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REVIEW ARTICLE

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A Study on the Effect of Selected Yogic Asanas on Flexibility at Major Joints

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INTRODUCTION

Yoga is a complete science of life that originated thousands of years ago. It is the oldest system of personal development in the world encompassing the entire body, mind and spirit. It is the union between a person's own consciousness and the universal consciousness. The Ancient Yogis had a profound understanding of man's essential nature and of what he needs to live in harmony with himself and his environment. They perceived the physical body as a vehicle, with the mind as driver, the soul as man's true identity, and action, emotion and intelligence as the three forces which pull the body-vehicle. In order for these to be integrated, these three forces must be in balance. Taking into account the interrelationship between body and mind, the yogis formulated a unique method for maintaining this balance - a method that combines all the movements you need for physical health with the breathing and meditation techniques that ensure peace of mind.

METHODOLOGY

Thirty male students studying in B.P.Ed. III Year of L.N.I.P.E., Gwalior were selected at random as subjects of the study and divide into two groups of 15 subjects each. All subjects were almost from the same socio-economic group and were found to be physically fit for the type of programme they were subjected to. The subjects were divided into two groups (experimental group and control group) at random by drawing the lots. The ages of these subjects ranged between 20 to 23 years. All of them were taking part in routine physical education programme as per the schedule of the institute. Asanas were selected for their contribution to enhance stretch ability of muscles and for improving flexibility of joints. To finalize list of asanas the scholar consulted experts and studied the related literature also.

THE FINALIZED LIST IS AS FOLLOWS:

Chakrasana	Halasana	Bhujangasana
Ushtrasana	Dhanurasana	Paschimotan asna
Vajrasana	Baddha-Padmasana	Padahastasan

Pre-test and post-test randomized group design was employed in the study. The subjects were divided into experimental group and control group. The experimental group was imparted 35 minutes of training of Asanas for 6 weeks under the supervision and guidance of the scholar. No training was imparted to control group. At the end of six weeks post-test was conducted for both the groups. To find out the significance of difference between different paired means, the't' ratio is used. The level of significance was set at 0.05 level of confidence.

RESULTS

In order to determine the significance of difference, in flexibility at hip, knee and ankle joints, if any, between the pre-test and post-test of experimental group and the control group and their interaction, t-test were applied. The result pertaining to the flexiblity of hip joint performance have been presented in Table-1

Table – 1

Significance of Difference between the Performance of Flexibility on Experimental Group and Control Group Before and After Training at Hip Joint

(IN DEGREES)

Mean				DM	σ DM	't'-ratio
Experimental Group		Control Group				
Pre-Test	Post-Test	Pre-Test	Post-Test			
50.00		49.33		0.67	0.82	0.82
50.00	56.27			6.27	0.93	6.74*
		49.33	49.60	0.27	0.65	0.41
	56.27		49.60	6.67	0.76	8.78*

* Significant, $t_{0.05}$ (14) = 2.14

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Table-1 reveals that the significance of difference between the pre-means of experimental group and control group was 0.82, which is much below than the required value at 0.05 level of confidence (t=2.14). It shows both the group having similar range of movement at hip joint.

Further Table-1 also reveals that the significance of different between the pre and post means of experimental group was 6.74, which is much higher than the required value at 0.05 level of confidence (t=2.14). It shows significant improvement regarding range of movement at hip joint in experimental group. Table-1 also reveals that the significance of difference between the pre and post-means of control group was 0.41, which is much below than the required value at 0.05 level of confidence (t=2.14). It shows both the group having similar range of movement at hip joint. Further Table-1 also reveals that the significance of different between the post means of experimental group and control group was 8.78, which is much higher than the required value at 0.05 level of confidence (t=2.14). It shows significant improvement regarding the flexibility at hip joint in experimental group.

Table – 2

Significance of Difference between the Performance of Flexibility on Experimental Group and Control Group Before and After Training at Knee Joint

(IN DEGREES)

Mean				DM	σ DM	't'-ratio
Experimental Group		Control Group				
Pre-Test	Post-Test	Pre-Test	Post-Test			
100.67		101.33		0.66	0.99	0.67
100.67	104.87			4.20	1.09	3.85*
		101.33	101.27	0.06	0.90	0.07
	104.87		101.27	3.60	1.00	3.60*

* Significant, $t_{0.05}(14) = 2.14$

Table-2 reveals that the significance of difference between the pre-means of experimental group and control group was 0.67, which is much below than the required value at 0.05 level of confidence (t=2.14). It shows both the group having similar range of movement at knee joint. Further Table-2 also reveals that the significance of different between the pre and post means of experimental group was 3.85, which is much higher than the required value at 0.05 level of confidence (t=2.14). It shows significant improvement regarding range of movement at knee joint in experimental group. Table-2 also reveals that the significance of difference between the pre and post-means of control group was 0.07, which is much below than the required value at 0.05 level of confidence (t=2.14). It shows both the group having similar range of movement at knee joint. Further Table-2 also reveals that the significance of different between the post means of experimental group and control group was 3.60, which is much higher than the required value at 0.05 level of confidence (t=2.14). It shows significant improvement regarding the flexibility at knee joint in experimental group.

Table – 3

Significance of Difference between the Performance of Flexibility on Experimental Group and Control Group Before and After Training at Ankle Joint

(IN DEGREES)

Mean				DM	σ DM	't'-ratio
Experimental Group		Control Group				
Pre-Test	Post-Test	Pre-Test	Post-Test			
64.00		64.33		0.33	1.10	0.30
64.00	68.73			4.73	1.08	4.38*
		64.33	64.47	0.14	1.13	0.12
	68.73		64.47	4.26	1.11	3.84*

* Significant, $t_{0.05}(14) = 2.14$

Table-3 reveals that the significance of difference between the pre-means of experimental group and control group was 0.30, which is much below than the required value at 0.05 level of confidence (t=2.14). It shows both the group having similar flexibility at ankle joint. Further Table-3 also reveals that the significance of different between the pre and post means of experimental group was 4.38, which is much higher than the required value at 0.05 level of confidence (t=2.14). It shows significant improvement regarding flexibility at ankle joint in experimental group.

Table 3 also reveals that the significance of difference between the pre and post-means of control group was 0.12, which is much below than the required value at 0.05 level of confidence (t=2.14). It shows both the group having similar flexiblity at ankle joint. Further Table-3 also reveals that the significance of different between the post means of experimental group and control group was 3.84, which is much higher than the required value at 0.05 level of confidence (t=2.14). It shows significant improvement regarding flexibility at ankle joint in experimental group.

CONCLUSION

There is a significant improvement in the flexibility on hip, knee and ankle joints may be due to the fact that the load which was experienced by the subjects in a yogic asanas which were performed during treatment was adequate to produce significant improvement in the flexibility on the major joints.

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