



## Effect of Suryasakthi on Fatigue, Stress and Balance Among Third-Year Bds Students: A Cohort Study



S Srudhika <sup>a</sup>, N K Aditya <sup>b</sup>

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### Corresponding Author <sup>b</sup>



### Keywords

*balance;*  
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*stress;*  
*Surya Sakthi;*  
*yoga;*

### Abstract

**Introduction:** The word Surya refers to the Sun, our planet's powerhouse. All life on the earth is solar-powered, including humanity. Surya Shakti is the technique of using that energy to strengthen your physical and mental well-being. Some benefits of practicing Surya Shakti regularly include: • Strengthens the body's Ligaments; • Stills the mind and body; • Helps maintain a higher energy state. This study aims to assess the effect of Surya Sakthi on factors affecting our daily lives, such as fatigue, stress, and balance. **Materials and methods:** A total of 10 students of 3rd-year BDS from Saveetha Dental College participated in this study. Each student was surveyed using 16 questionnaires to assess parameters like Stress, Fatigue, Sleep, and Balance. These scores were collected at different time intervals, the Baseline values (before Yoga) and at the end of 1 month (after Yoga). The yoga session was conducted in Saveetha Dental College by a professional to guide the students to do the Yoga properly and regularly. The average values were assessed between baseline values and 1-month intervals to observe the difference in different parameters focused on this study. **Results:** From the study, we can infer that the one-month average of the questionnaires attempted by the student post-exposure and everyday practice of Surya Sakthi is significantly higher than that of the baseline values before exposure to Surya Sakthi. The female students benefited more and had more positive effects compared to the male students; in addition, it was found that the students who did more than 30 cycles of Surya Sakthi per month had more positive effects/growth in managing stress and balance than the students who did less than 30 cycles per month. **Conclusion:** The study concludes that Surya Sakthi has a positive effect on improving an individual's mental and physical well-being, especially in improving the quality of sleep, coping with stress and fatigue, and hence improving the balance of life.

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<sup>a</sup> 3rd year Student, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences (SIMATS), India

<sup>b</sup> Assistant Professor, Department of Oral and Maxillofacial Surgery, Saveetha Dental College, Saveetha Institute of Medical and Technical Sciences (SIMATS), India

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## 1 Introduction

The Sanskrit root "yuj," which signifies unification or yoke, to unite, and to focus and direct one's attention, is where the word "yoga" originates (Woodyard, 2011; Raub, 2002). The use of yoga poses and practice to treat medical issues is known as therapeutic Yoga. It includes teaching yogic techniques and teachings to avoid, lessen, or eliminate limits, pain, and suffering that are structural, physiological, emotional, and spiritual. The study's findings demonstrate that Yoga improves respiratory and cardiovascular health, increases muscular strength and body flexibility, aids in addiction recovery and treatment, lowers stress, anxiety, depression, and chronic pain, improves sleep patterns, and improves general well-being and quality of life (Woodyard, 2011; Collins, 1998; Khalsa et al., 2024).

Yogic breathing is another aspect of Yoga that helps students heal by creating a unique link between their body and mind. Rapid diaphragmatic breathing, slow/deep breathing, and other intentional modifications to the breathing process are all part of the yogic breathing technique. Both deliberate and involuntary processes with intricate feedback regulate breathing (Fokkema, 1999; Brown & Gerbarg, 2005; Brown & Gerbarg, 2005).

Even with pharmaceutical treatment, stress and anxiety have been linked to several chronic illnesses and a lower quality of life. Yoga is one non-pharmacologic treatment for stress and anxiety that is being researched, and the results are encouraging (Li & Goldsmith, 2012).

An active variation of the Sun Salutation is called Surya Shakti. A potent series of eighteen poses, it is an ancient yogic practice. It is intended as a comprehensive method for achieving high levels of physical fitness. "Shakti" means "energy," and "Surya" means "sun." Surya Shakti develops exceptional strength and physical fitness. This study aims to assess the effect of Surya Sakthi on fatigue, stress, and balance among dental students (Pascoe et al., 2017).

## 2 Materials and Methods

This cohort study was conducted among dental students at Saveetha Dental College and hospitals. A total of 10 students, consisting of 5 males and 5 females in 3rd year, participated in this study.

### 1) Assessment of Parameters- Stress, Fatigue, Sleep and Balance:

Each of these students was surveyed using 16 questionnaires to assess parameters like Stress, Fatigue, Sleep, and Balance. The questionnaires are listed below:

- a) Dispositional Joy scale
- b) Fatigue assessment scale
- c) Fatigue severity scale
- d) MAAS state trait scale
- e) Perceived Stress scale

- f) PHQ-4
- g) Piper Fatigue scale
- h) Pittsburgh Sleep Quality Index
- i) SPANE-P
- j) SPANE-N
- k) SPANE-B
- l) Sleep quality scale
- m) Sleep fatigue severity scale
- n) Gratitude Questionnaire
- o) WHO-5 well-being index
- p) WHO-5 well-being index- percentage score

These scores were collected at different time intervals, the Baseline values (before Yoga) and at the end of 1 month (after Yoga).

### 2) Introduction of Surya Sakthi to students:

The yoga session was conducted in Saveetha Dental College by a professional to guide the students to do the Yoga properly and regularly. The steps of the Surya Sakthi are as follows (Figure 1)



Figure 1. Steps/Postures of Surya Sakthi

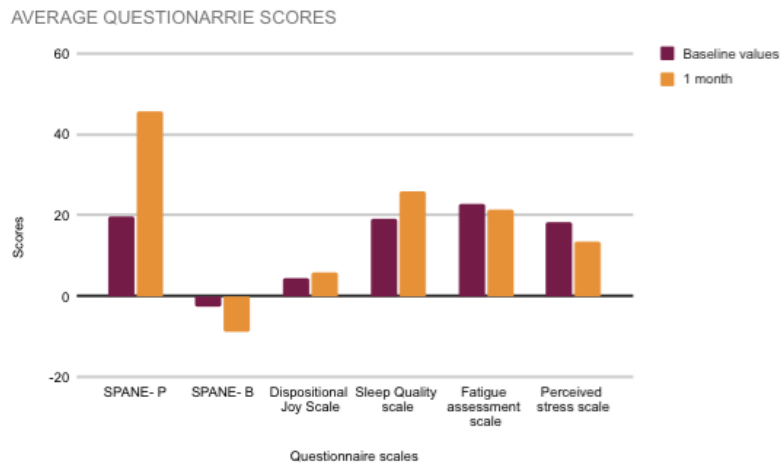
### 3) Evaluation of Parameters- Stress, Fatigue, Sleep and Balance:

The average values were assessed between baseline values and 1-month intervals to observe the difference in different parameters focused on this study.

### 3 Results and Discussions

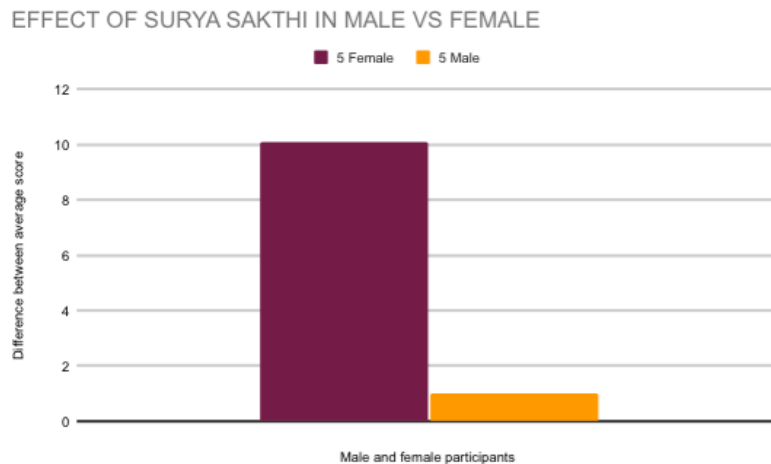
#### 3.1 Results

From the study, we can infer that the one-month average of the questionnaires attempted by the students post-exposure and everyday practice of Surya Sakthi are significantly higher than that of the baseline values before exposure to Surya Sakthi (Graph 1).



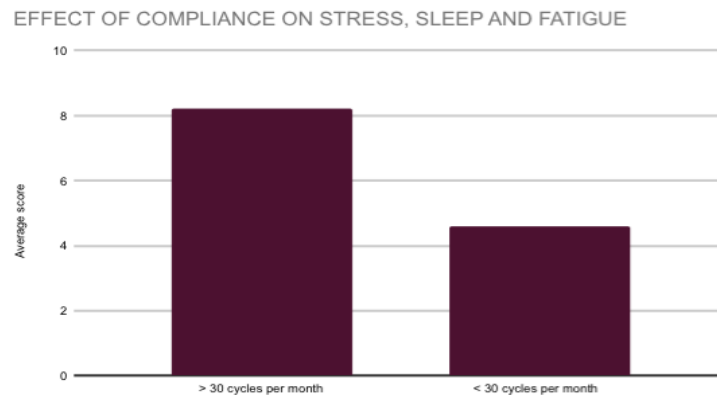
Graph 1: Graph showing the average questionnaire scores- Baseline and After 1-month values

Surya Sakthi's effect was found to be more efficient and positive towards female students than male students, with the difference between the average questionnaire scores being 10 and 1 (Graph 2).



Graph 2: Graph showing the effect of Surya Sakthi on Female vs. male students

The study also shows that the effect of Surya Sakthi on stress, sleep, and fatigue depends on students' compliance. The students who completed more than 30 cycles of Surya Sakthi per month had more positive scores and effects than the students who completed less than 30 cycles per month, with an average score of 8.2 and 4.6, respectively (Graph 3).



Graph 3: Graph showing the effect of compliance on Stress, Sleep and Fatigue

### 3.2 Discussion

In day-to-day life, the most common factors that drastically affect us are the Sleep cycle, Stress and Fatigue, which are interrelated and interdependent. These factors naturally affect the mental and physical balance of a person, particularly in teens and young adults, 19-25 years old (Wolf, 2009).

Yoga has many positive benefits, helps improve the mind, and provides psychological relief. In addition to this, Yoga also helps relieve stress and anxiety in an individual (Chong et al., 2011). Previous studies done on Yoga have proved to have helped chronic insomnia overcome stress and depression. Many such studies have been done on Yoga and its health benefits, but there is minimal literature on the effects of Surya Sakthi, which involves deriving mental and physical well-being from nature - The Sun (Telles et al., 2012; Turmel et al., 2022).

Six months of yoga (meditation, asanas, and pranayama) results in improved memory, a decrease in body weight, an increase in vital capacity, a speedup of endocrine activities, and a sense of well-being (Kauts & Sharma, 2012). Eighty-six patients with headaches, sleeplessness, and anxiety issues showed relief after three months of Savasana practice (Datey, 1977). According to research by Udupa et al., Yoga can help people with stress disorders attain physical and metabolic stability (Kumar & Tiwary, 2014). Yogic practices help manage anxiety and to improve attention and concentration (Sahasi et al., 1989).

Yoga helps adolescents manage their stress by using meditation, asana, and pranayama practices (Milada, 1994). The thalamic processing of sensory information is aided by meditation and pranayama (Telles et al., 1993). After ten days of practice, these two techniques, combined with physical postures (asanas), cleansing routines, devotional sessions, and lectures on the theory and philosophy of Yoga, were intended to improve schoolchildren's steadiness (Telles & Desiraju, 1993; Telles et al., 1994). It was thought that better eye-hand synchronization, focus, relaxation, and concentration were the causes of this improvement (Telles et al., 1997).

There exists very little evidence or literature on Surya Sakthi and its benefits; hence, this study aims to intervene and prevent youngsters from being diagnosed with depression, help them naturally cope with stress, and help them manage balance with optimism and confidence.

## 4 Conclusion

The study concludes that Surya Sakthi has a positive effect on improving an individual's mental and physical well-being, especially in improving the quality of sleep, coping with stress and fatigue, and hence improving the balance of life.



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## Biography of Authors

 A portrait of Srudhika, a young woman with dark hair, wearing a light blue surgical cap and a blue scrub top. She is smiling and looking towards the camera. The background is a light green wall with some text partially visible, including "A DENT", "& HOSP", "UD PART", and "D'S".	<p><b>Srudhika (First author)</b> She is a BDS student at Saveetha Dental College, Chennai, India who has a keen interest in clinical research. <i>Email: <a href="mailto:firstauthor@gmail.com">firstauthor@gmail.com</a></i></p>
 A portrait of Dr. Aditya NK, a man with dark hair and a mustache, wearing a white lab coat over a white shirt and a red patterned tie. He is smiling and looking towards the camera. The background is a solid blue color.	<p><b>Dr. Aditya NK (Corresponding author)</b> He is an assistant professor of Oral Maxillofacial Surgery in Saveetha Dental College, Chennai, India <i>Email: <a href="mailto:drnkadityamaxfac@hotmail.com">drnkadityamaxfac@hotmail.com</a></i></p>