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Effect of aerobics exercise on training cessation in physiological parameters

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Abstract

The present study was designed to find out the effect of aerobics exercise on training cessation in physiological parameters. The selected subjects underwent their routine aerobics exercise training for the period of 6 weeks while in-taking high fat foods, then underwent training cessation for four weeks where they follow up their same meal. The pre-test and post-test were conducted for the group. The Resting Heart Rate, Breath Hold Timing and forced vital capacity were measured. The data pertaining to the variables collected from the group before and after the training period were statistically analyzed by using T- RATIO to determine the significant differences and tested at 0.05 level of significance. The results of the study showed that Resting heart rate and breath hold timing has higher as a result of training cessation on aerobics exercise and forced vital capacity decreases as a result of training cessation on aerobics exercise, hence the hypothesis was accepted at 0.05 level of confidence for Resting heart rate.

Keywords: Effect of aerobics exercise on training cessation in physiological parameters

Introduction

The word aerobic meaning with oxygen to represent idea. Even so the dynamics of the idea are more complicated than implied by the definition. Aerobic can be viewed as an intricate system of bodily supply and demand. The body needs energy for any kind of activity and the need is filled by burning off the foods that eat. Oxygen is the spark the fuel needs to burn regardless aerobics is the word in general use. The fact is that codified and organized what fitness means to many people. He is generally credited with being one of the main forces of the current fitness craze. The majority medical opinions that aerobic programs strengthen heart muscle, increase the efficiency of lungs and offer other wonderful benefits. Aerobic exercise refers to exercise that involves or improves oxygen consumption by the body. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy-generating process. (Concise Oxford Endurance performance represents a complex interplay between several physiological factors, including maximal oxygen uptake (VO₂max), aerobic endurance (AE) and the energy cost of running (Cr) (Di Prampero *et al.*, 1986) [3]. Endurance training consists therefore in implementing exercise protocols that will enhance at least one of these determinants, in order to increase overall performance. According to the principle of reversibility, training induced physiological adaptations are transitory and may disappear when the training load is not sufficient. The reasons for such a scenario are numerous in an athlete's life: illness, injury, post-season break or training load adaptation to recover from state of overreaching. The consequences on endurance performance may vary according to the way training load is altered: training reduction, training cessation or bed rest/confinement (Mujika & Padilla, 2000a) [7]. To avoid any confusion with the terminology, the effect of training cessation on the physiological determinants of endurance performance and their underlying factors. Considering that detraining characteristics may differ according to the training background, we focus on studies dealing with well trained to highly trained athletes.

Cessation: A bringing or coming to an end.

Training cessation: A temporary discontinuation or complete abandonment of systematic program of physical conditioning.

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Resting heart rate

The number of times a walker's heart beats per minute while at complete rest. Resting heart rate will decrease as the walker's heart becomes larger and stronger with training. A low resting heart rate is an indicator of fitness. The units are bpm = beats per minute. Your resting heart rate should be taken first thing in the morning, before getting out of bed. Find a clock or watch with a second hand or second display and take your pulse for 60 seconds. (Dave McGovern, 2012) [1].

Forced vital capacity

The amount of air which can be forcibly exhaled from the lungs after taking the deepest breath possible (Deborah, 2010) [2]. Training reduction: - A progressive or non-progressive reduction of the training load during a variable period of time, in an attempt to reduce the physiological and psychological stress of daily training. Detraining:-A partial or complete loss of training induced anatomical, physiological and performance adaptations, as a consequence of training reduction or cessation.

Manual Breath-holding

A form of voluntary apnea that is usually but not necessarily performed with a closed glottis. Although breath-holding may be prolonged for several minutes, it is invariably terminated either voluntarily or when the person or child loses consciousness (Elsevier, 2009) [3]. Maximal oxygen uptake represents the maximal amount of oxygen that can be used at the cellular level for the entire body. It represents the upper limit of the cardio respiratory system and has long been considered as an important determinant of endurance performance (Saltine & A strand, 1967) [9]. According to the Fick principle, any alteration in VO₂max is the consequence of a modification of maximal Cardiac output (Q_{max}) and/or maximal arteriovenous difference in oxygen (avDO₂max). It is generally accepted that the largest part of the training induced increase in VO₂max results from an increase in blood volume, stroke volume and ultimately Q_{max}. Nevertheless, the increase in a-vDO₂max, which results from a more effective distribution of arterial blood from inactive to active muscles together with a greater oxygen extraction and utilization capacity by these muscles, plays also an important role in cardio respiratory adaptations to endurance training.

Hypothesis

It was hypothesized that the aerobic exercise might cause significant changes in the training cessation in physiological parameters.

Methodology

To achieve the purpose of the study youth men in vijayapur who trains aerobics thrice a week aged between 14-16 were selected for the study. The selected subjects underwent six weeks of aerobic conditioning with high fat intake (pre-test) and four weeks of training cessation with high fat intake (post-test). The selected Resting Heart Rate and Manual Breath Hold Timing were measured by using stopwatch. Forced Vital Capacity was measured by micro plus speedometer.

Results and discussions

The purpose of this study was to find out the effects of aerobic exercise might cause significant changes in selected battery test for elementary school boys in Chennai. The

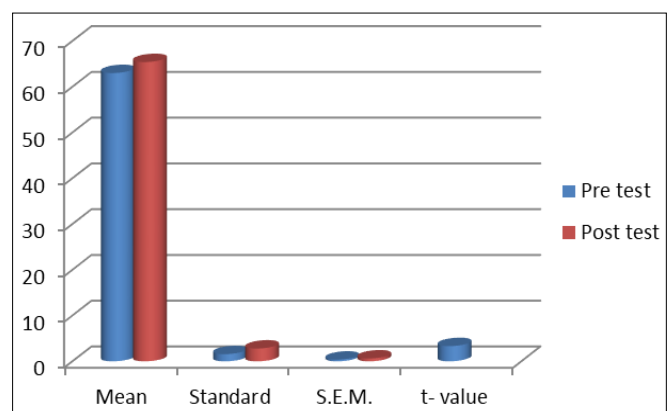
calculated data was subjected to the "t" ratio for the analysis of significance.

Table 1

Test	Mean	Standard	S.E.M.	t- value
Pre test	63	1.57	0.38	3.33
Post test	65.4	2.80	0.63	

The table I shows the mean difference, standard deviation, standard error of mean and t-value of the effect of aerobics exercise on training cessation of Resting Heart rate of the subjects.

Table-I Shows the mean value of initial and final test value of aerobics training and training cessation for 6 weeks and 4 weeks has 63 and 65.4 respectively. The standard deviation of 1.57 and 2.80 respectively. The standard error obtained 0.35 and 0.63 respectively. The t – value calculated was 3.33 which are higher than the required value of 2.72 at 0.05 level of significance. Hence the hypothesis was accepted.



Conclusion

Most of the physiological determinants of endurance performance decline rapidly once the training process is interrupted, leading to an impaired performance capacity. Manual breath holding duration of training cessation due to effect of training cessation of aerobics exercise in high fat intake young men. When the training process is interrupted coaches should estimate the physiological consequences of implementing no alternative training. Choose the most appropriate alternative training cessation and its anticipated duration of training cessation is short. de-training (effect of training cessation) and Forced vital capacity decreases exponentially with the in high fat intake young men. Resting heart rate increases interrupted, most often because of an injury, athletes and according to the cause of training anticipated duration. Resume normal training progressively, even when the training.

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