

**EFFECT OF JUMP ROPE TRAINING AND KETTLEBELL EXERCISE ON SELECTED SKILL PERFORMANCE VARIABLES AMONG SCHOOL LEVEL BADMINTON PLAYER**

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**Abstract**

The purpose of the study was to find out the effect of jump rope training on selected Skill performance variables among school level Badminton players. For the present study, sixty school level badminton players from Madurai district, Tamilnadu, India were chosen as the subjects and their age ranged from 15 to 17 years the study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=60) were randomly assigned to three equal groups of twenty school level badminton players each. The group I underwent jump rope training, group II underwent kettlebell exercises and group III acted as a control group. The two experimental groups were participated the training for a period of twelve weeks to find out the outcome of the training packages and the control group did not participated in any training programme. The following variables namely volleying ability and service ability were selected as criterion variables. All the subjects of three groups were tested on selected dependent variables at prior to and immediately after the training programme by using standardize test items respectively. The data were analyzed by applying t-ratio. The level of significance was set at 0.05 level of confidence. The magnitude of improvement (MI) was also calculated to find out the percentage of improvements of all criterion variables separately. The analysis of covariance (ANCOVA) was also used to analyse the significant difference, if, any among the groups. Since three groups were compared whenever the obtained 'F' ratio for adjusted post test was found to be significant.

**Keywords:** Jump rope, Kettlebell, Badminton, Volleying Ability, Service Ability

**Introduction**

A jump rope or skipping rope, or skip rope is the primary tool used in the game of skipping played by children and among adults, many participants jump over a rope swung so that it passes under their feet and over their heads. This may consist of one participant turning and jumping the rope, or a minimum of three participants taking turns, two of who turn the rope while one or more jumps. Sometimes the latter is played with two turning ropes; this form of the activity is called Double Dutch and is significantly more difficult. Jump-rope rhymes are often chanted at the beginning when the skipper jumps in and ending when the skipper is tripped up. In contrast to running, Jump Rope Exercise is unlikely to lead to knee damage since the impact of each jump or both legs absorb step. Jump Rope Exercise also helps to strengthen the arms and shoulders. This combination of an aerobic workout and coordination-building footwork has made jumping rope a popular form of exercise for athletes, especially boxers and wrestlers. Individuals or groups can participate in the exercise, and learning proper Jump Rope Exercise technique is simple compared to many other athletic activities. The exercise is also appropriate for a wide range of ages and fitness levels. Jump Rope Exercise is particularly effective in an aerobic routine combined with other activities, such as walking, biking, or running.

The kettlebell has a unique spherical shape and a handle that provides the user with the ability to work with curvilinear movements and momentum. There are different types of kettlebells, and some athletes will go as far as saying some kettlebells are not real kettlebells. A properly designed kettlebell training routine combines aspects of both strength and cardio training in a single workout. Performing

distinct kettle bell workouts with little or no rest not only builds muscle endurance and strength, but forces the body to work at a high heart rate for a cardiovascular benefit. For hundreds of years, kettlebell use has focused on muscle integration rather than isolation. Nearly every drill recruits multiple muscle groups to work in unison. The body is trained as a whole and particular emphasis is focused on the core and back muscles. Even before the discovery of electricity, kettlebells have incorporated multi-joint, full body movements. Kettlebell training ironically doesn't even require kettlebells to experience some of the ideas and results surrounding it. There is quite a variety of kettlebell drills. Many of the more advanced drills simply aren't possible to perform with a dumbbell. If you don't have a kettlebell, two of most basic, fundamental drills can be experienced (to some degree) with a dumbbell. Training with kettlebells has actually turned into a sport.

### **Methodology**

The purpose of the study was to investigate effect of jump rope training and kettlebell exercise on selected Skill performance variables among school level Badminton Players. It was hypothesized that there would be significant differences on selected variables namely volleying ability and service due to the effect of jump rope training and kettlebell exercise on selected Skill performance variables among school level Badminton Players. For the present study, sixty school level badminton players from Madurai district, Tamilnadu, India were chosen as the subjects was selected as subjects at random and their age ranged from 15 to 17 years. The subjects were divided into three equal groups of twenty school level badminton players each. For the present study pre test and post test random group design, which consists of control group and experimental group was used. The subjects were randomly assigned to three equal groups of twenty each and named as Group 'A' – Jump Rope, Group 'B' – KettleBell Exercise and Group 'C' – Control group have not underwent any training. Volleying Ability was assessed by Miller Wall Volley Test and service ability was assessed by French Short Service Test. The data were collected before and after twelve weeks of training. Initially descriptive statistics and paired 't' test was applied to test the significance of mean gains made in each of the variables by the experimental groups. The magnitude of improvement (MI) was also calculated to find out the percentage of improvements of all criterion variables separately. The analysis of covariance (ANCOVA) was also used to analyze the significant difference, if, any among the groups. Since three groups were compared whenever the obtained 'F' ratio for adjusted post test was found to be significant.

**TABLE – 1 : The Summary of Mean And Dependent 'T' - Test For The Pre And Post Tests On Volleying Ability of jump Rope Training, Kettlebell Exercises And Control Groups**

	<b>JRTG</b>	<b>KBG</b>	<b>CG</b>
<b>Pre-test mean</b>	25.50	24.85	25.30
<b>Post-test mean</b>	32.80	30.20	25.60
<b>'t'-test</b>	10.10*	10.01*	0.55
<b>Magnitude of Improvement</b>	28.62%	21.52%	1.18%

\* *Significant at 0.05 level.* (Volleying ability Scores in scores)

(Table value required for significance at 0.05 level for 't'-test with df 19 is 2.09)

Table – 1.1 : Analysis of Covariance on Volleying Ability of Jump Ropes Training, Kettle bell Exercises and Control Groups

Adjusted Post-test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
JRTG	KBG	CG					
32.78	30.21	25.59	BG	530.957	2	265.479	64.390*
			WG	230.886	56	4.123	

Figure –I Bar Diagram shows the mean values of Pre and Post-tests of Control and Experimental Group on Volleying Ability

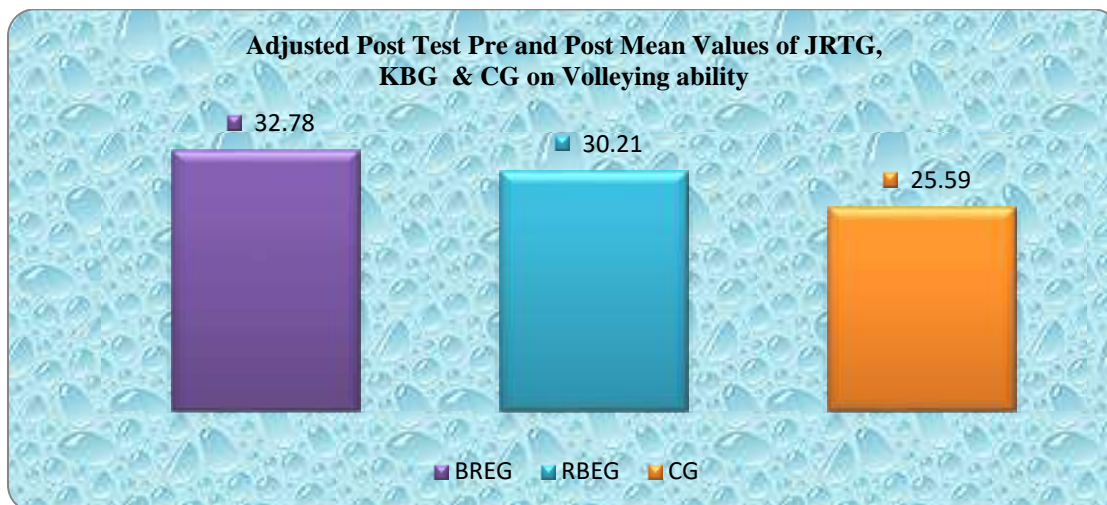
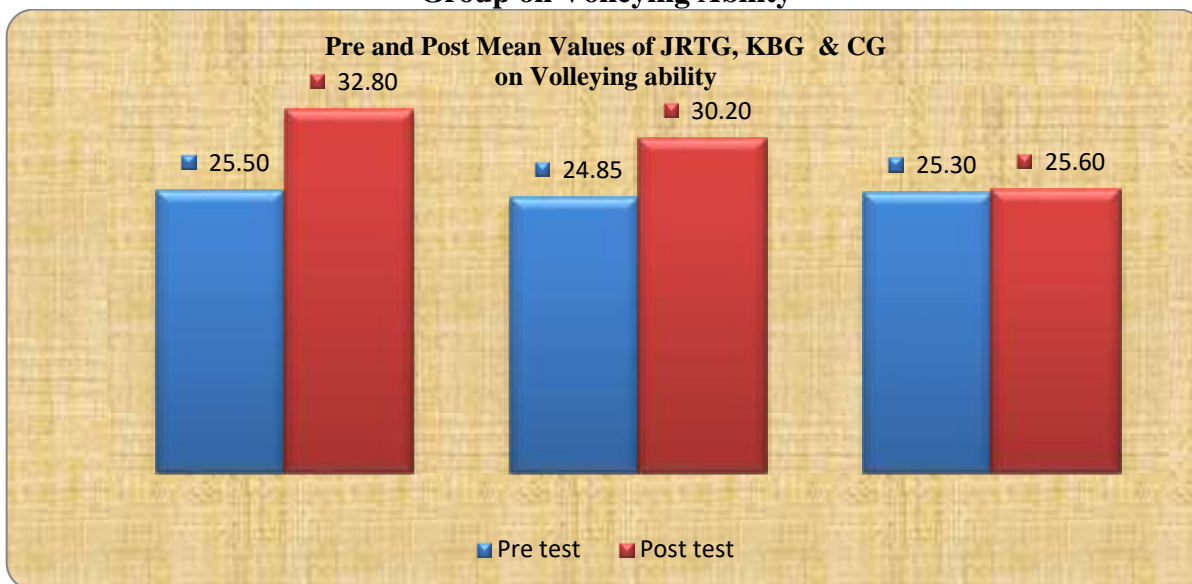


Table – 2 : The Summary of Mean And Dependent 'T' - Test For The Pre And Post Tests on Service of jump rope training, Kettlebell Exercises and Control Groups

	JRTG	KEG	CG
Pre-test mean	46.15	45.75	45.95
Post-test mean	51.10	55.50	46.05

't'-test	6.94*	14.58*	0.17
Magnitude of Improvement	10.72%	21.31%	0.21%

\* Significant at 0.05 level. (Service Scores in scores)

(Table value required for significance at 0.05 level for 't'-test with df 19 is 2.09)

Table – 2.1

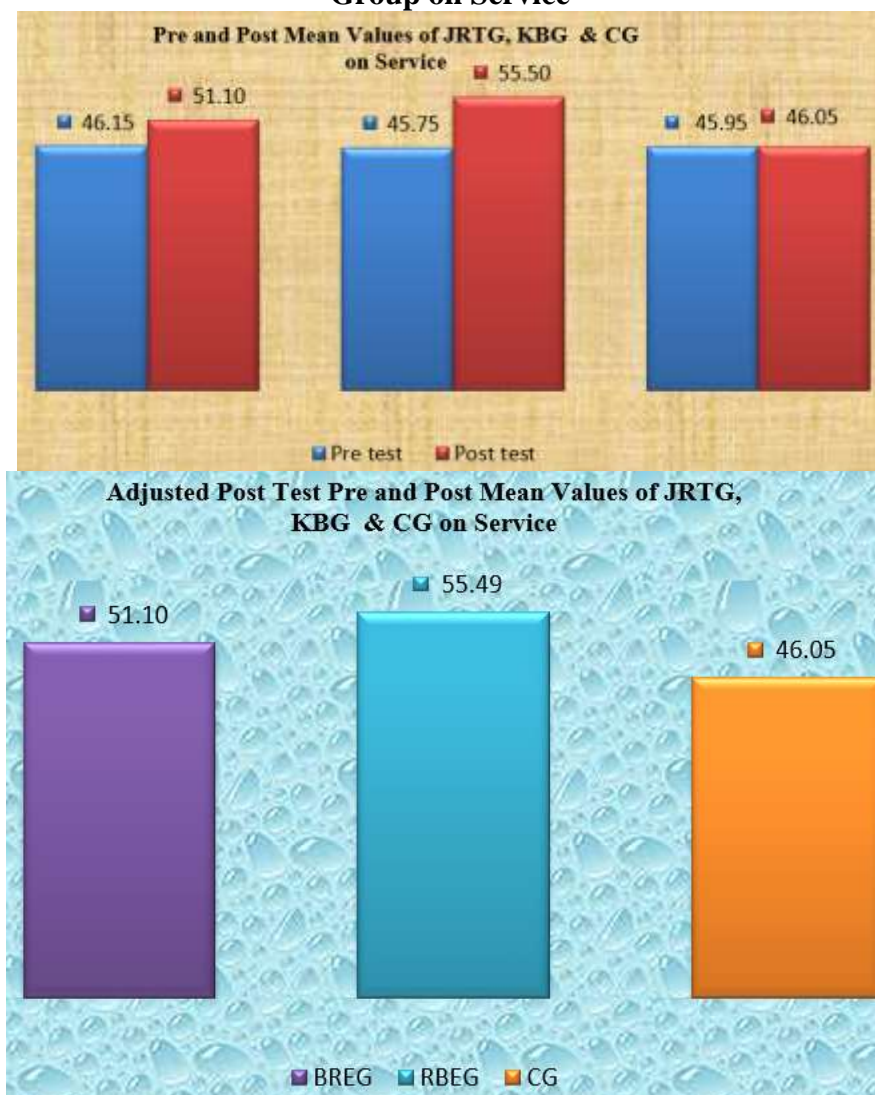
Analysis of Covariance on Service of Jump rope Training, Kettlebell Exercise and Control Groups

Adjusted Post-test Means			Source of Variance	Sum of Squares	df	Mean Squares	'F' Ratio
BREG	RBEG	CG					
51.10	55.49	46.05	BG	892.036	2	446.018	107.892*
			WG	231.501	56	4.134	

\* Significant at 0.05 level of confidence

(The table value required for Significant at 0.05 level with df 2 and 56 is 3.16)

Figure -II Bar Diagram shows the mean values of Pre and Post-tests of Control and Experimental Group on Service



### **Discussion on Findings**

This study confirms that Jump ropes training and Kettlebell Exercise produces improvement on volleying ability and service ability.

From the results of the present investigation, it is also concluded that significant difference on jump rope training and Kettlebell exercise in developing dependent variables volleying ability and service ability the hypothesis was accepted.

### **Conclusions:**

On the basis of findings and within the limitations of the study the following conclusions were drawn:

1. Results of the present study explain clearly that skill performance variables the observed results significantly favored the experimental groups namely jump rope training and kettlebell exercises as compared to control group.
2. Similarly the impact of experimental group of was found as significantly higher than control group on volleying ability and service ability.
3. It was concluded that school level badminton players should practice both battle ropes exercises and resistance band exercises for positive enhancement of health.
4. Thus based on the result, it was concluded that both the training methods would provide better means and methods for developing the skill performance variables that are needed for school level badminton players.

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