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Effects of resistance training with yogic practice on selected physical variables among sedentary female students with postural deformities

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Abstract

The purpose of the study was to find out the effects of resistance training with Yogic Practice on selected physical variables among sedentary female students with postural deformities. To achieve the purpose of the study, forty postural deformities students were selected randomly 22 to 25 years of age from affiliated colleges at Bharathiar University, Coimbatore district. 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 resistance training with Yogic Practice was selected as independent variables and Speed and Strength were selected as dependent variables and it was measured by 50 mts dash and 1 RM test respectively. 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's *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 speed and strength of experimental group due to the effects of resistance training with Yogic Practice when compared to the control group.

Keywords: Resistance training, yogic practice, speed and strength

Introduction

Postural deformities are pathological deviations of the curvature of the spinal column from normal physiological curves. Non-structural deformities of the spine are due to postural dysfunction, lower limb inability, inflammatory, post-traumatic and other conditions. Structural deformities of the spine include deformities resulting from pathological changes in the structure and morphology of spinal vertebrae that are of etiologically different causes. The results of systematic examinations of children in primary and secondary schools show that the deformities of the spinal column are increasing from year to year. The development of spinal deformity in children in the developmental period is associated with the gender, body weight, body height and age of the child, family burden of the spinal column deformities, hereditary diseases and other conditions, as well as with insufficient physical activity. The diversity of psychophysical abilities of children by age groups indicates that aerobic muscle endurance starts from early childhood, and anaerobic endurance and their strength from puberty and later. In children aged 8-10 years, the elasticity and flexibility of the locomotors system is particularly expressed, while in children from 10-17 years, the strength of muscles dominates, along with the development of movements, speed and coordination. Reduced physical activity, rapid growth and poor life habits lead to the weakness of musculature of the trunk in the stage of rapid growth of children and the appearance of dysfunctional deformities of the spinal column. The changed statics have a tendency to progress with the onset of deformities, such as kyphosis and scoliosis, which can have permanent physical, psychological and social consequences on the growth and development of children. Physical activity is the basis for the preservation of health, it has a favorable effect on growth, and it is equally important in all life cycles of the child's development.

Yoga practice has been transmitted from teachers (gurus) to students. Over the millennia, yoga has been influenced by different traditions and philosophies evolving into a variety of practices. Different schools often emphasize different components of the 8 limbs described x

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

Criterion Variables	Test Items	Unit Measurements
Speed	50 meters dash	Seconds
Strength	1RM test	Kg

Experimental Design

The experimental group was given resistance training with yogic practice after taking an initial test. After the initial test selected resistance training with yogic practice were given for twelve weeks in six days. The time of practice was from 6.00AM to 7.00 AM. The control group was not participating in any of the special training programmed. However they were allowed to participate in their regular education classes in the college 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.

Result and Discussion

The effect of independent variables on each criterion variables was considered by dependent ‘t’- test on the data achieved for speed and strength. The preset and post-test means of experimental group and control group have been analyzed and existing in table 2&3.

Table 2: Mean and dependent ‘t’-ratio for the pre and post tests on speed and strength of experimental group

Sr. No	Variables	Pre-test Mean± SD	Post-test Mean± SD	Diff	SE	‘t’-ratio
1.	Speed	09.20 ± 2.16	08.76 ± 1.88	0.44	0.61	5.86*
2.	Strength	28.14 ± 2.28	29.12 ± 2.32	0.98	0.13	6.76*

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

Sr. No	Variables	Pretest Means	Posttest Mean± SD	Diff	SE	‘t’-ratio
1.	Speed	09.26 ± 2.16	09.24 ± 1.88	0.02	0.61	1.16
2.	Strength	29.14 ± 2.28	29.20 ± 2.32	0.06	0.13	1.59

*Significance at 0.05 level of confidence (2.09)

The table 2 and 3, shows that, they obtained ‘t’-ratio between the pre and post-test means of experimental group were 5.86, 6.76 and control group were 1.16,1.59respectively. The table values required for significant difference with def. 24 at 0.05 level of confidence. Since the obtained ‘t’ – ratio value of experimental and control group on speed and strength were greater than the table value 2.09, it was concluded that the resistance training with yogic practice exercises had significantly improved speed and strength of experimental group.

The pre-and post-test mean value of experimental and control group on speed and strength were graphically represented in the figure 1.

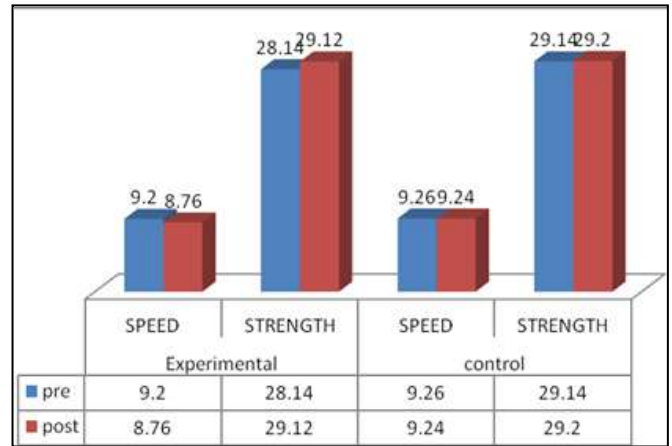


Fig 1: The pre-and post-test mean value of experimental and control group on speed and strength

Discussion on Findings

The finding of the study reveals that the resistance training with yogic practice group had significant improvement in their physical and physiological variables. In the view of control group there was no significant improvement in their physical and physiological variables. The findings of the study had close relationship with the results of the previous study conducted by Neha Westcott, Wayne L. (2012) Resistance training is medicine: effects of strength training on health.

Conclusions

Improvement on speed and strength was found significantly on experimental group due to the effects of resistance training with yogic practice on speed and strength when compared to the control group.

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