STM JOURNALS

Journal of
AYUSH: Ayurveda, Yoga, Unani, Siddha and Homeopathy

ISSN: 2278-2214 (Online)
ISSN: 2321-6484 (Print)
Volume 13, Issue 3, 2024
September-December
DOI (Journal): 10.37591/JoAYUSH

https://journals.stmjournals.com/joayush

Research JoAYUSH

Impact of Suriyanamaskar with Sky Maharasana and Suriyanamaskar without Sky Maharasana on Strengthening the Spine

R. Hemadevi[1,*], Shanthi Rajasekaran[2]

Abstract

Purpose: *The human body's entire work runs through the spinal cord. Spine strength helps to achieve blissful health and a sound mind. The purpose of this study is to evaluate the effects of Suriyanamaskar with and without SKY Maharasana on strengthening the spine and improving mental clarity.* ***Method:*** *The schoolgirls from in and around Chennai were selected as subjects for study. The total number of subjects is 75 and they age between 13 to 17 years into two groups 1. Experimental Group I was given Suriyanamaskar with SKY Maharasana training 2. Experimental Group II were given Suriyanamaskar without SKY Maharasana training for 5-day, plank Fitness test is taken as the variable on which the results could be concluded. The pre-test was conducted before the training and the post-test was conducted after the training for all groups.* ***Results:*** *The study revealed improvement in the management of Spinal cord health and thinking ability by the ANCOVA test method in the Experimental groups I and II compared to the subjects in the control group. Through the Suriyanamaskar and SKY yoga practices, the total neurological system and mental ability have been improved a lot.* ***Conclusion:*** *The outcome shows that Suriyanamaskar with SKY Maharasana on school Girls has a constructive effect on the Spine strength and sound mind in the body.*

Keywords: Endurance, plank fitness test, suriyanamaskar, SKY maharasana, Spine

INTRODUCTION

Yoga is a scientifically healthy way of life. Nowadays days yoga is an experimental and therapy way accepted all over the world. Yoga is an ancient therapy form of relaxation exercise that has many health benefits for our girls. The spinal cord is very important to connect all nervous systems and work with all organs. Yoga has a significant impact on individuals, especially today competitive for society and stressful education environment, atmosphere for those who suffer from menstrual problems, hump on the spine, shoulder and back aches, allergies and other health issues. It is the result of humans and insight into physical, psychological, and ethical collective knowledge together and trained over five thousand years for the well-being of society [1]. The spine strength helps to all perfect work in organs, and power, confidence, concentration and memory power also increase. Much spine strength healing can be done, but it takes practice and consistency [2].

***Author for Correspondence**
R. Hemadevi
E-mail: hemaupander@gmail.com

[1]Scholar, Department of Yoga for Human Excellence, Bharathiar University, Coimbatore, Tamil Nadu, India
[2]Project Director, Department of Yoga for Human Excellence WCSC Vision, SKY Research Centre, Aliyar, Pollachi, Tamil Nadu, India

Received Date: October 22, 2024
Accepted Date: December 24, 2024
Published Date: December 28, 2024

Citation: R. Hemadevi, Shanthi Rajasekaran. Impact of Suriyanamaskar with Sky Maharasana and Suriyanamaskar without Sky Maharasana on Strengthening the Spine. Journal of AYUSH: Ayurveda, Yoga, Unani, Siddha and Homeopathy. 2024; 13(3): 58–62p.

OBJECTIVES OF THE STUDY

To view the impact of Suriyanamaskar with SKY Maharasana and Suriyanamaskar without SKY

Maharasana were selected randomly from in and around Chennai city based on knowing their blissful health and to analyse themselves spine core muscles help them in a long life [3].

STATEMENT OF THE PROBLEM

In this fast-running and competitive world, we don't use our time to look at the body and its strength which leads to various health issues and diseases. School students often carry heavy bags containing their books between home and school, which can negatively impact the strength of their spinal cords and lead to various health issues. This study aims to empower schoolgirls, enabling them to become aware of societal and family problems while contributing to finding effective solutions [4].

REVIEW OF RELATED LITERATURE

Kosha Gor and Haridini Prajapati (2021) [2] conducted a study titled "Effect of Suriyanamaskar on Core Stability in Young Females – An Experimental Study." Suriyanamaskar, a series of 12 dynamic yoga poses, engages all major muscle groups in the body. This practice involves alternating compression and stretching of abdominal organs, which can aid in managing digestive issues, alleviating stomach-related problems, and regulating menstruation. Given the time constraints and busy lifestyles many women face, maintaining a regular exercise routine can be challenging. Additionally, back pain has become a common issue for many. The purpose of this study was to investigate the effect of Suriyanamaskar on core stability in young females [5].

A group of 15 young females was chosen according to specific inclusion and exclusion criteria. Participants performed Suriyanamaskar twice daily for 15 days, with two additional sets introduced every five days. Core stability was assessed using the plank and dynamic abdominal endurance tests. The results demonstrated a notable enhancement in core stability, as reflected by the mean differences in the test scores. In conclusion, practicing Suriyanamaskar for 15 days effectively enhanced core stability in young females [6].

HYPOTHESIS

There were significant differences in the subjects on the selected variable of the Plank Fitness test due to the practices in the Suriyanamaskar with SKY Maharasana group and Suriyanamaskar without SKY Maharasana group than the Control group [7].

LIMITATIONS

- The hereditary difficulties were not taken into consideration.
- The food routines, lifestyle, sleep etc., were taken into control.
- Financial and traditional status were not considered for the study.

SELECTION OF SUBJECTS

For the study, 75 female students in and around Chennai city were selected randomly. Their age ranged between 13 to 17 years school student [8].

METHODOLOGY

A total of 75 female students from Chennai and its surrounding areas were selected for this study. Participants completed a pre-test to evaluate their physical fitness using the Plank Fitness Test, after which they were assigned to three equal groups.

- *Experimental Group I:* Practiced Suriyanamaskar combined with SKY Maharasana for five days a week over 8 weeks.
- *Experimental Group II:* Performed Suriyanamaskar without SKY Maharasana for the same duration and frequency.
- *Control Group:* Did not participate in any training program.

After 8 weeks of training, a post-test was conducted to evaluate the outcomes.

SELECTED VARIABLES FOR THE EXPERIMENT

Dependent Variables

- *Physical Variables:* Plank Fitness Test.

The Plank Fitness Test, also referred to as the Prone Bridge Test, is a straightforward assessment of core muscle strength. It also doubles as a fitness exercise aimed at improving core stability. The goal of this test is to hold an elevated plank position for the maximum duration possible.

Purpose

The plank test assesses the strength and endurance of the back and core stabilizing muscles.

Equipment required

Flat and clean surface, stopwatch, recording sheets, pen.

PROCEDURE

The aim of this test is to hold an elevated plank position for the longest possible duration. The test begins with the individual lifting the upper body off the ground using the elbows and forearms, while keeping the legs extended and weight balanced on the toes. The hips should be raised to form a straight line from the head to the toes. Once the correct position is achieved, start the stopwatch. The head should face downward toward the ground rather than looking forward. The test concludes when the subject can no longer keep the back straight or the hips begin to lower.

SCORING

The score is determined by the total time the position is held. Table 1 provided by Top End Sports offers a general guide for scoring both males and females (refer to their resources for more specific norms). Notably, in 2020, George Hood, a 62-year-old former U.S. Marine, set a world record for planking by maintaining the position for an impressive eight hours, 15 minutes, and 15 seconds (Table 1).

Table 1. The Score is Determined by the total Time the Position is Held.

Rating	Time
Excellent	>6 minutes
Very Good	4–6 minutes
above average	2–4 minutes
Average	1–2 minutes
below average	30–60 seconds
Poor	15–30 seconds
very poor	<15 seconds

RESULT AND ANALYSIS

The physical variable Strength was measured through Plank Fitness test counts. The results on the impact of Suriyanamaskar with SKY Maharasana, Suriyanamaskar without SKY Maharasana and control group on Strength among girl's student strengthen of the spine development is presented in Table 2.

Table 1 shows that the pre-test mean scores for the strength of Experimental Group I (Suriyanamaskar with SKY Maharasana) was 44.36, Experimental Group II (Suriyanamaskar without SKY Maharasana) was 41.60, and the control group was 41.84. The post-test means showed differences due to 8 weeks of Suriyanamaskar with SKY Maharasana and Suriyanamaskar without SKY Maharasana, with mean values recorded at 71.72, 58.20, and 43.20, respectively [9].

The F value obtained for the pre-test scores (1.06) was lower than the required F value of 3.12, indicating no significant difference between the groups at the beginning. This suggests that the randomization process at the start was balanced.

Table 2. Computation of Mean and Analysis of Covariance of Strength.

Test	Suriyanamaskar with SKY Maharasana	Suriyanamaskar Without SKY Maharasana	Control	DF	SS	MOS	F Value
Pre	44.36	41.60	41.84	2.00	116.88	58.44	1.06
				72.00	4461.12	61.96	
Post	71.72	58.20	43.20	2.00	10176.51	5088.25	89.20
				72.00	4107.04	57.04	
Adjusted	71.01	58.60	43.51	2.00	9334.64	4667.32	97.98
				71.00	3382.12	47.64	

Note: Scores in counts/min.

The analysis of the post-test scores, with an F value of 89.20, was significantly higher than the required F value of 3.12. This demonstrated that the differences between the post-test means of the subjects were substantial.

Adjusted mean scores were calculated based on the pre- and post-test scores across the groups and analyzed statistically. The resulting F value of 97.98 exceeded the required F value of 3.13, confirming that there was a significant difference in the means due to the 8 weeks of Suriyanamaskar with SKY Maharasana and Suriyanamaskar without SKY Maharasana on the physical strength variable. As notable improvements were observed, a post hoc analysis was conducted using Scheffe's Confidence Interval test. The findings are displayed in Table 3 [10].

Table 2 shows a significant difference between the Suriyanamaskar with SKY Maharasana group and the control group, as well as between the Suriyanamaskar without SKY Maharasana group and the control group. Moreover, a significant difference was observed between the Suriyanamaskar with SKY Maharasana group and the Suriyanamaskar without SKY Maharasana group. The mean values obtained are illustrated in the bar chart shown in Figure 1.

Table 3. Scheffe's Post-Hoc Test for Strength.

Groups			Mean	CD
Suriyanamaskar with SKY Maharasana	Suriyanamaskar Without SKY Maharasana	Control		
71.01	58.60		12.41	7.04
71.01		43.51	27.50	
	58.60	43.51	15.10	

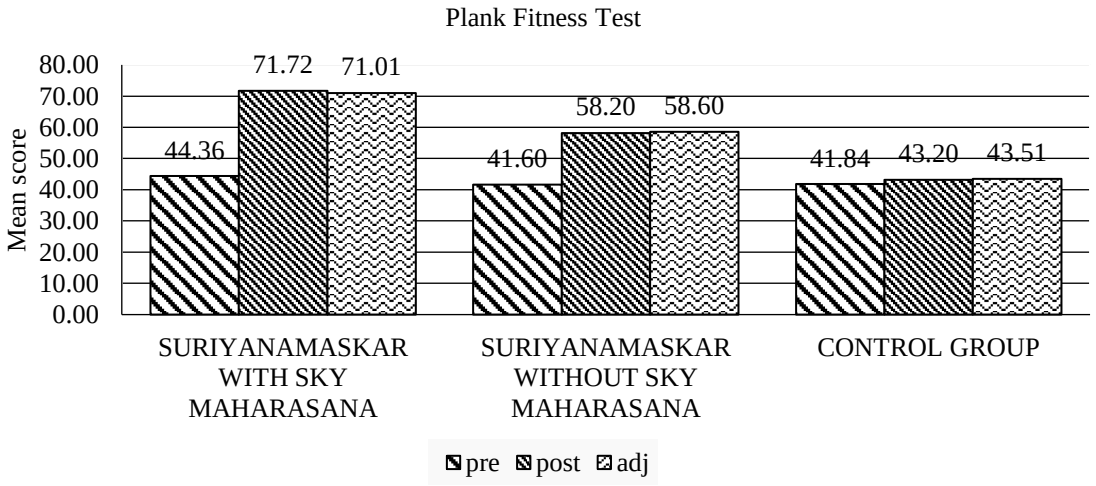

Figure 1. Bar Diagram Showing Pre, Post and Adjusted Post-Test Values of Strength.

CONCLUSIONS

Based on the findings of the study, the following conclusions were made:

- The physical variable of strength showed a significant improvement among girl students after 8 weeks of practicing Suriyanamaskar combined with SKY Maharasana (Experimental Group I) and Suriyanamaskar without SKY Maharasana (Experimental Group II), contributing to enhanced spinal strength compared to the control group.
- A notable difference in spinal strength was observed between the group practicing Suriyanamaskar with SKY Maharasana and the group practicing Suriyanamaskar without SKY Maharasana, as compared to the control group.
- The study showed significant development in spinal cord strength and core muscles endurance with the spine due to Suriyanamaskar with SKY Maharasana when compared to the control group.
- Suriyanamaskar with SKY Maharasana was found to show better results when compared to pre- and post-tests, with a 60% higher increase in the plank test than the Suriyanamaskar without SKY Maharasana group, which showed only a 38% increase.

Recommendations

- A similar training may be shown by selecting other Physical variables as measure variables.
- An alike training may be conducted by selecting Presentation related variables as measure variables.
- A correspondent training may be tried by choosing other psychological variables for the subjects.
- A related training may be showed for other female age group or male group as subjects.

REFERENCES

1. Das M, Deepeshwar S, Subramanya P, Manjunath NK. Influence of Yoga-based personality development program on psychomotor performance and self-efficacy in school children. Frontiers in Pediatrics. 2016 Jun 15;4:62.
2. Kosha Gor and Haridini Prajapati. Studies the “Effect of Suryanamaskar on core stability in young females-an experimental study”, Int J Yoga, Physiotherapy Phys Educ. 2021;6(3):122–123. ISSN: 2456–5067.
3. Strand SL, Hjelm J, Shoepe TC, Fajardo MA. Norms for an isometric muscle endurance test. J Human Kinetics. 2014;40:93–102.
4. Bohannon RW, Steffl M, Glenney SS, Green M, Cashwell L, Prajerova K, Bunn J. The prone bridge test: Performance, validity, and reliability among older and younger adults. J Bodyw Mov Ther. 2018 Apr;22(2):385–389.
5. Bhardwaj P, Kaur N, Malik N, Singh G, Pathania M. Yoga and mindfulness in the prevention of metabolic diseases. In Neuroscience of Yoga: Theory and Practice: Part II. Singapore: Springer Nature Singapore; 2024 Jul 31. pp. 1–24.
6. Krause DA, Youdas JW, Hollman JH, Smith J. Abdominal muscle performance as measured by the double leg-lowering test. Arch. Phys. Med. Rehabil. 2005 Jul 1;86(7):1345–8.
7. Yoon JO, Kang MH, Kim JS, Oh JS. Effect of modified bridge exercise on trunk muscle activity in healthy adults: A cross-sectional study. Braz J Phys Ther. 2018 Mar 1;22(2):161–7.
8. Sharpe GL, Liemohn WP, Snodgrass LB. Exercise Prescription and the Low Back–Kinesiological Factors. J. Phys. Educ. Recreat. Dance. 1988 Dec 1;59(9):74–8.
9. Zannotti CM, Bohannon RW, Tiberio D, Dewberry MJ, Murray R. Kinematics of the double-leg-lowering test for abdominal muscle strength. J Orthop Sports Phys Ther. 2002 Sep;32(9):432–6.
10. Suri P, Kiely DK, Leveille SG, Frontera WR, Bean JF. Trunk muscle attributes are associated with balance and mobility in older adults: A pilot study. PM&R. 2009 Oct 1;1(10):916–24.

