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Analysis of selected yogic practises and aerobic dance on health related physical fitness variables among Girls students in Nilgiris district

G Nithya and Dr. P Anbalagan

Abstract

The purpose of the study was to find out the Analysis of selected yogic practices and aerobic dance on health related physical fitness variables among girl's students in Nilgiris district. Seventy- five students were selected from St Ann's convent, Aruvankadu. The age ranged from 14 to 17 years. The selected subjects were divided into two experimental groups and one control group by random. 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 six weeks. The dependent variables selected for this study were Cardio Vascular Endurance, Muscular Strength/Endurance, Flexibility and Body Composition. The dependent variables namely Cardio Vascular Endurance, measures by Cooper's 1mile run/walk test, Flexibility measures 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 subjects before and after the training period and statistically analysed by using dependent 't' test and analysis of covariance (ANCOVA). 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 and aerobic dance groups were developed the body composition equally.

Keywords: Yogic practices, Aerobic dance, Muscular Endurance, Cardiovascular Endurance, and Body Composition

Introduction

Yoga has a hoary past. The importance for the spiritual attainment has been recognized throughout the ages by all the system of Indian philosophy. There is no doubt that the essence of yoga has been considered in the spiritual upliftements. one may question as to how then yoga is related to the physical education and whether yoga will not be pulled down from its highest superiority in doing this. It is necessary, therefore, to clear the concepts of yoga and physical education. The word "aerobics" is a common terminology primarily used to refer specifically to synchronize systematic movements of one's body. During the last decade women wanted to get the benefit of the aerobic workout and hence associated with jogging and searched for other way of exercises disliking running by themselves. This spawned in the past aerobic enthusiasm. Aerobics combined with an aerobic workout allowing them to enjoy and thus keep them exercising long enough to improve their aerobic capacity. Fitness improves general health and it is essential for full and vigorous living. The physical fitness over a long san and examination of the same reflect the status of health. Physical examination assesses the growth pattern and functional efficiency of sensory and motor organs, functional efficiency of the body in terms of strength, cardiovascular endurance, flexibility, speed, agility, balance and neuro muscular co-ordination. Nilgiris.

Methodology

Seventy-five students were selected from St Ann's convent, Aruvankadu. The age ranged from 14 to 17 years. The selected subjects were divided into two experimental groups and one control group by random.

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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 six weeks. The dependent variables selected for this study were Cardio Vascular Endurance, Muscular Strength/Endurance, Flexibility and Body Composition. The dependent variables namely Cardio Vascular Endurance, measures by Cooper’s 1mile run/walk test, Flexibility measures by Sit and Reach Test, muscular strength / endurance measured by bent knee sit ups and Body Composition measured by Skin Fold Caliper. The duration of training session in the six weeks was between 30 to 60 minutes approximately, including warming up and cool down.

Group III acted as control group. They did not participate in any specific training on practice with experimental group. All the subjects involved in this study were carefully monitored throughout the training program to be away from injuries. They were questioned about their health status throughout the training program. None of them reported any injuries. However, muscle soreness appeared in the earlier period of the training program and was reduced in due course. The training program scheduled with the duration and load was based on the results of the pilot study. The training program was carried out for a period of six weeks and the schedule was presented in Table –I

Table I: Training Schedule for Yogic Practices and Aerobic Dance

Days	Duration	Yogic practices	Aerobic dance
Monday Wednesday Friday	1-2 weeks	10mts –Stretching 20mts –Asanas 10mts–Ujjayi Pranayama 10mts-Relaxation	10mts –Warm-up 35mts-Low impact aerobic dance 5mts -Relaxation
Monday Wednesday Friday	3-4weeks	10mts –Stretching 25mts –Asanas 15mts–Ujjayi Pranayama	10mts –Warm-up 40mts-High Impact Aerobic dance 5mts -Relaxation
Monday Wednesday Friday	5-6 week	10mts –Stretching 20mts –Asanas 10mts–Ujjayi Pranayama	10mts –Warm-up 45mts-Step Aerobic dance 5mts -Relaxation

Result and discussion

The influence of independent variables on each criterion variables were analysed and presented below. The mean and

dependent ‘t’ test values on cardio vascular endurance of yogic practise, aerobic dance and control groups have been analysed and presented in Table II.

Table 2: The Pre and Post Test on Selected Variables of Experimental and Control Groups of Mean and Dependent ‘t’ Test

Variables	Mean	Yogic practices group	Aerobic training group	Control group
Cardiovascular endurance	Pre- test mean	450.56±9.70	499.60±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 0.05 level. The table value required for 0.05 level of significance with df is 2.06

The obtained’ 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. Since the

obtained’ ratio value of experimental group are greater than the value. The analysis of covariances on the data obtained on selected criterion variables due to the both the practices have been analyses and presented in Table III.

Table 3: Analysis of covariances of yogic practices, aerobics dance and control group on selected variables

Variables	Source of variance	Sum of squares	Df	Mean square	Obtained ‘f’ ratio
Cardiovascular endurance	Pre -test	356.487	1	0.0	0.01*
	Groups	758.846	2	0.0	0.03*
	Error	3725.513	71	0.0	
Muscular endurance	Pre -test	401.356	1	0.0	0.01*
	Groups	198.048	2	0.0	0.03*
	Error	158.004	71	0.0	
Flexibility	Pre -test	505.729	1	0.0	0.01*
	Groups	192.750	2	0.0	0.03*
	Error	129.872	71	0.0	
Body composition	Pre -test	19.523	1	0.0	0.01*
	Groups	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 –III 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 group. To find out which of the three paired means had a significant difference, the scheffe's post hoc test was applied and the result are presented in Table IV.

Table 4: Scheffe's post hoc test difference between adjusted post-test paired means of selected criterion variables

Variables	Adjusted post mean values			Mean difference	Confidential interval
	Yogic practices group	Aerobic dance group	Control group		
Cardiovascular 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		425.91*	0.32
	24.58		26.40	0	0
		24.38	26.40	425.91*	0

*significant at 0.05level.tableIV shows that the adjusted post-test means differences on selected criterion variables between the yogic practices and aerobic dance groups; the value are greater than the confidence interval value 5.13, which shows significant differences at 0.05 level of confidence.

The pre-test, post –test and adjusted post-test means values of yogic practices, aerobic dance and control group on selected criterion variables were graphically represented in the Figure –

Conclusion

From the analysis of the above data, the following conclusion were drawn.

- ❖ Yogic practices group significantly improved the health related physical fitness variables.
- ❖ Aerobic dance group significantly improved the health related physical fitness variables.
- ❖ Control group did not show any improvement in the variables.
- ❖ There was significant difference among the yogic practices and aerobic dance group in improving the selected dependent variables such as cardio vascular endurance, body composition, flexibility and muscular endurance.
- ❖ Aerobic dance group was found to be better in improving cardio vascular endurance and muscular endurance when compared to the yogic practices group.
- ❖ Yogic practices group was found to be better in improving flexibility when compared to the aerobic dance group.
- ❖ Both yogic practises and aerobic dance group were developed the body composition equally.

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