



## Effect of Yogasana on Flexibility of Spine And Its Hyper-Extension On University Female Students

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### ABSTRACT

The purpose of the study was to find out the effect of yogasana on flexibility of spine and its hyper-extension. For this study thirty female students aged between 18 to 22 years were selected as subjects randomly from Bachelor of Arts University of Allahabad. They were divided into two equal groups of which one is experimental group and the other control group. Yogasana training was given for experimental group and the control group was not allowed to participate in training programme. The subjects were tested on flexibility of spine and its hyper-extension at the beginning (pre-test) and at the end of the training period of six weeks (post-test) with the help of bridge-up test. 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. The result showed that there was significant change in the flexibility of spine and its hyper-extension as a result of yogic Asanas training.

**KEYWORDS :** spine, flexibility, hyper-extension, Yogasana.

### 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. Today yogic practices have become popular throughout the world. But there are many misconceptions about these practices which are generally looked in exercise physiology. The physiology of yogic practices differs greatly from that of exercise physiology. The scientific nature of the yogic practices was first revealed when Late Swami Kuvally-anandaji started his scientific research in the field of yoga in 1942. The research findings could remove several misconceptions about yoga and removed the mystical sheath over it. He showed that a logical and scientific explanation could be possible for traditionally described technique of various practice. Yoga makes people stronger, healthier and more cheerful. Some investigations seem to indicate that yogic exercises will strengthen all organs and improve all physiological function of the body. Most of the experiments show that yoga would cause the basal metabolic rate to increase. Yogasana effectively care body fat percentage by removing deposits of excess fat and redistributing fat over the body in the correct position. In general, flexibility means the range of movements around the skeletal joints of the body. The flexibility is not a general character but it is specific to each body region. If a person has highly flexible shoulder joint, it does not necessarily mean that he/she will have good knee flexibility or hip flexibility. Even it is possible that one joint more flexible than the other. The present study is one of the significant studies which shows the effect of yogasana on flexibility of spine and its hyper-extension in college women. The results of the study will be helpful to adopt the yogasana training with the training schedule to attain better performance in sports. The purpose of the study was to investigate the effect of selected yogic asana on flexibility of spine and its hyper-extension among college women.

### METHODOLOGY:

To find out the effect of yogasana on flexibility of spine and its hyper-extension thirty female students aged between 18 to 22 years were selected as subjects randomly from Bachelor of Arts, University

of Allahabad. They were divided into two equal groups of which one is experimental group and the other control group. Yogasana training was given for experimental group and the control group was not allowed to participate in training programme. The subjects were tested on flexibility of spine and its hyper-extension at the beginning (pre-test) and at the end of the training period of six weeks (post-test) with the help of bridge-up test. The subjects are asked to assume the supine position on the mat. Now the subjects are instructed to place palms of her hands on the mat near the head so that thumbs are ear the ears and soles flat on the mat by folding the legs. Now the subjects push her heads and shoulders from the floor so as to lift the body to attain the bridge arch position by moving the hands and feet towards to each other. The readings are recorded in the flexomeasure case window in inches. The maximum score out of three trials given to the subjects is subtracted from the standing navel height of the subjects that will be final score of subject. Asanas training has been given to the experimental group everyday continuously for 6 weeks from 6.15 a.m to 7.00 a.m in empty stomach. Halasana, Bhujangasana, Dhanurasana, Chakrasana, Ushtrasana, Supta-Vajrasana, Naukasana, Paschimottasana, Trikoasana, Padahastasa were selected for their contribution to enhance stretch ability of hip muscles and for improving mobility of hip joint. The duration 20 to 30 seconds with 2 to 3 repetitions to practice of each asana. Pre-test and post-test randomized group design was employed 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 & DISCUSSION:

#### TABLE-1

The data on flexibility of spine and its hyper-extension before and after the training of control and experimental groups of university female students were presented in table-1

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

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 flexibility of spine and it's hyper- extension. 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 flexibility of spine and it's hyper- extension 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 flexibility of spine and it's hyper- extension. 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 flexibility of spine and its hyper- extension in experimental group.

#### **Conclusion:**

The significant improvement on flexibility of spine and its hyper- extension. This may be due to the fact that the load which was experienced by the subjects in a yogic practice programme was adequate to produce significant improvement on flexibility of spine and it's hyper- extension was subjected to involvement of yogic practices. On the basis of above findings it is obvious that the 6 weeks yogic asana practices contributed to the development on flexibility of spine and its hyper- extension.

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