



Impact Of Surya Namaskar Practices' On Flexibility Among Women Hostel Students

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Abstract: Flexibility is a crucial component of physical fitness, influencing overall health, posture, and injury prevention. Surya Namaskar, a traditional yogic practice, has been widely recognized for its benefits in enhancing flexibility. To achieve the purpose of this study, 20 women college hostel students were randomly selected as subjects from the St. Xavier's college, Palayamkottai, Tirunelveli, Tamilnadu, India. They were between the ages of 18 and 25. The chosen participants were split into two groups at random, such as group "A," which engaged in Surya Namaskar practices ($n = 10$), and group "B," which served as the control group ($n = 10$). Over the course of eight weeks, Group "A" practiced Surya Namaskar five days a week for an hour each day. The control group engaged in routine activities but was not given any special instruction. Flexibility was measured using the "sit and reach" (centimetres) as a variable. Data on a few chosen criteria variables were gathered both before and just after the training session. The dependent "t" test and analysis of covariance (ANCOVA) were used to statistically analyse the pre- and post-test results. The level of significant was fixed at 0.05 level. It was concluded that the Surya namaskar practices group had shown significantly improved in flexibility. However the control group had not shown any significant improvement on flexibility

Index Terms – Surya Namaskar, Flexibility, Yoga

1. INTRODUCTION

Yoga is a very ancient discipline that is recognized as India's valuable heritage. Yoga is a philosophy, science, and art that affects people on all levels of their lives. Yoga is a means of achieving knowledge, happiness, tranquilly, and complete health. Yoga's physical, mental, and spiritual components contribute to a meaningful, honourable, and purposeful existence. Yoga is a unique Indian tradition of ancient origin for health and happiness. It imparts both sound body and sound mind to the practitioner. Yoga is a Sanskrit term. It represents yoke, which symbolically means to join or to unite. Yoga is intended for union or harmony of mind and the body. Yoga is the science of physical and mental health. This synchronizes the functions of the muscle and the mind. It is the only path that can lead to holistic health (Charles Batch, 1987).

One well-known traditional Indian yoga technique is Surya Namaskara. It comes from Namaskara, which meaning sun salutations, and the Sanskrit name Surya. According to Chaudhary and Singh (2019), it involves practicing twelve physical postures that alternate between forward and backward bending. Surya namaskar is an ancient method yogic method to worship Sun. In Sanskrit literature surya means sun, and the word namaskar means salutation. Therefore, this practice is known as the Surya namaskar or 'salutation to the sun'. This particular The ancient philosopher Patanjali and his disciples created breathing and posture techniques thousands of years ago on the Indian subcontinent (Bryant, 2009). A key element of physical fitness, flexibility influences posture, injury prevention, and the effectiveness of movements. Hostel women often maintain sedentary lives, which limits their flexibility and raises related health issues. The twelve yogic postures that make up Surya Namaskar are proven to increase strength, flexibility, and general wellbeing.

2. METHODOLOGY

To achieve the purpose of this study, to achieve the purpose of this study, 20 women college hostel students were randomly selected as subjects from the St. Xavier's college, Palayamkottai, Tirunelveli, Tamilnadu, India. They were between the ages of 18 and 25. The chosen participants were split into two groups at random, such as group "A," which engaged in Surya Namaskar practices (n = 10), and group "B," which served as the control group (n = 10). Group 'A' underwent Surya namaskar practices for five days per week and each session lasted for an hour for eight week. However, control group was not exposed to any specific training but they participated in their regular schedule. The "Flexibility" (in centimeters) were selected as criterion variables. The pre and post tests data were collected on selected criterion variables prior and immediately after the training program. The pre and post-test selected criterion variable scores were statistically examined by the dependent 't' test and Analysis of Covariance (ANCOVA). The level of significance was fixed at .05 level of confidence, which was considered as appropriate

3. RESULTS AND DISCUSSIONS

TABLE-1

The means and dependent "T" test for the experimental and control group's flexibility before and post tests

Criterion variables	Test	Experimental Group Mean	Control Group Mean
Flexibility (in centimeters)	Pre test	24.86	25.11
	Post test	33.19	25.34
	't' test	10.79*	0.46

*Significant at .05 level. (Table value required for significance at .05 level for 't'-test with df 9 is 2.26)

The dependent t-ratio values between the pre and post-test means of the Surya Namaskar practices and control groups are 10.79 and 0.46, respectively, as table 1 illustrates. At the 0.05 level, a significant difference with df 9 requires a table value of 2.26. It was determined that the experimental group had significantly improved flexibility when compared to the control group based on the above table, where the dependent "t"-test value of flexibility between the experimental group's pre and post-test means was greater than the table value 2.26 with df 9 at the .05 level of confidence.

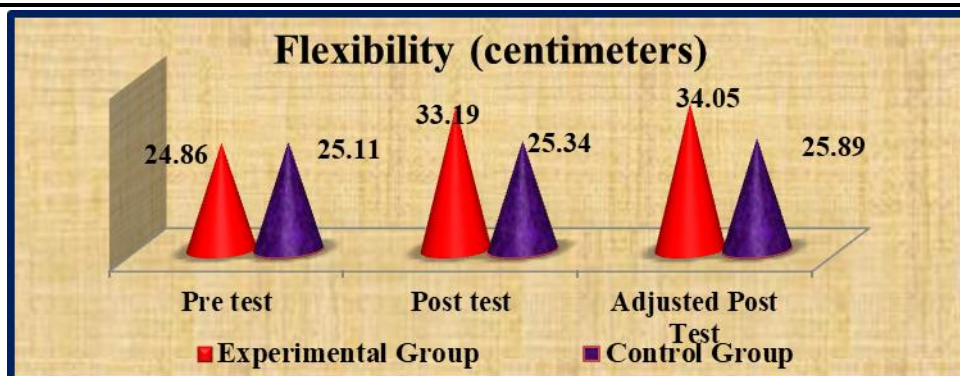
TABLE-2

Analysing the Covariance flexibility and computing the mean for experimental and control groups

	Experimental Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Square	F
Flexibility (Adjusted PostMean)	34.05	25.89	BG	276.11	1	276.11	30.11*
			WG	155.89	17	9.17	

* Significant at 0.05 level. Table value for df 1, 17 was 4.45

Table-2 shows that the adjusted post test means values on flexibility of experimental and control groups 34.05 & 25.89 respectively. The obtained f- ratio of 30.11 for adjusted post test mean is greater than the table value 4.45 with df 1 and 17 required for significance at 0.05 level of confidence. The study's findings showed a significant mean difference between the control groups' and Surya Namaskar practices' adjusted post-test means on flexibility.



The mean values of the pre, post, and modified post tests on the flexibility of Surya Namaskar practices and control groups are shown in the bar diagram figure 1.

4. DISCUSSION ON FINDINGS

The present study revealed a statistically significant improvement in flexibility, demonstrating the positive impact of Surya Namaskar practices among women hostel students. These findings suggest that regular engagement in Surya Namaskar contributes to enhanced physical flexibility, which can be beneficial for overall well-being, posture, and injury prevention. The results align with previous research by Johnbosco, K. (2019) and Singh, R., & Singh, K. (2016), which also highlighted the effectiveness of yoga-based involvements in refining flexibility and overall physical fitness.

Furthermore, the improvement in flexibility observed in this study may be attributed to the dynamic stretching and controlled breathing techniques involved in Surya Namaskar. These elements work synergistically to increase muscle elasticity, joint mobility, and overall body coordination. The findings reinforce the growing body of evidence supporting yoga as a holistic approach to physical fitness, particularly among young adults living in hostel environments, where structured physical activity may be limited.

5. CONCLUSIONS

Within the limitations and delimitations of this study the following conclusions were drawn from the result.

1. There was significant improvement on flexibility due to the effect of Surya namaskar practices among women hostel students.
2. On all of the chosen variables, the control group had not, however, shown any appreciable improvement.

6. REFERENCES

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