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EFFECTIVENESS OF FARTLEK TRAINING ON MAXIMUM OXYGEN CONSUMPTION AND RESTING PULSE RATE

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ABSTRACT

The rationale of this study was to appraise the outcome of the twelve weeks of supervised fartlek training programme on selected physiological parameters. For this purpose twelve male athletes from Dr. S. Ramadoss Arts and Science College, Virudhachalam, in the age group of 20 to 22 years took part in the study. The selected subjects were subjected to twelve weeks of farlek training programme. The selected criterion variables namely: maximum oxygen consumption and resting pulse rate were assessed using standard tests and procedures, prior to and subsequent to the training regimen. The pretest and posttest data collected on criterion variables were statistically examined by applying 't' test to find out the significant difference if any. The analysis of data revealed that twelve weeks of farlek training programme significantly improved maximum oxygen consumption and resting pulse rate. These findings propose that the experimental variable has the significant influence in improving the selected criterion variables.

***Keywords*:** Fartlek training, maximum oxygen consumption, pulse rate

Introduction

Sportsmen and women must participate in year round conditioning programs to have the utmost efficiency, consistent improvement and balanced abilities. For that they must put their bodies under a certain amount of stress to increase physical capabilities. Physical exercise is extremely important for maintaining physical fitness including healthy weight; building and maintaining healthy bones, muscles, and joints; promoting physiological well-being; and strengthening the immune system. To improve or maintain a desired level of physiological fitness, there is a need to constantly administer an adequate training intensity while exercising.

There are several marked adaptations associated with the regular performance of endurance training. Aerobic endurance training produces increases in VO_2 max [1-3]. Phenomenal progress registered in performance in different sports disciplines is attributable to several factors, the most important of which include better training methods. Fartlek training is one of the effective means to improve cardiovascular fitness.

Fartlek, developed in the 1930's, comes from the Swedish for 'Speed Play' and combines continuous and interval training. Fartlek allows the athlete to run whatever distance and speed they wish, varying the intensity, and occasionally running at high intensity levels. This type of training stresses both the aerobic and anaerobic energy pathways. To know the

Efficacy of fartlek training and its significant contribution to one's level of fitness, it was decided to take up this study. It hypothesized that fartlek training may have significant impact on selected physiological parameters.

Methodology

Subjects and Variables

For the purpose of this study, twelve male athletes from Dr. S. Ramadoss Arts and Science College, Virudhachalam, in the age group of 20 – 22 years were selected, with their consent. All of them were healthy, nonsmoking and with a negative medical history. The selected criterion variables namely: maximum oxygen consumption and resting pulse rate Were assessed using standard tests and procedures, before and after the training regimen. The instruments used for testing the dependent variables were standard and reliable as they were purchased from the reputed companies.

Training Protocol

The subjects underwent fartlek training progamme for three days a week for twelve weeks. The subjects were asked to perform all the prescribed number of repetition and sets as prescribed in the schedule. The details of work period, number of repetitions and sets, recovery between repetitions and sets were been presented in Table I. The training load was increased once in two weeks.

Table I
Training Schedule

Week	Warm up	Work Period	No. of Repetitions	Active Recovery Period between Repetitions	No. of Sets	Recovery between Sets	Warm down
I & II	10 min	25	7	120 sec decreases with 20 sec	3	2 min	10 min
III & IV	10 min	25	7	90 sec decreases with 15 sec	3	2 min	10 min
V & VI	10 min	30	7	120 sec decreases with 20 sec	3	2½ min	10 min
VII & VIII	10 min	30	7	90 sec decreases with 15 sec	3	2½ min	10 min
IX & X	10 min	35	7	120 sec decreases with 20 sec	3	3 min	10 min
XI & XII	10 min	35	7	90 sec decreases with 15 sec	3	3 min	10 min

Statistical Procedure

The data collected on maximum oxygen consumption and resting pulse rate among college male athletes prior to and after experimentation was statistically examined for significant differences, if any, by applying the dependant 't' test with the help of SPSS package. In determining the

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significance of 't' ratio the confidence interval was fixed at 0.05, which is considered appropriate enough for the study.

The computation of 't' ratio on maximum oxygen consumption between the pretest and posttest data were statistically examined and presented in Table 2.

Results

Table 2
Computation of Pretest and Posttest Data on Maximum Oxygen Consumption

Test	Mean	SD	DM	Std Error of DM	't' ratio
Pre	3.1714	0.1923	0.4353	0.0560	7.770
Post	3.6067	0.0902			

The obtained 't' ratio of 7.770 on maximum oxygen consumption was greater than the required table value 2.201 for significance with df of 11 at 0.05 level of confidence. The results of the study showed that there is a significant difference existing between pretest and posttest data collected on maximum oxygen consumption. From this result, it is being inferred that the fartlek training has a statistically significant influence on maximum oxygen consumption. The computation of 't' ratio on resting pulse rate between the pretest and posttest data were statistically examined and presented in Table 3.

Table 3
Computation of Pretest and Posttest Data on Resting Pulse Rate

Test	Mean	SD	DM	Std Error of DM	't' ratio
Pre	80.00	5.01	5.25	0.88	5.965
Post	74.75	5.46			

The obtained 't' ratio of 5.965 on resting pulse rate was greater than the required table value 2.201 for significance with df of 11 at 0.05 level of confidence. The results of the study showed that there was a significant difference existing between pretest and posttest data collected on resting pulse rate. It is being inferred that the fartlek training has a statistically significant influence on resting pulse rate.

Discussions

It appears that regular participation in physical exercises initiate a disruption in systemic homoeostasis, which is followed by an adaptive phase results in the betterment of the performance of cardiorespiratory endurance, and a reduction in resting pulse rate, which might be due to the progressive loading of intensity.

The literature thoroughly supports the evidence that exercise intensity is directly related to the change in VO_{2max} [4]. Higher doses of aerobic exercise produce greater increases in VO_{2max}, although these improvements are not proportionately greater. Regular

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participation in aerobic exercise often results in a decrease in resting heart rate [5,6].

Conclusions

The result of this study demonstrates that fartlek training has significant influence in improving the maximum oxygen consumption and resting pulse rate.

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