

Effect of Karate Training and Kalarippayattu Training on Selected Physical Variable-Resting Pulse Rate of College Level Football Players

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Abstract

The purpose of the study was to find out the effects of selected karate and kalarippayattu exercises on selected physical, physiological and psychological variables of men football players. Forty eight men football players from N.S.S. College, Changanacherry, Baselius College, Kottayam and C.M.S. College, Kottayam who participated in the intercollegiate men football tournament in M.G. University, Kottayam were selected as subjects. The selected subjects were divided into three groups namely karate training group, kalaripayattu training group and control group of sixteen subjects each. The age of the subjects were ranged from 18 to 25 years. The physical variable-Resting Pulse Rate was selected as criterion variable. Resting Pulse Rate was tested by using Radial Pulse test. The experimental groups underwent their respective training programmes for three days per week for twelve weeks. The subjects were tested at prior and immediately after the training programme on selected criterion variables. The collected data were analysed statistically by using analysis of covariance (ANCOVA) to find out the effects of selected karate and kalarippayattu trainings on selected criterion variables. The adjusted post test mean values on Resting Pulse Rate were for karate training group-66.63, kalarippayattu training group – 64.00 and control group 67.38 respectively. Based on the results of the study, the following conclusions were drawn. There was a significant difference among karate training group, kalarippayattu training group and control group on Resting Pulse Rate. The experimental group that practiced kalaripayattu exercises showed more significant results.

INTRODUCTION

Sport has emerged into a highly organised activity of human society. Sports is a highly organised form of play and play is a general innate tendency. Play is very important for preservation, growth and development of organism.

The strength of the muscle is an essential and necessary factor for Karate skills. The muscular strength attained by the Karate trainee will help to perform his work more easily, effectively and comfortably. This ability of the art form of Karate can be exploited in the playground to attain better performance of players by achieving greater muscular strength.

Physical fitness components are necessary for a player to perform well in a game. Kalarippayattu is an activity that needs physical fitness components like agility, speed and vertical jumping ability. So, a trainee of this art can naturally perform better in all other fields which require such developed physical capacities.

Methodology

The subjects for this study were forty eight football players who participated in the intercollegiate football tournament in Mahatma Gandhi University, Kottayam representing N.S.S. College, Changanacherry, Baselius College, Kottayam and C.M.S. College, Kottayam, Kerala, were selected.. The selected subjects were randomly divided into three groups of sixteen subjects each. Group I underwent karate training, Group II underwent kalarippayattu training and Group III acted as control who did not undergo any special training programme apart from their regular football training. The experimental groups underwent their respective training programmes for three days per week for twelve weeks-apart from their regular football training in the colleges. This design helped the investigator to find out the immediate effect of exercise and also the effect of long term training on the Resting Pulse Rate from 18 subjects, (First Test-Pre and Post & Second Test Pre & Post). Radial Pulse test were selected as the variable for this study. The collected data was statistically analysed by using Analysis of Covariance (ANACOVA).

Resting Pulse Rate

The analysis of covariance on resting pulse rate for pre and post tests data of karate training group, kalarippayattu training group and control group have been presented in Table IX.

TABLE I

ANALYSIS OF COVARIANCE FOR THE PRE AND POST TESTS DATA ON RESTING PULSE RATE OF KARATE TRAINING GROUP, KALARIPPAYATTU TRAINING GROUP AND CONTROL GROUP (In Counts)

Test	Karate Training Group	Kalarippayattu Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test								
Mean	69.75	68.75	69.63	Between mean	9.50	2	4.75	0.21
S.D.	5.56	3.79	4.91	Within group	1039.75	45	23.11	
Post Test								
Mean	66.63	64.00	67.38	Between mean	100.50	2	50.25	10.69*

S.D.	1.41	1.93	2.90	Within group	211.50	45	4.7	
Adjusted Post Test								
				Between set	95.78	2	47.89	
Mean	66.60	64.04	67.36	Within set	206.69	44	4.70	10.19*

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence for 2 and 45 and 2 and 44 are 3.21 and 3.22 respectively).

The Table I shows that the pre test mean values on resting pulse rate of karate training group, kalarippayattu training group and control group were 69.75, 68.75 and 69.63 respectively. The obtained 'F' ratio value 0.21 was less than the required table value 3.21 for significance at .05 level of confidence with df 2 and 45. The post test mean values on resting pulse rate were 66.63, 64.00 and 67.38 respectively. The obtained 'F' ratio value 10.69 was greater than the required table value 3.21 for significance at .05 level of confidence with df 2 and 45. The adjusted post test mean values on resting pulse rate were 66.60, 64.04 and 67.36 respectively. The obtained 'F' ratio value 10.19 was greater than the required table value 3.22 for significance at .05 level of confidence with df 2 and 44.

Hence, the results of the study showed that there was a significant difference among karate training group, kalarippayattu training group and control group on resting pulse rate.

To determine which of the three paired means had a significant difference, the Scheffe's test was applied as post hoc test and the results were presented in Table X.

TABLE II**THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST-TEST PAIRED MEANS ON RESTING PULSE RATE (In Counts)**

Karate Training Group	Kalarippayattu Training Group	Control Group	Mean Difference	Confidence Interval
66.60	64.04		2.56*	1.94
66.60		67.36	0.76	1.94
	64.04	67.36	3.32*	1.94

*Significant at .05 level of confidence.

Table II shows that the mean difference values on resting pulse rate between karate training group and kalarippayattu training group and kalarippayattu training and control group 2.56 and 3.32 respectively were greater than the confidence interval value 1.94. Hence, the results of the showed that there was a significant difference between karate training group and kalarippayattu training group and kalarippayattu training group and control group on resting pulse rate.

And also it shows that the mean difference value on resting pulse rate between karate training group and control group 0.76 was less than the confidence interval value 1.94. Hence, the results of the study showed that there was no significant difference between karate training group and control group on resting pulse rate.

The adjusted post test mean values of karate training group, kalarippayattu training group and control group on resting pulse rate were graphically represented in Figure I.

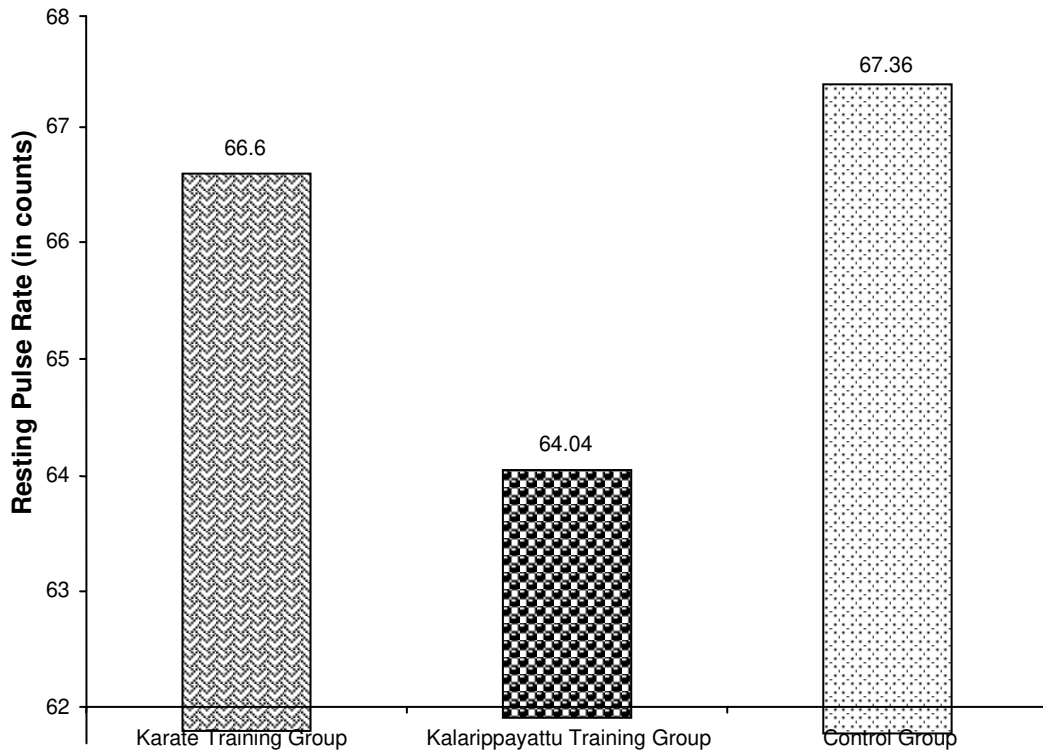


FIGURE I: THE ADJUSTED POST TEST MEAN VALUES OF KARATE TRAINING GROUP, KALARIPPAYATTU TRAINING GROUP AND CONTROL GROUP ON RESTING PULSE RATE

DISCUSSION

The results of the study showed that there was a significant difference among the karate training group, kalaripayattu training group and control group on selected physical variable -Resting Pulse Rate. The experimental group that practiced kalaripayattu exercises showed more significant results. Hence, the researcher's hypothesis was proved positive.

CONCLUSIONS

There was a significant difference among karate training group, kalaripayattu training group and control group on Resting Pulse Rate.

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