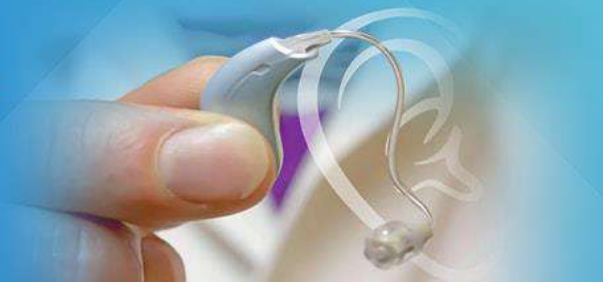


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Effects of Suryanamaskar practice with aerobic dance on selected health related physical fitness components among school hearing impairment girls

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Abstract

The purpose of the study was to find out the effects of suryanamaskar practice with aerobic dance on selected health related physical fitness components among school hearing impairment girls. To achieve the purpose of the study, forty school impairment girls were selected randomly 12 to 14 years of age from Marudhamalai Swamy Devasthanam higher secondary school, Vadavalli, and Chavara Vidya Bavan matriculation higher secondary school Coimbatore. The selected subjects were divided into two equal groups namely experimental and control groups of 20 subjects each. The training period was limited to twelve weeks and for six days per week. The suryanamaskar practice with aerobic dance was selected as independent variables Flexibility and Muscular Strength and Endurance were selected as dependent variables and it was measured by Sit and Reach and Modified Sit – ups. All the subjects were tested two days before and immediately after the experimental period on the selected dependent variables. The obtained data from the experimental group and control group before and after the experimental period were statistically analyzed with dependent ‘t’-test to find out significant improvements. The level of significance was fixed at 0.05 level confidences for all the cases. Significant improvement was found on Flexibility and Muscular Strength and Endurance of experimental group due to the effects of suryanamaskar practice with aerobic dance when compared to the control group.

Keywords: Flexibility and muscular strength and endurance

Introduction

Yoga is more than mastering postures and increasing your flexibility and strength. In Hinduism, Buddhism and Jainism the word yoga means "spiritual discipline". People often associate yoga with the postures and stances that make up the physical activity of the exercise, but after closer inspection it becomes clear that there are many more aspects of yoga. It is an activity that has been practiced for thousands of years, and it is something that has evolved and changed overtime. (Swami Satyananda Saraswathi 1991). The science of Yoga brings to work on the outermost aspect of the personality, the physical body, which for most people is a practical and familiar starting point. When imbalance is experienced at this level, the organs, muscles and nerves no longer function in harmony, rather they act in opposition to each other. Yoga aims at bringing the different bodily functions in to perfect co-ordination so that they work for the good of the whole body. Walking can help in weight control since it burns at least four times more calories than sitting or standing. (William, E. 1980). Suryanamaskar is an unavoidable part of Yoga. However, it is not described in Patangali Yog Sutra, Hathapradipika, Gherandsamita, Yog Vasistha or any main Literature of Yoga. Worshiping Sun as God is there since the Vedic period. However, practicing a chain of asana with mantras and pranayama in Suryanamaskar is a recent development- i.e., after 15th - 16th century.

Surya Namaskar, an age-old yogic practice, is a comprehensive exercise, which contributes to mental, emotional, physical, and spiritual well-being. Suryanamaskar helps to increase flexibility, endurance and stamina. It tones body muscles and helps to lose weight by activating fat metabolism and normalizing hormonal imbalance. It helps to increase mobility in almost all joints. Blood circulation increases all over the body up to organic level, tissue level and cellular level. Physical health is any bodily activity that enhances or maintains psychological and overall health and wellness.

It is performed for various reasons including strengthening muscles and the cardiovascular system, honing athletic skills, weight loss or maintenance, as well as for the purpose of enjoyment. Frequent and regular physical exercise boosts the immune system, and helps prevent the "diseases of affluence" such as heart disease, cardiovascular disease, cardiovascular disease, diabetes and obesity, It also improves mental health and helps prevent depression Physical exercise "exertion of the muscles, limbs and bodily powers, regarded with, reference to its effect on the subject, especially such exertion undertaking with a view to the maintenance or improvement of health" (Mathews 1981) [11].

Aerobic dance is a fitness sport that combines the health and figure benefits of jogging with the fun of dancing. Aerobic dancing is a fun way to get fit. It combines fat burning aerobic movements, muscle building exercises and stretching into routines that are performed according to music. It is a series of callisthenic exercise movements, accompanied by music, a technique of motivation. Aerobic dance is essential to a healthy cardiovascular system and is an activity that can be sustained for an extended period of time without building any oxygen debt in the muscles. It is a type of dance that overloads the heart and lungs and causes them to work harder than they do when a person is at rest. Aerobic dance is the type of activity in which the amount of oxygen taken in equal to the amount of oxygen required. Aerobic dancing can be performed in by anyone, but if the person is beyond 30 years of age and the life-style has been sedentary, it is always wise to consult a physician before embarking on an aerobic dance programme. Individuals with heart ailments are not advised to participate without the doctors go signal. This holds true to the obese where undue strain will be applied to the heart and body in the process. During the aerobic activity, the pulse is checked after every dance piece to see if the desired heart rate is reached and maintained for a period of about 12 to 20 minute. This will enable the heart to do the necessary workouts, to increase its endurance and efficiency. A pulse of 120 beats per minute and a little higher for younger people is just right. This heart rate is achieved gradually per session and maintained. Aerobic Dancing gives the formula for finding ones working or exercising intensity (Virginia, 2002).

Methodology

Table 2: Mean and dependent ‘t’ – ratio for the pre and post tests on flexibility, muscular strength and endurance of experimental groups

S. No	Variables	Pre-test Mean± SD	Post-test Mean± SD	Diff	SE	‘t’ –ratio
1.	Flexibility	6.6±1.61	7.1±1.67	0.5	0.11	10.79*
2.	Muscular Strength and Endurance	7.6±1.1	8.53±1.14	0.93	0.07	14.00*

*Significance at 0.05 level of confidence (2.09).

Table 3: Mean and dependent ‘t’ – ratio for the pre and post tests on flexibility, muscular strength and endurance of control group

S. No	Variables	Pretest Mean ±SD	Post-test Mean± SD	Diff	SE	‘t’ –ratio
	Flexibility	6.2±1.13	6.7±0.94	0.5	0.12	1.07
	Muscular Strength and Endurance	7.23±1.05	7.27±1.27	0.04	0.11	0.30

*Significance at 0.05 level of confidence (2.09).

The table II and III, shows that, they obtained ‘t’-ratio between the pre and post-test means of experimental group were 6.6,7.6 and control group were 6.2, 7.23 respectively. The table values required for significant difference with df 24 at 0.05 level of confidence. Since the obtained ‘t’ – ratio value of experimental and control group on Flexibility and

For the purpose of this study, altogether forty school hearing impaired girls were selected randomly in 12 to 14 years of age from Marudhamalai Swamy Devasthanam higher secondary school, Vadavalli, Chavara Vidya bavan matriculation higher secondary school Coimbatore. They were divided into two groups of 20 each. The Experimental group I would undergo Suryanamaskar practice with aerobic dance. The second group is Control group. Pre – test and post –test would be conducted. Treatment would be given for twelve weeks. It would be found out finally the effects of suryanamaskar practice with aerobic dance on selected health related physical fitness components among school hearing impaired girls in scientific methods.

Table 1: The selected tests were measured by following units for testing

Criterion Variables	Test Items	Unit Measurements
Flexibility	Sit and Reach	Centimeters
Muscular Strength and Endurance	Modified Sit – ups	Counts

Experimental design

The experimental group was given suryanamaskar practice with aerobic dance exercises after taking an initial test. After the initial test selected suryanamaskar practice with aerobic dance exercises were given for twelve weeks in six days. The time of practice was from 6.00 AM to 7.00 AM. The control group was not participating in any of the special training programme. However, they were allowed to participate in their regular education classes in the school as per their curriculum.

Statistical technique

The dated were statistically evaluated with dependent t-test to discovery obtainable significant development. The level of significance was secure at 0.05 level of confidence for all the cases.

Results and Discussions

The effect of independent variables on each criterion variables was considered by dependent ‘t’ – test on the data achieved for Flexibility and Muscular Strength and Endurance. The pretest and post- test means of experimental group and control group have been analyzed and existing in Table II & III.

Muscular Strength and Endurance were greater than the table value 2.09, it was concluded that the suryanamaskar practice with aerobic dance exercises had significantly improved Flexibility and Muscular Strength and Endurance of experimental group.

The pre and post- test mean value of experimental and

control group on Flexibility and Muscular Strength and Endurance were graphically represented in the figure 1.

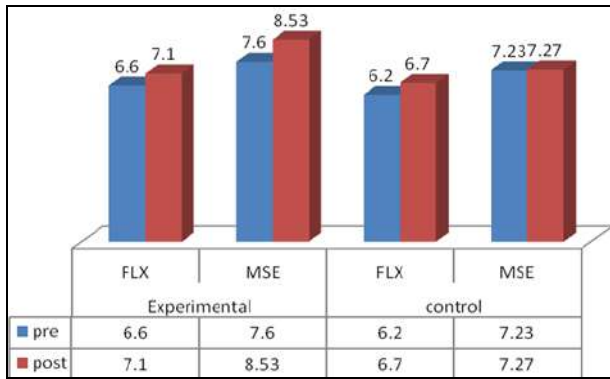


Fig 1: Muscular Strength and Endurance were graphically represented

Discussion on findings

The finding of the study reveals that the suryanamaskar practice with aerobic dance group had significant improvement in their health-related physical fitness components. In the view of control group there was no significant improvement in their health-related physical fitness components. The findings of the study had close relationship with the results of the previous study conducted by E Maude (2011), Kamlesh, M.L, (1988) [3], Psychology in Physical Education and Sport.

Conclusions

Improvement on flexibility and Muscular Strength and Endurance was found significantly on experimental group due to the effects of suryanamaskar practice with aerobic dance on health-related physical fitness components when compared to the control group.

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