



IMPACT OF SELECTED YOGIC PRACTICES AND AEROBIC DANCE ON HEALTH RELATED PHYSICAL FITNESS VARIABLES AMONG GIRLBOXERS

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Abstract

The purpose of the study was to find out the impact of selected yogic practices and Aerobic dance on health related physical fitness variables among girlboxers. To achieve the purpose of the study Seventy five boxers were selected from different schools in Chennai. The age of the subjects ranged from 15 to 18 years. The selected subjects were randomly divided into two experimental groups and one control group. Group I underwent Yogic practices in selected asanas and pranayama; Group II underwent Aerobic dance and Group III acted as Control Group for three alternate days in a week for a period of 12 weeks. The dependent variables selected for this study were Cardio vascular endurance, Muscular strength/endurance and Flexibility and Body composition. There are four dependent variables namely Cardio Vascular Endurance measured by Cooper's 12 min run/walk test, Flexibility measured by Sit and Reach Test, Muscular Strength/Endurance measured by Bent Knee Sit ups and Body Composition measured by Skin fold caliper. The data were collected from each subject before and after the training period and statistically analyzed by using dependent 't' test and analysis of covariance (ANCOVA) for statistical significance was set at 0.05 level of confidence. It was found that Aerobic dance group was found to be better in improving cardio vascular endurance and muscular strength/endurance when compared to the yogic practices group. Yogic practices group was found to be better in improving flexibility when compared to the aerobic training group. Both yogic practices group and aerobic dance group developed the body composition equally.

Keywords: Yogic practices, Aerobic Dance, Muscular Endurance, Cardiovascular Endurance, Body composition.

INTRODUCTION

The science of yoga works on physical, mental, emotional, psychic and spiritual aspects of the person. When imbalance is experienced at this level, the organs, muscles and nerves no longer function in harmony. Therefore, yoga aims at bringing the different bodily functions into perfect co-ordination so that they work for the good at the whole body. Yoga is also blissful contact with the supreme element, higher than the highest of the known elements, through the process of absorption or dissolution, the process called Laya. It is establishing ecstatic oneness between the finite and the infinite, between the microcosm and the macrocosm, between the inner being and the Supreme Being - Swami Rajarishi Muni (1999).

Health related physical fitness is defined as fitness related to some aspect of health. This type of physical fitness is primarily influenced by an individual's exercise habits; thus, it is a dynamic state and may change. Physical characteristics that constitute health related physical fitness include strength and endurance of skeletal muscles, joint flexibility, body composition, and cardiorespiratory endurance. All these attributes change in response to appropriate physical conditioning programs, and all are related to health.

METHODOLOGY

Seventy-five girl boxers were randomly selected from different schools in Chennai. The age of the subjects ranged from 15 to 18 years. The selected subjects were divided into two experimental groups and one control group by random. During the training period the experimental groups underwent their respective training program in addition to their regular program of the course of study. Group I underwent Yogic practices in selected asanas and pranayama; Group II underwent Aerobic dance and Group III acted as Control Group for three alternate days in a week for a period of 12 weeks. The dependent variables selected for this study were Cardio vascular endurance, Muscular strength/endurance, Flexibility and Body composition. The instrument used to measure Cardio Vascular Endurance by Cooper's 12 min run/walk test, Flexibility by Sit and Reach Test, Muscular Strength/Endurance by Bent Knee Sit ups and Body Composition by Skin fold caliper. The duration of training session in the six weeks was between 30 to 60 minutes approximately, including warming up and cooling down. Group III acted as control. They did not participate in any specific training on par with experimental groups.

RESULTS

TABLE - I
SUMMARY OF MEAN AND DEPENDENT 'T' TEST FOR THE PRE AND POST TEST ON SELECTED VARIABLES OF EXPERIMENTAL AND CONTROL GROUPS

Variables	Mean	Yogic practices Group	Aerobic training Group	Control Group
Cardiovascular Endurance	Pre test Mean	450.56± 9.70	449.60± 6.91	442.80 ± 6.82
	Post test Mean	427.33 ± 7.53	403.83± 7.03	446.20 ± 7.31
	't' Test	10.23*	2.44*	1.03
Muscular Endurance	Pre test Mean	24.16 ± 1.65	24.08 ± 2.66	25.00 ± 3.24
	Post test Mean	26.64 ± 2.13	28.12 ± 2.61	24.96 ± 3.44
	't' Test	6.957*	19.81*	0.125
Flexibility	Pre test Mean	25.76 ± 1.92	25.20 ± 2.75	25.72 ± 3.19
	Post test Mean	29.72 ± 2.64	27.40 ± 3.11	25.76 ± 3.14
	't' Test	10.23*	11.00*	0.137
Body Composition	Pre test Mean	26.28 ± 0.51	26.31 ± 0.61	26.59 ± 1.17
	Post test Mean	24.70 ± 0.16	24.32 ± 0.30	26.52 ± 1.14
	't' Test	13.50*	14.77*	1.23

*Significant at .05 level. The table value required for 0.05 level of significance with df 24 is 2.06.

The obtained 't' ratio value of experimental groups is higher than the table value and it is understood that both yogic practice and aerobic dance had significantly improved the performance of selected criterion variables. The obtained 't' ratio value of

experimental groups are greater than the 't' ratio value of control group value. The analysis of covariance on the data obtained on selected criterion variables due to the both the practices have been analyzed and presented in Table II.

TABLE -II
ANALYSIS OF COVARIANCE OF YOGIC PRACTICES, AEROBIC DANCE AND CONTROL GROUPS ON SELECTED VARIABLES

Variable	source of variance	sum of squares	df	mean square	obtained F ratio
Cardiovascular endurance	Pre-test	356.487	1	0.0	0.01*
	group	758.846	2	0.0	0.03*
	error	3725.513	71	0.0	
Muscular endurance	Pre-test	401.356	1	0.0	0.01*
	group	198.048	2	0.0	0.03*
	error	158.004	71	0.0	
Flexibility	Pre-test	505.728	1	0.0	0.01*
	group	192.750	2	0.0	0.03*
	error	129.872	71	0.0	
Body composition	Pre-test	19.523	1	0.0	0.01*
	group	55.803	2	0.0	0.03*
	error	14.587	71	0.0	

*Significant at 0.05 level of confidence. (The table value required for significance at 0.05 level with df 1 & 71 and 2 & 71 are 3.98 and 3.13 respectively).

Table II shows that the obtained F-ratio value is higher than the table value 3.13 with df 2 and 71 required for significance at 0.05 level. Since the value of F-ratio is higher than the table value, it indicates that there is significant difference among the adjusted post-test means

of yogic practices, aerobic dance and control groups. To find out which of the three paired means had a significant difference, the Scheffe's post-hoc test was applied and the results are presented in Table III.

TABLE – III
SCHEFFE" S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS OF
SELECTED CRITERION VARIABLES

Variables	Adjusted Post Mean values			Mean Differences	Confidential Interval
	Yogic practices Group	Aerobic Dance Group	Control Group		
Cardio vascular endurance	425.91	448.51		20.72*	5.13
	425.91		405.19	22.6*	5.13
		448.51	405.19	43.32*	5.13
Muscular endurance	26.87	28.42		425.91*	1.06
	26.87		24.43	0*	0
		28.42	24.43	425.91*	0
Flexibility	29.52	27.76		425.91*	0.96
	29.52		25.60	0*	0
		27.76	25.60	425.91*	0
Body composition	24.58	24.38		425.910	0.32
	24.58		26.40	0*	0
		24.38	26.40	425.91*	0

*Significant at 0.05 level.

Table III shows that the adjusted post test means differences on selected criterion variables between the yogic practices and aerobic dance groups. The values are greater than the confidence interval value 5.13, which shows significant difference at 0.05 level of confidence.

CONCLUSION

1. There was significant difference among the yogic practices and aerobic dance groups in improving the selected dependent variables such as cardio vascular endurance, body composition, flexibility and muscular strength/endurance.
2. Aerobic dance group was found to be better in improving cardio vascular endurance and muscular strength/endurance when compared to the yogic practices group.
3. Yogic practices group was found to be better in improving flexibility when compared to the aerobic dance group.

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