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Effect of Land Based Training on Selected Physiological Variables among Middle Aged Women

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Abstract

The purpose of the study was to investigate the effect of land based training on selected physiological variables among middle aged women. It was hypothesized that there would be significant differences on selected physiological variables due to the effect of land based training among middle aged women. For the present study the 60 middle aged women from in and around Chennai, Tamilnadu, India were selected at random and their age ranged from 35 to 45 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent land based training and Group 'B' have not underwent any training. Blood pressure was assessed by sphygmomanometer, vital capacity was assessed by spirometer. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA). The level of significance was set at 0.05. In case of physiological variables i.e. systolic blood pressure, diastolic blood pressure and vital capacity the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular land based training which may also bring sudden spurt in physiological variables in middle aged women. The findings of the present study have strongly indicates that land based training of twelve weeks have significant effect on selected physiological variables i.e., systolic blood pressure, diastolic blood pressure and vital capacity of middle aged women. Hence the hypothesis earlier set that land based training programme would have been significant effect on selected motor fitness components in light of the same the hypothesis was accepted.

Keywords: Land Training, Women Blood Pressure, Vital Capacity, Middle Age.

Introduction

Sports training is a programme of exercise designed to improve the skills and increase the energy capacities of an athlete for a particular event. Sports activities consist of motor movement and action and their success depends to a great extent on how correctly they are performed. Techniques of training and improvement of tactical efficiency play a vital role in a training process (Fox, 1984). Bompa (1999) suggested that the physiological goal of training is to improve body function and optimize athletic performance. Training is primarily a systematic athletic activity of long duration, which is progressively and individually graded. Human physiological functions are modeled to meet demanding tasks.

The concept of training is reflected in words or terms, which are given to separate components of training (technique training, strength training) or separate methods of procedures of doing physical exercise (interval training and circuit training). Training means are various physical exercises and their objects, methods and procedures, which are used for the improvement, maintenance and recovery of performance capacity and performance readiness. Physical exercises are the physical means of training. The other means are used in addition to physical exercises or separately as per requirement. Each training means has its own specific effect on the performance capacity. This effect may be direct or indirect. Physical exercises have a direct effect on performance capacity. Means like physiotherapy, autogenious training has indirect effect. Physical training refers to the processes used in order to develop the components of physical fitness, as for example, how to improve aerobic endurance, to strength and relax muscles, to increase arm and shoulder strength, to relate exercises and programmes to the specific requirements or individual sports. On the other hand, sports training aims at achieving high performance in sports competition. In order to achieve high performance, sports training is done in a planned and systematic manner. Sports training is based on systematic facts and principles. A system most suitable for achieving high performance has to be first made on the basis of the sports training which is planned. It is always assessed, planned, organised and implemented by a coach or a

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sports teacher or some other person. The sports training aims at finding out hidden reserves and makes the sportsperson aware of it. It also aims at further development of these reserves. The sportspersons control their day to day routine in such a manner that they are able to do training once or twice a day with high effect. Sports training is basically an educational process. So, it strives to develop all the aspects of personality. It is a continuous process of perfection, improvement and creation of means and methods of improving sports performance and factors of performance (Singh, 1991). Land based training is the most effective method to overcome various abstacles in day to day life.

Methodology

The purpose of the study was to investigate the effect of land based training on selected physiological variables among middle aged women. It was hypothesized that there would be significant differences on selected physiological variables due to the effect of land based training among middle aged women. For the present study the 60 middle aged women from in and around Chennai, Tamilnadu, India were selected at random and their age ranged from 35 to 45 years. For the present study pre test – post test random group design which consists of control group and experimental group was used. The subjects were randomly assigned to two equal groups of fifteen each and named as Group 'A' and Group 'B'. Group 'A' underwent land based training and Group 'B' have not underwent any training. Blood pressure was assessed by sphygmomanometer, vital capacity was assessed by spirometer. The data was collected before and after twelve weeks of training. The data was analyzed by applying Analysis of Co-Variance (ANCOVA). The level of significance was set at 0.05.

Results

The findings pertaining to analysis of co-variance between experimental group and control group on selected physiological variables among middle aged women for pre-post test respectively have been presented in table I to III.

Table I. ANCOVA between Experimental Group and Control Group on Systolic blood pressure of Middle aged women for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	124.26	124.30	BG	0.01	1	0.01	0.001
			WG	676.16	58	11.65	
Post Test Mean	120.16	124.26	BG	252.15	1	252.15	41.54*
			WG	352.03	58	6.07	
Adjusted Post Mean	120.17	124.25	BG	250.09	1	250.09	78.40*
			WG	181.80	57	3.19	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table I revealed that the obtained 'F' value of 78.40 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of systolic blood pressure of middle aged women between experimental group and control group. The graphical representation of data has been presented in figure I.

Figure I. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to Systolic blood pressure

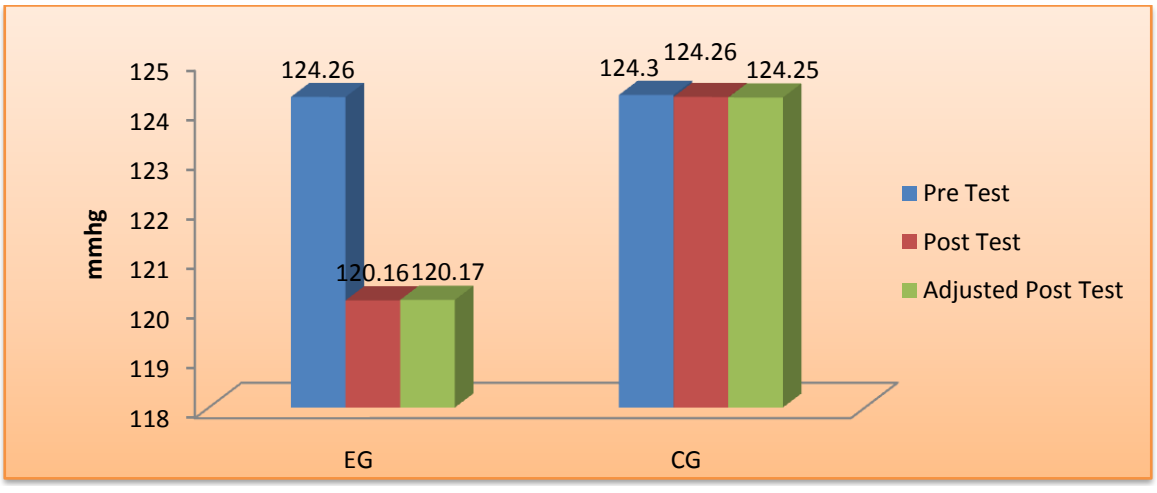


Table II. ANCOVA between Experimental Group and Control Group on Diastolic blood pressure of Middle aged women for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	84.70	84.80	BG	0.15	1	0.15	0.01
			WG	453.10	58	7.81	
Post Test Mean	80.03	84.26	BG	268.81	1	268.81	55.51*
			WG	280.83	58	4.84	
Adjusted Post Mean	80.05	84.24	BG	262.43	1	262.43	88.93*
			WG	168.20	57	2.95	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table II revealed that the obtained 'F' value of 88.93 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of diastolic blood pressure of middle aged women between experimental group and control group. The graphical representation of data has been presented in figure II.

Figure II. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to Diastolic blood pressure

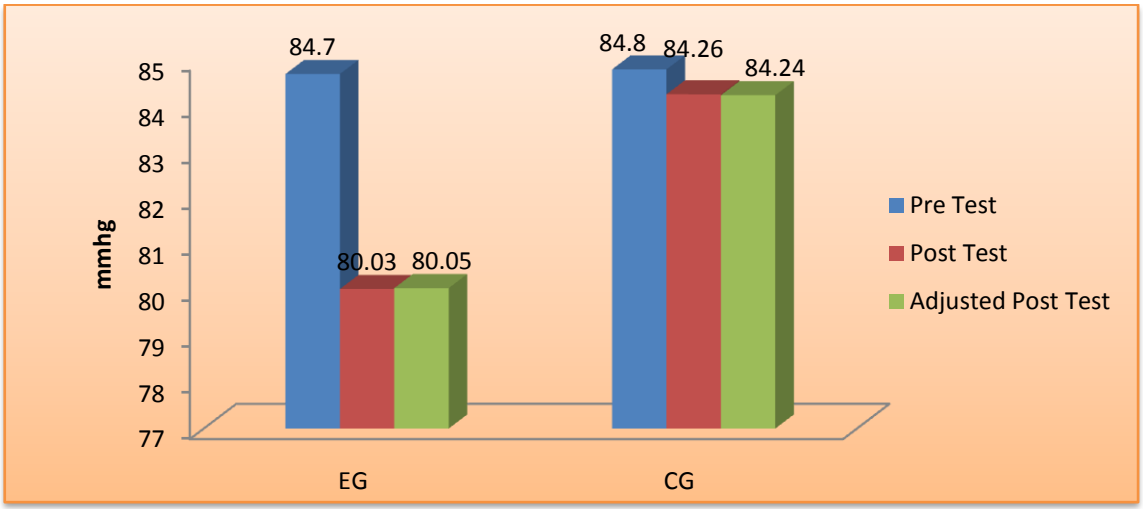


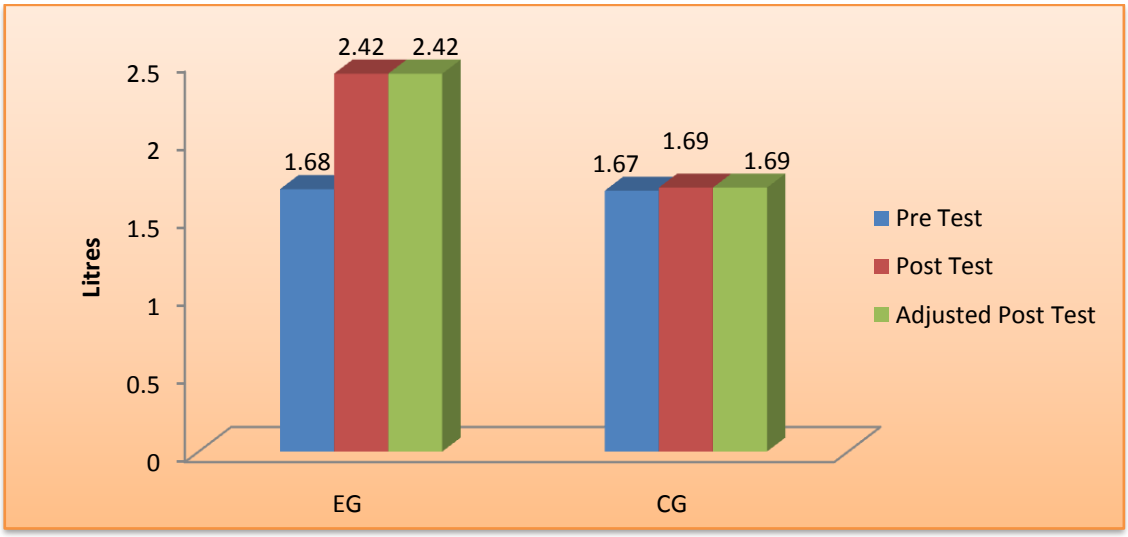
Table III. ANCOVA between Experimental Group and Control Group on Vital capacity of Middle aged women for Pre, Post and Adjusted Test

	Experimental Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	F
Pre Test Mean	1.68	1.67	BG	0.004	1	0.004	0.12
			WG	1.68	58	0.02	
Post Test Mean	2.42	1.69	BG	8.02	1	8.02	336.06*
			WG	1.38	58	0.02	
Adjusted Post Mean	2.42	1.69	BG	7.91	1	7.91	357.49*
			WG	1.26	57	0.02	

*** Significant at 0.05 level.** **df: 1/27= 4.21**

Table II revealed that the obtained 'F' value of 357.49 was found to be significant at 0.05 level with df 1, 27 as the tabulated value of 4.21 required to be significant at 0.05 level. The same table indicated that there was a significant difference in adjusted means of vital capacity of middle aged women between experimental group and control group. The graphical representation of data has been presented in figure II.

Figure III. Comparisons of Pre – Test Means Post – Test Means and Adjusted Post – Test Means for Control group and Experimental Group in relation to vital capacity



Discussions on Findings

In case of physiological variables i.e. systolic blood pressure, diastolic blood pressure and vital capacity the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. This is possible because due to regular land based training which may also bring sudden spurt in physiological variables in middle aged women. The findings of the present study have strongly indicates that land based training of twelve weeks have significant effect on selected physiological variables i.e., systolic blood pressure, diastolic blood pressure and vital capacity of middle aged women. Hence the hypothesis earlier set that land based training programme would have been significant effect on selected motor fitness components in light of the same the hypothesis was accepted.

Conclusions

On the basis of findings and within the limitations of the study the following conclusions were drawn:

1. The land based training had positive impact on systolic blood pressure, diastolic blood pressure and vital capacity among middle aged women.
2. The experimental group showed better improvement on systolic blood pressure, diastolic blood pressure and vital capacity among middle aged women than the control group.

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