has made it popular with the general Public right through to elite athletes. For sports men and women, it can be used during the closed season and early pre-season to help develop a solid base of fitness and prepare the body for more stressful subsequent training.Circuit training is an effective organizational form of doing physical exercises for improving all physical fitness components. Before and after training, the initial and final tests were conducted for the variables such as speed, agility, power, co-ordination, static balance and dynamic balance for the experimental and control groups. Circuit training is an exercise program that develops overall fitness. Performed regularly, circuit training will simultaneously improve muscular strength, endurance, cardiovascular fitness, and flexibility. Circuit training was invented in 1953 as an efficient way for coaches to train many athletes in a limited amount of time with limited equipment. The exerciser moved through a series of weight training or calisthenics arranged consecutively. It was a fast-paced workout of 15 to 45 seconds per station with little (15 to 30 seconds) or no rest between stations. Today, this is known as "circuit weight training". Research has shown that it can increase muscular strength and endurance. There is a mild improvement in aerobic stamina but only if the rest periods are kept very short. Circuit training is a practical method entailing some preliminary planning, but beyond that, it needs co-ordination. Athletes find it motivating since it makes conditioning fun and challenging through competition against team mates. Circuit training is a continuous series of exercises attempting to improve as many components of physical fitness as possible especially endurance. Generally, six to twelve stations are up. Selection and sequence of the activities within a lap of circuit is made with consideration given to the continuous nature of the performance (Barun, 2013).

As kho-kho is a team sports it helps the participants to understand others to adjust with other groups to appreciate. The merits of their limitations and to be led by groups. Unlike other games is kho-kho line factor is very important chasers cannot afford to waste even half a minute loss of time will change the result of the match. Even seconds also will count to change the shape of the game in kho-kho to save the time to their advantage the players have to take quick decisions is giving "Kho" to make the standing runner out leaving the actual runner whom he is already chasing act. The game is characterized by fast movement in all direction with in a restricted area with adroitness and accuracy. The game demands acquisition of adequate adjustments and adaptations of indicate nature to acquaint oneself successfully as a competition (Ajeet, 2017).

Methodology:

The purpose of this study was to find out the effect of circuit training on selected strength parameters among kho-kho players. To achieve the purpose of the present study, thirty kho-kho players from Sri Sarada College of Physical Education for Women, Salem, Tamilnadu were selected as subjects at random and their ages

ranged from 18 to 25 years. The subjects were divided into two equal groups. The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (n= 30) were randomly assigned to two equal groups of fifteen kho-kho players each. The groups were assigned as control group and experimental group in an equivalent manner. The training group participated the training for a period of six weeks and the post-tests were conducted. The subjects were tested prior to and after the experimentation on shoulder strength, upper body strength, explosive power and anaerobic power. The variable to be used in the present study was collected from all subjects before they have to treat with the respective treatments. It was assumed as pre-test. After completion of treatment they were tested again as it was in the pre-test on all variables used in the present study. This test was assumed as post-test. The following statistical techniques were adopted to treat the collected data in connection with established hypothesis and objectives of this study. Analysis of covariance (ANCOVA) was used to test the treatment effect of the training programmes on all the variables used in the study.

Computation of Analysis of Covariance:

The descriptive measures and the results of analysis of covariance on the criterion measures were given in the following tables.

Table 1: Computation of Mean and Analysis of Covariance of Shoulder Strength of Experimental and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	5.93	5.73	BG	0.30	1	0.30	0.60
			WG	13.86	28	0.49	
Post Test Mean	8.13	6.06	BG	32.03	1	32.03	39.57*
			WG	22.66	28	0.81	
Adjusted Post Mean	8.12	6.07	BG	30.74	1	30.74	36.85*
			WG	22.52	27	0.83	

* Significant at 0.05 level Table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value of shoulder strength of experimental and control groups were 8.12 and 6.07 respectively. The obtained F-ratio of 36.85 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on shoulder strength. The above table also indicates that both pre and post test means of experimental and control groups differ significantly. The pre, post and adjusted post mean values of shoulder strength of both experimental and control groups are graphically represented in the figure-I.

Figure 1: Shows the Mean Values on Shoulder Strength of Experimental Group and Control Groups

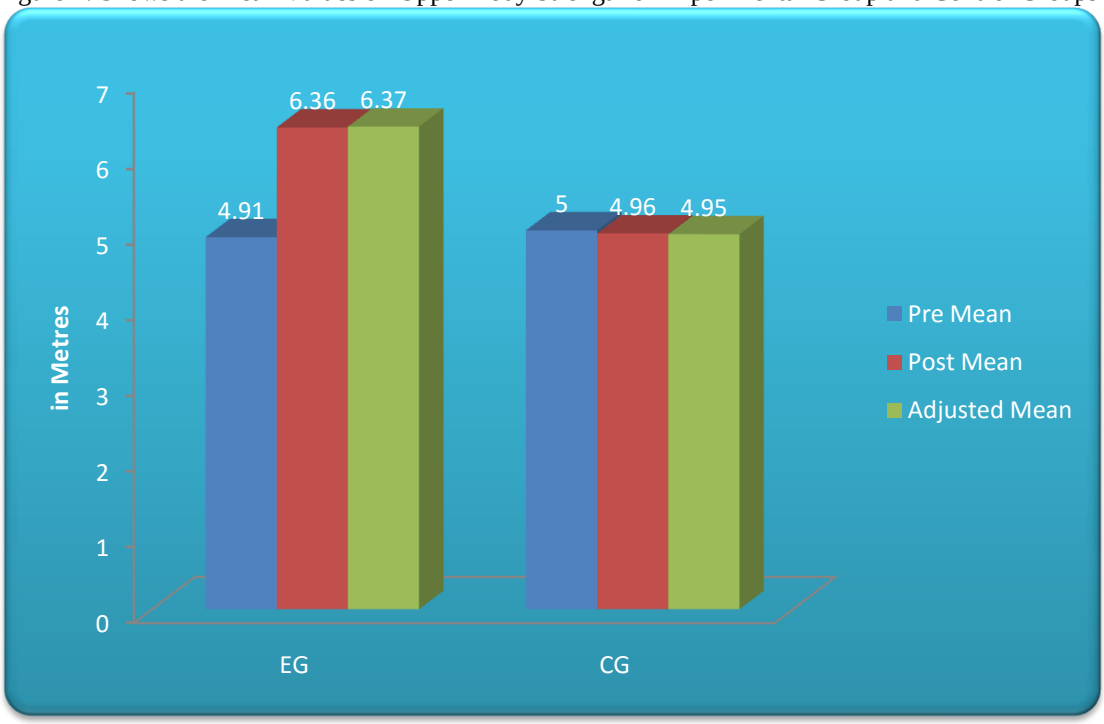
Table 2: Computation of Mean and Analysis of Covariance of Upper Body Strength of Experimental and Control Groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	4.91	5.00	BG	0.05	1	0.05	0.68
			WG	2.19	28	0.07	
Post Test Mean	6.36	4.96	BG	14.64	1	14.64	195.55*
			WG	2.09	28	0.07	
Adjusted Post Mean	6.37	4.95	BG	14.75	1	14.75	204.86*
			WG	1.94	27	0.07	

* Significant at 0.05 level, Table value for df 1 and 28 was 4.20, 1 and 27 was 4.21

The above table indicates the adjusted mean value of upper body strength of experimental and control groups were 6.37 and 4.95 respectively. The obtained F-ratio of 204.86 for adjusted mean was greater than the table value 4.21 for the degrees of freedom 1 and 27 required for significance at 0.05 level of confidence. The result of the study indicates that there was a significant difference among experimental and control groups on upper body strength. The above table also indicates that both pre and post test means of experimental and control groups differ significantly. The pre, post and adjusted post mean values of upper body strength of both experimental and control groups are graphically represented in the figure-II.

Figure 2: Shows the Mean Values on Upper Body Strength of Experimental Group and Control Groups



Conclusions:

From the results obtained, the following conclusions were drawn:

- ✓ It was observed that the six weeks of circuit training have significantly improved the selected strength parameters of kho-kho players.
- ✓ The experimental group had achieved significant improvement on selected strength parameters than the control group.

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