



IMPACT OF BATTLE ROPE TRAINING AND KETTLEBELL EXERCISE ON SELECTED PHYSICAL VARIABLES AMONG SCHOOL LEVEL BADMINTON PLAYER

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Abstract

Background: To develop the Physical fitness of the school level badminton players to practice the Battle rope training and kettlebell training.

Purpose: This study persevered in determining whether the battle rope training and kettlebell training effect speed and abdominal strength among school level badminton players. For this study school participated 60 badminton players were randomly chosen from Madurai district and their age range between 15 to 17 years.

Methods: There were three groups of 20 players each, selected from 60 school level badminton players. The jump rope training group A is followed by kettlebell training group B, and the untrained group C follows no training. Three alternate days a week were scheduled for twelve weeks of training. A pre-test was administered two days before the training period began, and a post-test was administered after the training period concluded. The following variables namely speed and abdominal strength 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.

Conclusion: battle rope training and kettlebell training has been beneficial to school level badminton players because it improves speed and abdominal strength.

Keywords: Battle rope, Kettlebell, Badminton, speed, abdominal strength

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Introduction

Battle ropes are one of the extraordinary modern training equipment. They are one of the most versatile tools in today's fitness training. In this study the focus to improve hammer throw performance with the due assistance of any modern training. Battle rope is essential one. Battle ropes are very significant and in that they create a dual force dynamic effect, one of that uses the force of gravity and the force created by rope waves to amplify and improve all of the human systems physiological response (Guyett, 2016). The Battling Ropes System was created and developed by John Brookfield. John is a multiple world record winner and the author of the popular book, mastery of hand strength. Battle ropes are generally used as a high intensity interval training tool to develop an athlete's strength, power, explosiveness, as well as their anaerobic and aerobic endurance (John Brookfield, 2015). Battle rope training activates all muscle groups simultaneously and allows freedom of movement. In fact, if you want a conditioning of the upper body, the battle ropes are the best tool (Marin, et al. 2015). Battle rope training is a high-intensity training which consists of a rope with the upper body. It provides a vigorous-intensity cardiovascular and metabolic stimulus, as demonstrated by elevated heart rate and energy expenditure per unit of time (Fontaine & Schmidt, 2015). Battling Ropes or heavy rope training gives the entire body countless benefits. The great thing about training with the Battling Ropes is that movements and techniques can be modified for exercisers of just about any fitness level; from using both hands to grip and work only one end of the rope, to adding more advanced movements that include lower body movements along with the upper body work (Antony, Maheswari & Palanisamy, 2015).

It is a kind of one training apparatus that enables one to practice in routes adjusted from conventional dumbbells and barbells. The kettlebell offers the utilization of apparatus that is proper for ballistic, entire body work out (Jay, et.al., 2011). Kettlebell training can show signs of improvement on maximal and explosive strength (Lake & Lauder, 2012). It's used for execution in Olympic weightlifting and power lifting (Manocchia, 2012). Kettlebell training is to improve on body composition, flexibility, balance and core strength. It can also improve the dynamic balance as well as core strength and endurance. Incorporating Kettlebell training into a workout

routine may provide additional benefits not typically seen with traditional training (Erbes, 2012). In the previous decade, kettlebell training picked up prevalence and was picked as a practical alternative for strength training and modeling. A kettlebell can be depicted as an iron cannon ball with a minor rod grasp above it (Schnettler, Porcari & Foster, 2010). The benefits that kettlebell training can offer the athlete are numerous and profound. To open up the world of kettlebell training for sport to increased sports performance and victories (Jason & Brown, 2004). In this way, kettlebell training all the while gives a compelling strategy to endurance and resistance training. A more prominent hormonal reaction to opposition practice session may in strength (Hansen, et. al., 2001)

Methodology

The purpose of the study was to investigate impact of battle rope training and kettlebell exercise on selected physical variables among school level Badminton Players. It was hypothesized that there would be significant differences on selected variables namely speed and abdominal strength due to the impact of battle rope training and kettlebell exercise on selected physical 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' – Battle Rope Exercise, Group 'B' – KettleBell Exercise and Group 'C' – Control group have not underwent any training. speed was assessed by 50 yard dash and abdominal strength was assessed by sit ups 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 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 Analysis of Covariance of Pre-Test Post-Test and Adjusted Post- Test Means On Speed For Experimental groups and Control Group

	Battle Rope Group	Kettle Bell group	Control group	Source of variance	Sum of square	df	Mean square	F' Ratio
Pre test mean	8.24	8.27	8.28	BG	0.13	3	0.04	0.34
				WG	6.89	56	0.12	
Post test mean	8.01	7.44	8.29	BG	5.94	3	1.98	15.32*
				WG	7.24	56	0.13	
Adjusted post test mean	8.00	7.42	8.25	BG	5.56	3	1.85	71.81*
				WG	1.42	56	0.03	

*Significant at 0.05 level of confidence. (Table value required for significant at 0.05 level of confidence with df (3,56 & 3,55) are 2.77 respectively. BG - Between Groups, WG - Within Groups, df – Degrees of Freedom

Bar Diagram on Pre Post and Adjusted Post Test Differences of the Battle Rope Training Group, Kettle Bell Training Group and Control Group On Speed

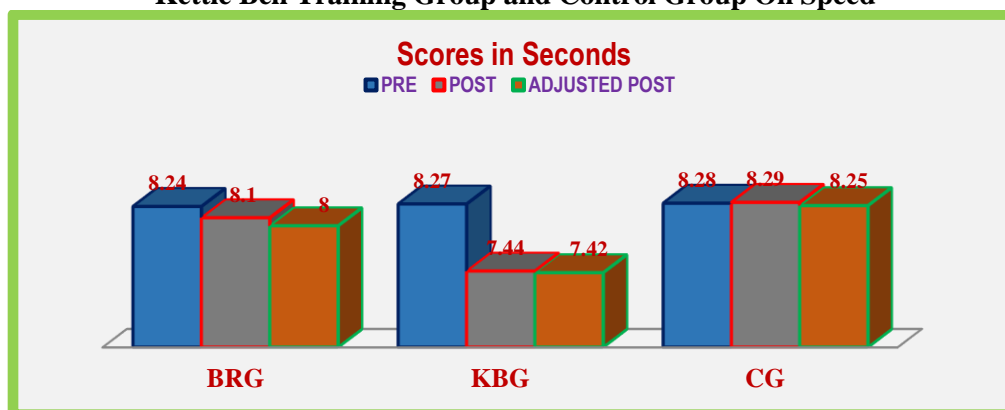
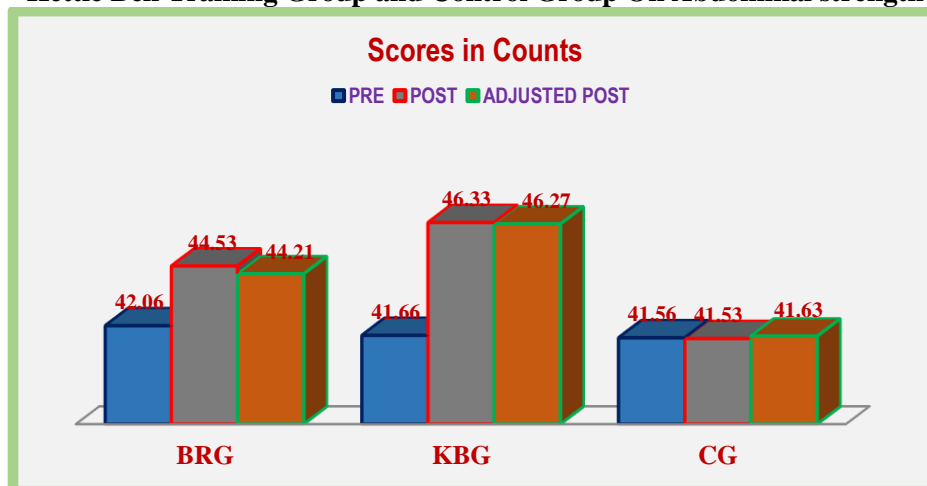


Table – 2 Computation of Analysis of Covariance of Pre-Test Post- Test and Adjusted Post- Test On Abdominal Strength for Experimental Groups and Control Group

	Battle Rope group	Kettlebell group	Control Group	Source of Variance	Sum of Square	df	Mean Square	F' ratio
Pre	42.06	41.66	41.56	BG	7.13	3	2.38	0.38
				WG	347.60	56	6.21	
Post	44.53	46.33	41.53	BG	344.60	3	114.87	29.13*
				WG	220.80	56	3.94	
Adjusted	44.21	46.27	41.63	BG	362.17	3	120.72	80.09*
				WG	82.91	55	1.51	

*significant at 0.05 level of confidence. (Table value required for significant at 0.05 level of confidence with df (3,56 & 3,55) are 2.77 respectively.

Bar Diagram on Pre Post and Adjusted Post Test Differences of the Battle Rope Training Group, Kettle Bell Training Group and Control Group On Abdominal strength



Discussion on Findings

This study confirms that battle rope training and Kettlebell Exercise produces improvement on speed and abdominal strength.

From the results of the present investigation, it is also concluded that significant difference on battle rope training and Kettlebell exercise in developing dependent variables speed and abdominal strength 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 physical variables the observed results significantly favored the experimental groups namely battle 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 speed and abdominal strength.
3. It was concluded that school level badminton players should practice both battle rope exercises and kettle bell 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 physical variables that are needed for school level badminton players.

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