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Effect of asanas on eye-hand coordinative ability of sedentary women

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Abstract

The objective of the study was to find out the “Effect of asanas on Eye-Hand Coordinative ability of sedentary women”. Sixty sedentary women were selected purposively from Bolpur, Birbhum, West Bengal, India as the subject for the study. They were categorized into two age group of 30 to 40 years (n-30) and 41 to 50 years (n-30). Each age group were also divided into two- experimental group (n-15) and control group (n-15). Eye-Hand Coordinative ability was selected as the variable for the study. Eight weeks training of the selected asanas were given to both the experimental groups. Pre-test and post-test data of all the groups were taken by using alternative hand wall toss test. To calculate the data, descriptive statistics, Analysis of Co-variance (ANCOVA) and LSD post-hoc test were used. The level of significance was set at 0.05 level. The result revealed the significant effect on eye-hand coordinative ability of 30-40 years age group (F-5.93) but not significant for 41-50 years group (F-3.288). On the basis of the result, it was concluded that Yogasana have significant effect on eye-hand coordinative ability of younger aged sedentary women group.

Keywords: yogasana, fitness, eye-hand coordination, sedentary women

Introduction

In Indian history health awareness and physical activity is somehow involved from ancient time where male got first priority than female. Generally female had lots of psycho-social obstruction as well as responsibilities for which they were less aware and active about their health fitness which for a long decrease in physical that gradually leads the house wife in sedentary life which decrease the optimum capacity of internal system of the house-wife. In a different way, this life-style slowly decreases the immunity power of the house wife that ultimately increases chances of various diseases.

Yogic practices involve a systematic method by which the awareness of the processes of stress relief can be expended and thus gain control over them. Yogic practices enhance quality of life by improving physical, physiological and psycho-social perspectives of human being.

It is the ability to co- ordinate body part movements (ex: movements of hand, feet, trunk, etc) with one another and in relation to a definite goal oriented whole-body movement.

Eye-hand coordination is the coordinated control of eye movement with hand movement and the processing of visual input to guide reaching and grasping along with the use of proprioception of the hands to guide the eyes. Eye-hand coordination has been studied in activities as diverse as the movement of solid objects such as wooden blocks, archery, sporting performance, music reading, computer gaming, copy-typing, and even tea-making. It is part of the mechanisms of performing everyday tasks; in its absence, most people would be unable to carry out even the simplest of actions such as picking up a book from a table or playing a video game. As the women has less opportunity to do regular physical activity in various places specially in open places, they need some special physical activity like yogic practices which is one of the very easy mode of keeping fitness for all including the sedentary women and can be performed in closed room also.

There is a few research on eye-hand coordination ability specially for the sedentary women. With this background and hard availability of study on response of women of different age groups on selected parameters after yogic practices, this study was undertaken.

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The objective of the study was to find out the effect of asanas on eye-hand coordinative ability of sedentary women.

Methodology

Subjects: Sixty sedentary women were selected purposively from Bolpur, Birbhum, West Bengal, India as the subject for the study. They were categorized into two age group of 30 to 40 years (n-30) and 41 to 50 years (n-30). Each age group were also divided into two- experimental group (n-15) and control group (n-15).

Variable: Eye-hand coordinative ability was selected as the variable for the study.

Test and Criterion Measure: To measure the eye-hand coordinative ability of different age group sedentary women alternative hand wall toss test was used. The score of the subject on alternative hand wall toss test was recorded in number within 30 seconds.

Collection of Data: Pre-test data were collected from both

the two experimental groups and two control groups of different age group of sedentary women. Yogic training schedule comprised of vrikshasana, paschimatanasana, yogamudra, sarvangasana, halasana, matsyasana, bhujangasana, salabhasana, dhanurasana, chakkarasana, bakrasana, utkatasana and shavasana was administered for six days a week for eight weeks to two experimental groups of 30-40 years age and 41 to 50 years age. The load was gradually increased from 1st-2nd week to 7th-8th week. Immediately after completion of the yogic treatment to the experimental group, the post-test data were collected from all the four groups.

Statistical Analysis: To find out the effect of asanas on eye-hand coordinative ability of sedentary women, descriptive statistics, Analysis of covariance (ANCOVA) and LSD post-hoc test were applied. The level of significance was set at 0.05 level.

Result and Discussion

Table 1: Descriptive Statistics on Eye-Hand Coordinative Ability of two different Age Group of Sedentary Women

	30-40 Years Age Group				41-50 Years Age Group			
	Experimental Group		Control Group		Experimental Group		Control Group	
	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test	Pre-Test	Post-Test
Mean	8.93	10.73	8.47	9.13	8.47	9.73	8.4	9
Standard Deviation	3.081	3.305	3.270	3.292	2.356	2.218	2.640	2.449
Standard Error	0.795	0.853	0.844	0.850	0.608	0.572	0.681	0.632
Skewness	0.731	0.695	0.452	0.723	-0.537	-0.109	0.922	0.437
Kurtosis	-0.265	-0.106	0.087	0.287	-0.753	0.858	0.138	-0.179
Minimum score	5	7	3	5	4	5	5	5
Maximum score	15	18	15	16	12	14	14	14
Subject Number	15	15	15	15	15	15	15	15

Table 1 describes the mean, standard deviation, Standard error, Skewness, Kurtosis, Maximum score and Minimum

score of subjects in eye-hand coordinative ability of both the groups of sedentary women.

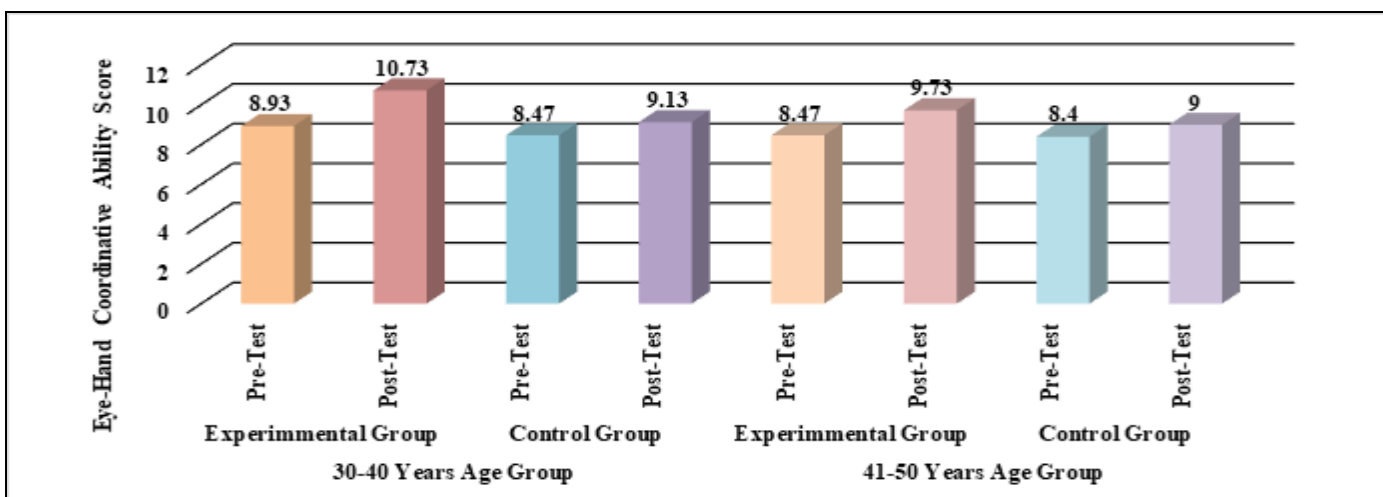


Fig 1: Graphical Representation of Pre-Test & Post-Test Mean for Distinct Groups on Eye-Hand Coordinative Ability of both the Sedentary Women Groups

Table 2: ANCOVA on Eye-Hand Coordination of 30-40 Years Age Group for Pre-Test and Post-Test Data

Source	df	Sum of Squares	Mean Square	F-value
Treatment Group	1	9.940	9.940	5.693*
Error	27	47.148	1.746	
Total	28	57.088		

Table value of F (1,27) = 4.22*. Significant at the .05 level

Table-2 reveals significant improvement in eye-hand coordinative ability (F=5.693) among groups. The obtained F value was found to be greater than that of tabulated F value 4.22 at 0.05 level of significance with 1, 27 degree of freedom.

Table 3: Pair wise Comparison of 30-40 Years Age Groups of Adjusted Means on Eye-Hand Coordinative Ability obtained in Pre-Test and Post-Test Data

Group	N	Pre-Test	Post-Test	Adjusted Mean	Mean Difference	Critical Difference
Experimental Group	15	8.93	10.73	10.51	1.15*	0.822
Control Group	15	8.47	9.13	9.36		

Table-3 in respect to the paired adjusted final mean differences in eye-hand coordinative ability clearly indicates the significant difference between the experimental and control group (1.15**) which were greater than that of the critical value 0.822.

https://en.wikipedia.org/wiki/Eye%E2%80%93hand_coordination 25 July 2018

Table 4: ANCOVA on Eye-Hand Coordinative Ability of 41-50 Years Age Group for Pre-Test and Post-Test Data

Source	df	Sum of Squares	Mean Square	F-value
Treatment Group	1	3.438	3.438	3.288
Error	27	28.231	1.046	
Total	28	31.669		

Table value of F (1,27) = 4.22*. Significant at the .05 level

Table-4 reveals no significant improvement in eye-hand coordinative ability (F=3.288) among the groups. The obtained F value was found lesser than that of the tabulated F value 4.22 at 0.05 level of significance with 1, 27 degree of freedom.

The result revealed that the experimental group of 30-40 years sedentary women significantly improve the Eye-Hand Coordination (F=5.693*) in comparison to the control group whereas the age group of 41-50 years sedentary women did not show significant improvement (F=3.288) in comparison to the control group. The result might be due to the application of eight weeks Yogasana training and also the age and fitness level of the younger group that help them to achieve the significant result. The study was partially supported by the study of Arjun PV and Sunitha KB (2019) who worked on Effect of Yoga Training on Coordinative abilities of High School Students. The variables selected for the study were Eye Hand Coordination, Static Balance, Dynamic Balance and Reaction Time. The subjects of this study were 40 boys, aged between 13-15 years, from GHSS Morazha, Kannur district. They found that in experimental group, significant changes were seen in Eye Hand Coordination, Static Balance, Dynamic Balance and Reaction Time.

Conclusion

On the basis of the result, it may be concluded that the Yogasana training improve the eye-hand coordinative ability of the young sedentary women.

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