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## Physiological variables response to the influence of skill specific training with battle rope training among kabaddi players

S Sarojini and Dr. PK Kavithashri

### Abstract

The purpose of the study was to find out the effect of skill specific training with battle rope training on selected physiological 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), and Group II 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. Vital Capacity was assessed by Digital Spirometer and unit of measures was in L/min and Resting heart rate was assessed by Digitalized heart rate monitor and unit of measures was beats/ minute.

**Keywords:** Vital capacity, resting heart rate, skill specific training with battle rope and kabaddi players

### Introduction

The Greek physician is generally accepted to be the originators, devised training drills to replicate movements from the arena, as seen in the functional training, that is, exercises consisting of movements that are specific to a particular sport. Sports performance is the result of the integrated action of various control, and regulatory processes taking place at various levels of central nervous system and consciousness. These processes determine the level of motor co-ordination and find expression in the movement structure and in various qualities and characteristics of sports movement (or sports action) (Hardayal Singh, 1984) [5].

Battle ropes training has become very popular due to its benefits in the body. The battle ropes help to have a high intensity and full-body workout that causes the muscles to move in different ways. Rope training is one of the activities performed by people doing Cross Fit. The battle rope is named for the literal translation of the English name of the equipment used during the exercise and is becoming increasingly popular due to the wide effects it provides (Krameri, *et al.* 2015) [4].

In ancient Egypt from 3500 to 4500 B.C., the rope has been used to improve the quality of people's life – like to pull, haul, carry, drive, push, and lift peoples, vehicles and equipment. It was one of the greatest inventions of that time; it's still used in today as a prominent implement for sports training also. 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, 2000) [6]. 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 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 researcher 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).

### 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.

### Training Programme

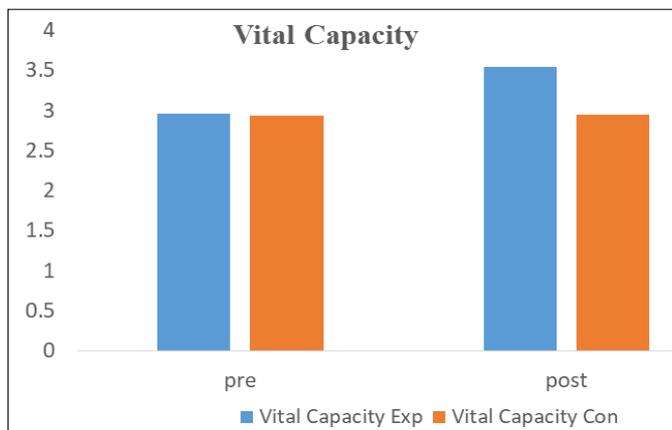
The skill specific training with battle rope training programme lasted for a session in the morning between 6.30 and 8.00 a.m. for three alternate days in a week (Monday, Wednesday and Friday).

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

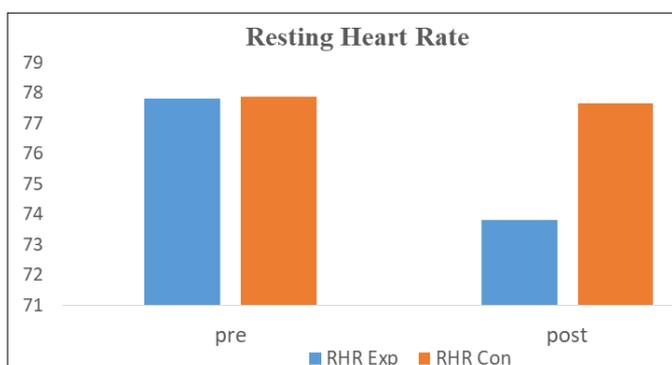
S. No	Variables	Initial mean	Final mean	Mean difference	Std. Dev (±)	σ DM	't' Ratio
experimental group	Vital capacity	2.96	3.54	0.58	0.55	0.14	3.99*
	Resting heart rate	77.80	73.80	4.00	1.36	0.35	11.36*
control group	Vital capacity	2.93	2.95	0.02	0.33	0.08	0.25
	Resting heart rate	77.86	77.66	0.20	1.56	0.40	0.49

\* Significant at 0.05 level

An examination of table-VI indicates that the Obtained 't' ratios of experimental group were 3.99\* and 11.36\*, for vital capacity and resting heart rate, 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 0.25 and 0.49, for vital capacity and resting heart rate 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 vital capacitor experimental group and control group



**Fig 2:** Bar diagram showing the mean value on resting heart rate on experimental group and control group

### Discussion of Findings

Prakashraaj & Mohan (2017) [1] conducted a study to find

out the influence of battle rope training on selected physiological variables among male volleyball players. And also battle rope training group showed significant improvement on vital capacity, forced vital capacity, slow vital capacity and maximum voluntary ventilation compared to control group. Charles Fountaine & Brad Schmidt. *et al.* (2013) [2] 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. Vaithianathan & Binotha (2021) [3] turned into to research the effect of rope training on aerobic-respiration staying power and resting heart fee amongst university women kabaddi gamers. Result of the study experimental group had significant improvement on cardio-respiratory endurance and resting heart rate when compare to control group. Prakashraaj, *et al.*, (2017) [1] examined the effect of battle rope training on breath holding time, peak expiratory rate and performance 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 breath holding time, peak expiratory rate and performance compared to control group. Neela Kumari (2015) studied the effect of specific training and its improvement on resting heart rate 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 vital capacity 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 resting heart rate of male kabaddi players.

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