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Effect of skill specific training with battle rope training on selected physical fitness variables among kabaddi players

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Abstract

The purpose of the study was to find out the effect of skill specific training with battle rope training on selected physical fitness variables among kabaddi players. To achieve the purpose of the present study, forty five male kabaddi players from Government Boys Higher Secondary School, Kavinthapadi, Erode District were selected as subjects at random and their ages ranged from 14 to 17 years. The subjects were divided into three equal groups of fifteen each. Group I acted as Experimental Group I (Skill specific training with battle rope training), Group II acted as Experimental Group II (Skill specific training without battle rope training) and Group III acted as Control Group. The requirement of the experiment procedures, testing as well as exercise schedule was explained to the subjects so as to get full co-operation of the effort required on their part and prior to the administration of the study. Speed was assessed by 50 meter Dash and unit of measures was in second and leg explosive power was assessed by standing broad jump and unit of measures was in centimeters.

Keywords: Speed, leg explosive power, skill specific training with battle rope training, kabaddi players

Introduction

Battle ropes (BR) come in all shapes and sizes, typically ranging from 26- 50ft in length, and are anywhere between 1 to 2 inches thick. Their weight is varying depends upon the length and thickness of the rope. When starting the training, the rope is wrapped around an anchor point, and an athlete holds the rope at its end point, which is usually wrapped in thick tape (Quednow, Sedlak, Meier, Janot & Braun, 2015) [7, 8].

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) [9].

Battling rope protocols are used for a variety of training goals including increasing strength, power, local muscular endurance, and agility. It's a challenging way to target weight loss and body fat reductions through increased energy expenditure. Battle rope exercises are said to stimulate high levels of energy expenditure as compared to the energy expenditure seen during traditional resistance exercise. Also, increased cardiovascular demand could be helpful for improving maximal aerobic capacity and metabolic health (Ratamess, Nicholas, *et al.* 2015). Battle ropes results in less injuries because there is a constant connection to the two force producers and it can be as explosive or dynamic as the individual is able to produce force, thus creating the opportunity to grow endurance, strength, power, and skill without a ceiling Battle ropes training are a modality that has been shown to elicit high metabolic demands, such as rapid increase in heart rate and high energy expenditure. Battle rope is a more recent training modality that has grown in popularity and is used by a wide variety of individuals ranging from health and fitness trainees to professional athletes. In the popularity of strength training, Research has focused on the muscular strength and endurance as well as the aerobic component of training, such as oxygen consumption and heart rate response (Kramer & Kruchten, 2015) [7].

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

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of the rope, to adding more advanced movements that include lower body movements along with the upper body work (Antony, Maheswari & Palanisamy, 2015)^[1].

Battle ropes come in all shapes and sizes, typically ranging from 26-50ft in length, and are anywhere between 1 to 2 inches thick. Their weight can vary greatly, depending on the length and thickness of the rope. When used in training, the rope is wrapped around an anchor point, and an athlete holds the rope at its end point, which is usually wrapped in thick tape (Antony, Maheswari & Palanisamy, 2015)^[1].

Experimental Design

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 subjects each. The groups were assigned as Skill specific training with battle rope training group and control group in an equivalent manner. The experimental groups participated in the training for a period of twelve weeks to find out the outcome of the training packages.

Training Programme

The skill specific training with battle rope training programme lasted for a session in the morning between 6.30 and 8.00 a.m. for three alternate days in a week (Monday, Wednesday and Friday).

Table 1: Paired 'T' ratio of skill specific training with battle rope training group and control group

S. No	Variables	Initial mean	Final mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
experimental group	Speed	6.80	6.09	0.71	0.43	0.11	6.31*
	Leg explosive power	0.97	1.33	0.36	0.24	0.06	5.75*
control group	Speed	6.81	6.79	0.02	0.27	0.07	0.28
	Leg explosive power	0.95	0.96	0.01	0.03	0.001	0.40

* Significant at 0.05 level

An examination of table-1 indicates that the obtained 't' ratios of experimental group were 6.31 and 5.75, for speed, leg explosive power, respectively. The obtained 't' ratios on the selected variables were found to be greater than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be significant and the obtained 't' ratios of control group were 0.28 and 0.40, for speed, leg explosive power, respectively. The obtained 't' ratios on the selected variables were found to be lesser than the required table value of 2.14 at 0.05 level of significance for 14 degrees of freedom. So it was found to be insignificant.

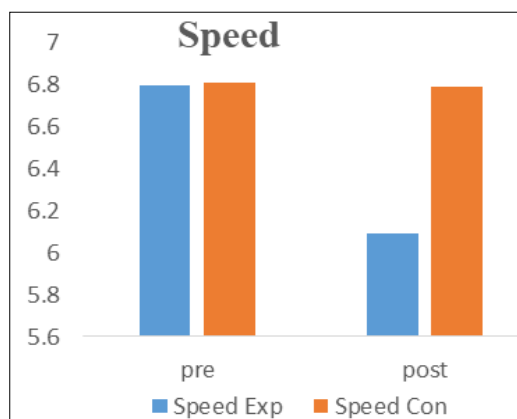


Fig 1: Bar diagram showing the mean value on speed on experimental group and control group

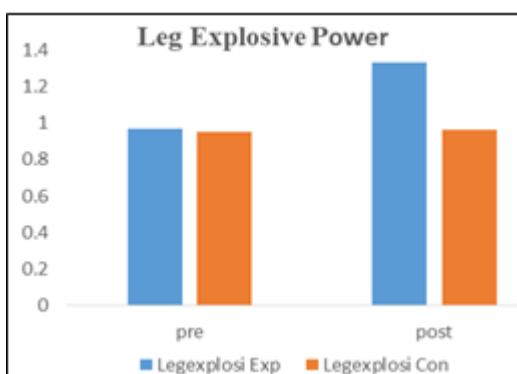


Fig 2: Bar diagram showing the mean value on leg explosive power on experimental group and control group

Discussion of Findings

Kaba Rosario (2016) conducted a study on effect of battle rope training on selected physical and performance and performance variables among kabaddi players. After 6 weeks of training, it was found that there was significant differences exist between battle rope training group and control group. It was concluded that there was significant improvement on speed among college women kabaddi players due to specific training. Kavikumar & Arumugam (2020) concluded that the hand explosive power developed by battle rope training. Such evolving forms of exercise will incorporate interest in exercise training which targets multiple muscles at the same time. Parasuraman & Mahadevan (2018)^[2] examined the effect of kettle bell and battle rope training on selected physical variables among Inter collegiate volleyball players. And found that systematic practice of 6 weeks kettlebell and battle rope training significance differences on muscular strength better than the control group among inter collegiate volleyball players. Hing, W. A. (2019)^[3] studied the effect of battle rope training on grip strength, maximum strength and performance variables among male volleyball players. The results of the study showed that there was significant differences exist between battle rope training group and control group, and also battle rope high intensity group showed significant improvement on grip strength, maximum strength and performance variables compared to control group. Liu, C. (2018) conducted a study was to find out the effect of battle rope high intensity interval training on explosive power among male volleyball players. The results of the study showed that there was significant differences exist between battle rope high intensity interval training group and control group, and also battle rope high intensity interval training group showed significant improvement on explosive power, grip strength, core strength and performance compared to control group. Charles Fountaine & Brad Schmidt. *et al.* (2013) conducted a study on the effect of Battle Rope Training on Selected Physical and Physiological Variables Among College Level Athletes. The results of the study indicated that systematic practice of Battle Rope Training has significantly improved the Selected Physical Physiological variables among College level Athletes. Chen, *et al.*, (2018)^[4] examined the battle rope training enhances multiple physical fitness dimensions, including agility. The result of the shows

that battle rope training group exhibited significant improvements in agility and other variables. Neela Kumari (2015) [6] conducted the effect of specific training and found significant improvement on agility among college women kabaddi players due to specific training.

Conclusions

From the analysis of the data, the following conclusions were drawn:

1. The skill specific training with battle rope training had shown significant improvement speed of male kabaddi players after undergoing skill specific training with battle rope training for a period of twelve weeks.
2. Twelve weeks of skill specific training with battle rope training significant improved leg explosive power of male kabaddi players

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