

VOLUME 9 (SPECIAL ISSUE 2) 2023

ISSN 2454 – 3055

**Manuscripts under Special Issue are published under the
theme “Yoga Practices and Alternative Therapies on
Human Health”**

Guest Editor: Dr. S. Mohanasundaram

Assistant Guest Editors: Mrs. K. Geetha

Mrs. M. Pennarasi

**INTERNATIONAL
JOURNAL OF
ZOOLOGICAL
INVESTIGATIONS**

***Forum for Biological and Environmental
Sciences***

Published by Saran Publications, India



International Journal of Zoological Investigations

Contents available at Journals Home Page: www.ijzi.net

Editor-in-Chief: Prof. Ajai Kumar Srivastav

Published by: Saran Publications, Gorakhpur, India



ISSN: 2454-3055

Effect of Six Weeks Training of Suryanamaskar on Abdominal Endurance Among Orphanage Girls

Murali D.* and Martin Arogiyaraj E.

Yoga for Human Excellence, WCSC-VISION Sky Research Centre, Bharathiar University, Coimbatore, Tamil Nadu, India

*Corresponding Author

Received: 17th March, 2023; Accepted: 5th May, 2023; Published online: 15th August, 2023

<https://doi.org/10.33745/ijzi.2023.v09ispl2.035>

Abstract: The favourable benefits of yoga on physical fitness have been the subject of several scientific studies. Suryanamaskar is a kind of yoga posture. The orphaned girls participated in a research to see how six weeks of Suryanamaskar (sun salutation) training affected their abdominal endurance. Girls in shelters would have a considerable increase in their abdominal endurance after just six weeks of Suryanamaskar training. Fifteen teenage and preteen girls from Chennai's Seva Chakra Children's Home were randomly assigned to either a control or experimental group for a pre- and post-test study. The experimental group had their abdominal endurance tested first. The experimental group did Suryanamaskar for six weeks, five days a week. After the intervention period, the experimental group was assessed again using the same dependent variable. The significance of the change in the dependent variable between the pre- and post-tests for the experimental group was calculated using the paired t-test. The significance test was established with a 5% margin of error. Girls from the orphanage who were trained in Suryanamaskar showed considerable improvement in their abdominal endurance after the intervention. It was shown that orphanage girls' abdominal endurance might be improved after six weeks of Suryanamaskar training.

Keywords: Suryanamaskar, Abdominal endurance, Orphanage, Yoga, Physical fitness

Citation: Murali D. and Martin Arogiyaraj E.: Effect of six weeks training of suryanamaskar on abdominal endurance among orphanage girls. Intern. J. Zool. Invest. 9(Special Issue 2): 199-202, 2023.

<https://doi.org/10.33745/ijzi.2023.v09ispl2.035>



This is an Open Access Article licensed under a Creative Commons License: Attribution 4.0 International (CC-BY). It allows unrestricted use of articles in any medium, reproduction and distribution by providing adequate credit to the author (s) and the source of publication.

Introduction

The ancient Indian practise of Suryanamaskar (sun salutation) consists of a series of movements meant to honour the Sun when it rises each day. It is a set of postures performed with controlled breathing for various health advantages on several levels. King Shivaji Maharaj, a national

independence warrior from the 17th century, is said to have practised Suryanamaskar to remain in shape with the likes of guru Samarth Ramdas and the Marathas. According to many sources (Gharote 1982; Patel 2004; Gharote 2006; Bhattacharya, 2007; Stiles 2007), Suryanamaskar

is also an effective purifying practise that contributes to general growth.

Suryanamaskara means "sun salutation" in Sanskrit literature. The term "Suryanamaskar" means "salutation to the sun," which perfectly describes the purpose of this exercise. The term "Suryanamaskar" is often understood to mean "salutes to the Sun," yet this is just a surface-level interpretation. The name Surya has the meaning of "he who broadens and lights up the world."

All ages and skill levels are welcome to give Suryanamaskar a try. Morning Suryanamaskar included looking east while standing in meditation on the Sun God. Suryanamaskar may be performed at any time of day or night, however it is most often done at dawn. When practised first thing in the morning, it loosens up tight joints, invigorates the body, clears the mind, and cleans the subtle energy pathways. When done throughout the day, it helps the body feel refreshed. If done before bed, it helps you unwind and drift off.

The benefits of Suryanamaskar are far-reaching, since the practise affects the body as a whole. It restores vitality to every cell, allowing for greater power, mobility, equilibrium, and emotional stability. Typically, it involves a set sequence of twelve different asanas (postures). If you want to keep your attention on your breathing throughout your practise, it is important to synchronise your movements with your breath (Gore, 1980; Kansal, 1996; Douillard, 2001). The Rishikesh series, a classic yoga sequence based on the teachings of the Kaivalyadhama Institute in Lonavla (Gharote, 1982) and the Bihar School of Yoga in Munger (Satyananda, 2006), was employed in the experiment. Pranayama, utthanasan, padahastasan, ashwasanchalanasan, ashtanaga namasakar, bhujangasan, parvatasan, and hasta utthanasan are the asanas that make up suryanamaskar. While doing each sun salutation asana, a special mantra is recited. Despite many references to Surya namaskar's brilliance in religious texts, the practice's benefits remain

mostly unknown. Very little investigations have shown that Suryanamaskar significantly increases abdominal endurance.

Strength in the abdominal muscles is crucial for keeping up with demanding activity and avoiding burnout. The abs are considered "core" muscles. Back discomfort is more likely in those with weak core muscles (Mullerpatan et al., 2020). Suryanamaskar is only one of many ways to increase the stamina of your abdominal muscles. Suryanamaskar is a mix of seven different yoga postures that have yet to be studied to determine its impact on abdominal stamina.

The objective of the study was to find out the effect of six weeks training of Suryanamaskar on abdominal endurance among orphanage girls. It was hypothesized that there would be significant improvement on abdominal endurance among orphanage girls due to six weeks training of Suryanamaskar.

Materials and Methods

Fifteen girls aged 13 to 16 were chosen from the Seva Chakkara Children's Home in Choolai, Chennai for the research. One-group experimental design with pre- and post-testing was used for the research. As a pre-training measure, the experimental group underwent an abdominal endurance test. Sit-ups were used as a quantitative measure of abdominal stamina. The control group did nothing while the experimental group did Suryanamaskar (sun salutation) five days a week for a total of six weeks. The abdominal endurance of the experimental group was re-evaluated after their training time. To determine whether or not there was a statistically significant change in the dependent variables between the pre- and post-tests for the chosen experimental group, a paired t-test was conducted. The significance threshold of the test was set at 0.05.

Results and Discussion

The derived t-test value for abdominal endurance was greater than the table value, indicating a

Table 1: Computation of mean and standard deviation of abdominal endurance of experimental group

Group	Tests	Means	Standard Deviation	Mean Difference	Standard Error Difference	t Value
Single Group (Experimental Group)	Pre Test	10.80	2.78	8.80	1.662	5.2933*
	Post Test	19.60	8.35			

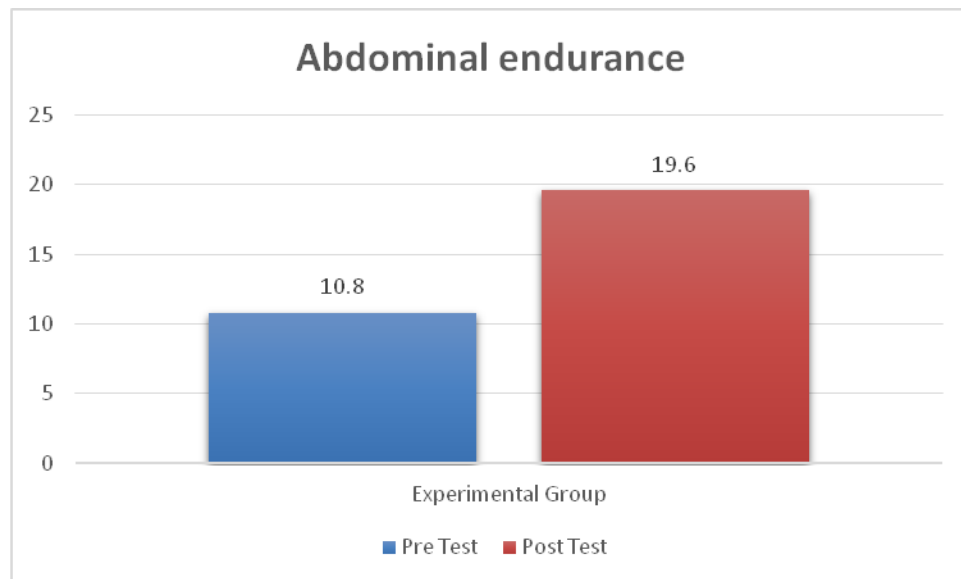


Fig. 1: Pre-test and post-test on abdominal endurance of experimental group.

significant increase in abdominal endurance between the pre- and post-tests of the experimental group.

Mean of pre- and post-tests were 10.80 and 19.60 in experimental group, respectively (Table 1). The obtained t value on pre and post test scores of experimental group were 5.2933, which was greater than the required critical value of 1.761 to be significant at 0.05 levels. This proved that there was significant improvement among the means of abdominal endurance after six weeks training of Suryanamaskar.

Statistical analysis shows that the experimental group's abdominal endurance

significantly increased after six weeks of Suryanamaskar training. It might be because various regions of the body are stretched during Surya Namaskar, which helps to loosen up muscles and joints. Singh *et al.* (2010) found that both measures significantly improved after six weeks of suryanamaskar yogasana, lending credence to the findings of the present study.

Conclusion

Girls who participated in Suryanamaskar for a period of six weeks showed considerable improvements in their abdominal endurance, according to statistical analysis and after taking into account the limitations of the research.

Acknowledgements

The authors are grateful to WCSC-VISION Sky Research Centre, Aliyar. They are thankful to Mrs. Lakshmi Ravichandran, Secretary of Seva Chakkara Children's Home, Choolai, Chennai, for the support.

References

- Bhattacharya PB. (2007) Surya Namaskara. Sri Aurobindo Ashram Trust, Pondicherry, 9.
- Douillard J. (2001) Body, Mind and Sport: The Mind-Body Guide to Lifelong Health, Fitness, and Your Personal Best. Harmony, USA, pp. 272.
- Gharote ML. (1982) Guidelines for Yogic Practices. Lonavla Yoga Institute, Lonavla, pp. 105.
- Gharote ML and Ganguly SK. (2006) Teaching Methods for Yogic Practices. Kaivalyadhama, pp. 145.
- Gore MM. (1980) Physiology of Yoga Practice. Yoga Mimamsa, Mudranalaya, Lonavla, pp. 200.
- Kansal D.K., Test and Measurement in Sports and Physical Education. D.V.S., New Delhi 1996, 374.
- Mullerpatan RP, Agarwal BM and Shetty TV. (2020) Exploration of muscle activity using surface electromyography while performing surya namaskar. Int J Yoga 13(2): 137.
- Patel S. (2004) Surya Namaskar – Teach yourself the Sun Salute. Srishti Publishers, New Delhi, pp. 83.
- Satyananda S. Surya Namaskara – A Technique of Solar Visualization. Munger Yoga Publication Trust, Munger, pp. 126
- Singh K, Singh Bal Baljinder and Vaz W. (2010) The effect of suryanamaskar yogasana on muscular endurance and flexibility among Inter College Yoginis. J Physical Education Sport 27(2): 61-67.
- Stiles M. (2007) Ayurvedic Yoga Therapy. Lotus Press, Twin Lakes, pp. 253.