

Effect Of Treadmill Training On Total Lung Capacity Among Male Kabaddi Players

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Abstract

The purpose of the study was to effect of treadmill training on total lung capacity among male kabaddi players. To achieve the purpose of the present study, twenty four students from A.V.V.M Sri Pushpam College, Thanjavur, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of eight each. Experimental group I was exposed to 50% Intensity of treadmill training, experimental group II was exposed to 75% Intensity of treadmill training and control group was exposed to no training. The duration of experimental period was 12 weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) and Scheffe's post-hoc test. The experimental groups had shown significant differences on total lung capacity after training for a period of twelve weeks.

Keywords: Treadmill, Lung Capacity, Kabaddi.

Introduction

A treadmill is a device that allows you to walk or run while remaining stationary. Treadmills were developed prior to the development of powered machines to harness the power of animals or humans to do work, and were frequently a type of mill that was operated by a person or animal treading steps of a treadwheel to grind grain. Treadmills were later used as punishment devices in prisons for people sentenced to hard labour. For the power and punishment mechanisms, the terms treadmill and treadwheel were used interchangeably. Treadmills are now used as exercise machines for running or walking in one place, rather than to harness power. Instead of being powered

by the user, the machine provides a moving platform with a wide conveyor belt powered by an electric motor or a flywheel. The belt moves to the back, requiring the user to walk or run at the same speed as the belt. The rate at which the belt moves corresponds to the rate at which you walk or run. Running speed can thus be controlled and measured. The more expensive, heavy duty models are powered by a motor. The simpler, lighter, and less expensive models resist motion passively, moving only when walkers push the belt with their feet. The latter are referred to as manual treadmills (Boone & Bourgois, 2012).

Methodology

The purpose of the study was to effect of treadmill training on male kabaddi players. To achieve the purpose of the present study, twenty four students from A.V.V.M Sri Pushpam College, Thanjavur, Tamilnadu, India were selected as subjects at random and their ages ranged from 18 to 25 years. The subjects were divided into three equal groups of eight each. Experimental group I was exposed to 50% Intensity of treadmill training, experimental group II was exposed to 75% Intensity of treadmill training and control group was exposed to no training. The duration of experimental period was 12 weeks. The pre test and post test scores were subjected to statistical analysis using Analysis of Covariance (ANCOVA) and Scheffe's post-hoc test.

Results

TABLE – I COMPUTATION OF ANALYSIS OF COVARIANCE OF EXPERIMENTAL GROUPS ON TOTAL LUNG CAPACITY

| | Experimenta I Group I | Experimenta I Group II | CG | Source of varianc e | Sum of square s | df | Mean suar e | F |
|---------------------------|--------------------------|---------------------------|----------|------------------------------|-----------------------|----|-------------------|-----------|
| Pre test mean | 5.47 | 5.43 | 5.4 6 | BG | 0.006 | 2 | 0.00 3 | 0.35 |
| | | | | WG | 0.17 | 21 | 0.008 | |
| Post test mean | 5.63 | 5.67 | 5.4 1 | BG | 0.32 | 2 | 0.16 | 6.24 * |
| | | | | WG | 0.54 | 21 | 0.026 | |
| Adjuste d post mean | 5.64 | 5.66 | 5.4 1 | BG | 0.31 | 2 | 0.15 | 6.07 * |
| | | | | WG | 0.51 | 20 | 0.02 | |

* Significant at 0.05 leve

An examination of table - I indicated that the pre test means of experimental and control groups were 5.47, 5.43 and 5.46 respectively. The obtained F-ratio for the pre-test was 0.35 and the table F-ratio was 3.46. Hence the pre-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 21. Since the experimental groups were tested on three different times in a day the pre test f ratio was greater than the table value. The post-test means of the experimental and control groups were 5.63, 5.67 and 5.66 respectively. The obtained F-ratio for the post-test was 6.24 and the table F-ratio was 3.46. Hence the post-test mean F-ratio was significant at 0.05 level of confidence for the degree of freedom 2 and 21. This proved that the differences between the post test means of the subjects were significant. The adjusted post-test means of the experimental and control groups were 5.64, 5.66 and 5.41 respectively. The obtained F-ratio for the adjusted post-test means was 6.07 and the table F-ratio was 3.49. Hence the adjusted post-test mean F-ratio was insignificant at 0.05 level of confidence for the degree of freedom 2 and 20. This proved that there was a insignificant difference among the means due to the experimental trainings on total lung capacity.

TABLE – II SCHEFFE’S POST HOC TEST OF SIGNIFICANCE FOR EXPERIMENTAL GROUPS ON TOTAL LUNG CAPACITY

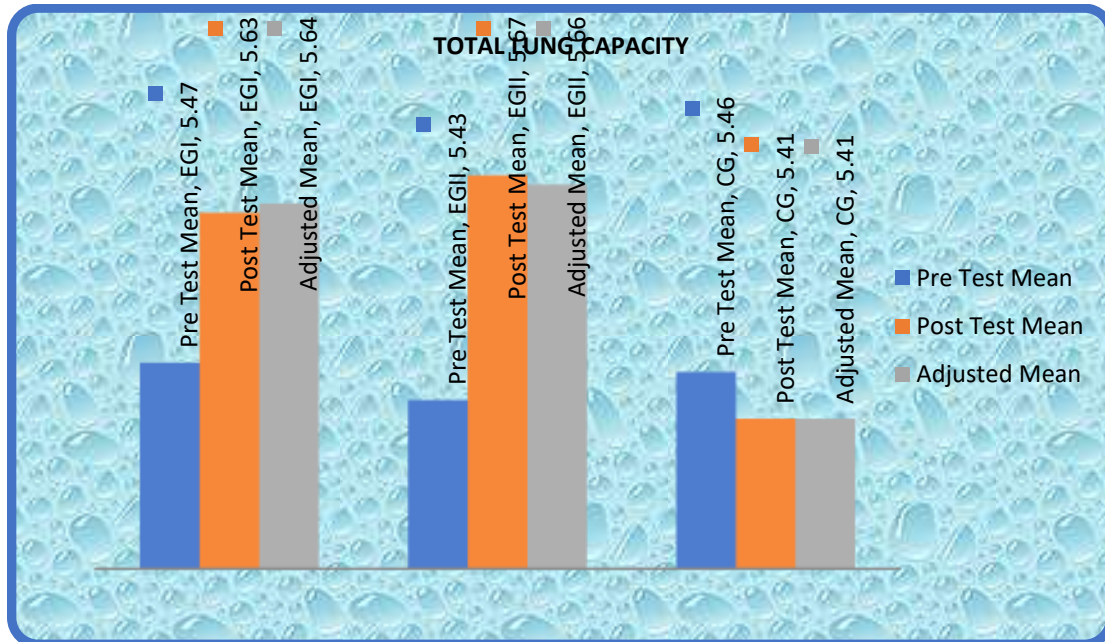
| EG I | EG II | CG | Mean Difference | CI value |
|------|-------|------|-----------------|----------|
| 5.64 | 5.66 | --- | 0.02 | 0.18 |
| 5.64 | --- | 5.41 | 0.23* | |
| --- | 5.66 | 5.41 | 0.25* | |

*P < 0.05, Confidence interval value (0.05) = 0.18

From the above table the mean difference values between experimental group I and control group (0.23), experimental group II and control group III (0.25) shown significant difference as mean difference value was greater than the confidence interval value (0.18). The mean values of experimental group I and experimental group II (0.02) reveals that there was a insignificant difference since the mean difference value was lesser than the confidence interval value (0.18). The pre, post

and adjusted mean values of total lung capacity of experimental groups are graphically represented in the figure-I.

FIGURE – I PRE POST AND ADJUSTED POST TEST DIFFERENCES OF THE EXPERIMENTAL GROUPS ON TOTAL LUNG CAPACITY



Conclusions

1. The experimental groups had shown significant differences on total lung capacity after training for a period of twelve weeks.

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