



Effects of *Suryanamaskara* and Meditation on Physical health.

Amit A. Patil¹ Vidula Patil² Anjali Gound³

1. Associate Professor in Swasthwrutta Department MES Ayurved Mahavidyalaya Ghanekhunt Lote, Khed, Ratnagiri, Maharashtra E. Add.: patil.amit909@gmail.com
2. Associate Professor in Rasshastra Department, MES Ayurved Mahavidyalaya Ghanekhunt Lote, Khed, Ratnagiri, Maharashtra
3. Yoga Teacher in Swasthwrutta Department, MES Ayurved Mahavidyalaya Ghanekhunt Lote, Khed, Ratnagiri, Maharashtra

Article received on- 21 Aug

Article send to reviewer- 29

Article again received after correction- 2 Sept.

Corresponding author- **Amit A. Patil**, Associate Professor in Swasthwrutta Department MES Ayurved Mahavidyalaya Ghanekhunt Lote, Khed, Ratnagiri, Maharashtra. patil.amit909@gmail.com

Abstract

There are numerous health benefits of *Suryanamaskar* (sun salutation) for different system of the body. By practicing *Suryanamaskar* each and every cell of body get revitalize and regenerated, therefore it is highly recommended by all yoga experts for healthy routine life. Regular practice of *Suryanamaskar* gives strength, flexibility and vitality to the body. Though the *Suryanamaskar* steps are very scientific and practical science ancient time but still it needs advance modern scientific justification to spread it globally, keeping this in mind the present study was carried out to see the effects of *suryanamaskara* along with *pranayama* and meditation on *physical health*. The effect was accessed with Body Mass Index (BMI). The present article is the short communication regarding the study.

Key words: *Suryanamaskara*, sun salutation, health, yoga, BMI etc.

Introduction:

Suryanamaskara is a golden treasury of the ancient Indian culture. It has sprung from the man’s deep faith in sun, the god of energy. In ancient India people started *suryanamaskara* as the devotion towards lord sun and also with a great scientific view. Now it has been experienced that *suryanamaskara* are combination of best physical exercise and yogic breathing practices. *Surya Namaskara* (Sun Salutation) is combination of 12 different *Asanas* (postures) generally practiced early in the morning for expressing the gratitude towards the sun. In *suryanamaskara* different *asanas* in the cyclic manner gives stretch to muscles which results into the stimulation of organs and body cells for normal physiological functions. In recent lifestyles aerobic exercises are advised for weight loss. If *suryanamaskara* is done with speed the purpose of weight loss is also get achieved. Hence practice of *suryanamaskara* is helpful in normalizing day to day activity along with some specific targeted organ functions like heart, thyroid and other endocrine glands.ⁱ In the present study, a *yogik* practices and meditation involving *suryanamaskara* and *pranayam*(breathing exercises) was practiced by volunteers between age group 18 to 24 years for six month taking into consideration the effect on physiological

activities. The assessment of the effects is done with Body Mass Index.

Aims and objectives: The present study was done to see

1. The effects of *suryanamaskara* and *pranayama* with meditation practices on physical health.
2. To notify unwanted effects if any.

Material and Methods:

- Material: Healthy volunteers of both sexes between age group 18-22 years.
- Methods: Forty five volunteers of both sexes were enrolled after thorough health check-up. Height and weight of all the volunteers were noted before starting the practice. After the examination BMI of each volunteer was noted.

Body Mass Index:ⁱⁱ The body mass index (BMI) is a value derived from the [mass \(weight\)](#) and [height](#) of a person. The BMI is defined as the [body mass](#) divided by the [square](#) of the [body height](#), and is universally expressed in [units](#) of kg/m², resulting from mass in [kilograms](#) and height in meters. Classification according to BMI is given in Table no 1.

Category	BMI (kg/m ²)
Underweight	16 to 18.5
Normal	18.5 to 24
Overweight	24.5 to 30
Obese class I	30 to 35
Obese class II	35 to 40
Obese class III	40 to 45

Suryanamaskra was taught to all the volunteers till proper adaptation of the techniques and practice was taken between 8 am to 9 am in morning daily for 6

months. The minimum 12 rounds were practiced daily with *beejmantra* chanting and proper breathing techniques. The *Suryanamaskara* practice was followed by

anulom vilom pranayam for 15 rounds and Om meditation for 11 times. The time required for whole protocol was 20-25 minutes.

*Suryanamskara*ⁱⁱⁱ: one round of *suryanamaskra* composed of 12 different postures. The different postures, breathing pattern in each posture and the *beejmantra* for postures are given in the Table No 2.

Posture No.	Posture (<i>Aasan sthithi</i>)	Breathing Pattern	<i>Beej mantra</i>
1	Namaskarasana (Prayer pose)	Exhalation	Om hramm Mitray namaha
2	Hastauttanasana (Raised arms pose)	Inhalation	Om hreem Ravaye namaha
3	Hastapadasana (Standing forward bend)	Exhalation	Om hroom suryay namaha
4	Ashwa Sanchalanasana (Equestrian pose)	Inhalation	Om hreim bhanave namaha
5	Dandasana (Stick pose)	Maintain inhalation	Om hraum khagay namaha
6	Ashtanga Namaskara (Salute with eight parts)	Exhalation	Om hrah pushanye namaha
7	Bhujangasana (Cobra pose)	Inhalation	Om hramm hiranya garbhay namaha
8	Adho Mukha Svanasana (Downward facing dog pose)	Exhalation	Om hreem marichaye namaha
9	Ashwa Sanchalanasana (Equestrian pose)	Inhalation	Om hroom Aadityaya namaha
10	Hastapadasana (Standing forward bend)	Exhalation	Om hreim Savitrey namaha
11	Hastauttanasana (Raised arms pose)	Inhalation	Om hraum Arkaya namaha
12	Tadasana (Mountain pose)	Exhalation	Om hrah Bhaskaray namaha

Pranayama^{iv}(yogic breathing practices)

Pranayama is one of *astang yoga*. It comprises yogic breathing to influence the vital systems of the body. The chief purpose of *Pranayama* is to increase the consumption of oxygen with the minimum physical exertion. *Pranayama* has a greater beneficial effect on the Nervous System. Mind becomes calm and quiet, mental stress gets reduced. *Pranayama* involves three phases. First is *Puraka* in which inhalation is done. Next is *kumbhaka* in which breath is hold as the one can. Last is *Rechaka* in which exhalation is done. There are about 8-10 different patterns of *Pranayama* as *kapalbhati*, *bhastrika pranayam*, *surbhedaka pranayam*, *chandrabhedaka pranayam*, *nadi shudhi*, *ujjayi*, *sitkari*, *shitali*, *bhramari etc*. The practice of different *pranayamas* is according to particular diseases. Though *nadi shudhi pranayama* also called as *anulom vilom pranayama* can be practiced by anyone without any contraindications.

Hence in the present study *Nadi shudhi pranayama* was practiced after the *suryanamaskara* practices.

Procedure:

1. Sit erect in *Padmasana*
2. Keep the right thumb on right nostril, middle and ring fingers over the left nostril gently.
3. Press and close the left nostril gently with the middle and ring fingers and breathe in slowly through the right nostril for a period of ten counts duration.
4. Press and close the right nostril gently with the right thumb release the left nostril and breathe out through the left nostril for the same duration.
5. Now breathe in through the left nostril for the same duration, in the same manner.
6. Press and close the left nostril gently and breathe out through the

right nostril for the same duration. one round is completed

7. Repeat this procedure for 15 rounds.

Om meditation: ^v

Meditation is a practice where an individual uses a technique focusing their mind on a particular object, thought or activity to train attention and awareness and achieve a mentally clear and emotionally calm and stable state. There are various methods of meditation. The ultimate goal of all these methods is same. Mantra chanting is common way of meditation as during the chanting of mantra mind focuses on chanting of mantra. ‘Omm’ is the symbol of ultimate reality. Hence in *Omkaara Dhyana*, *Omm* is selected as a symbol for meditation.

Omkaara Dhyana procedure: This method is adopted for meditation by the Vivekanand Kendra, Kanyakumari, India. The word *Omm* is made up of three sounds namely, ‘Aa’, ‘u’, ‘um’. Aa denotes *Janma* or creation – Brahma, u Denotes *Sthiti* or sustenance- Vishnu, um denotes *Laya* or destruction – Mahesh. The three powers Brahma, Vishnu and Mahesh

control the three stages of the entire Universe, namely Creation, Sustenance and Destruction respectively. A large picture of *Omm* is kept in front and meditation is sought by concentrating at this picture. A deep inhalation is made and chanting of *Omkaara* is done during exhalation. The chanting is done for 11 times. After chanting relaxation phase is achieved for a fraction of time which has been experienced and when passive inhalation starts again rubbing of palms with each other is done, then palms are placed on face covering the eyes. Eyes are opened slowly and freshness is to be experienced.

Observations and results:

Before starting of yoga practices weight and height of all the volunteers were noted and BMI was calculated of each volunteer. Also BMI was calculated after completion of six months of regular yoga practices. Readings of BMI before starting and after the completion of yoga practices were tabulated and one sample ‘t’ test applied to access the significance of yoga practices. The statistical results^{vi} obtained are given in Table no 3.

One sample t Test	BMI Before	BMI After
Actual Mean	20.25	20.71
Number of values	30	30
t, df	t=33.94, df=29	t=55.44, df=29
P value (two tailed)	<0.0001	<0.0001
Significant (alpha=0.05)	Yes	Yes
Discrepancy	20.25	20.71
SD of discrepancy	3.268	2.046
SEM of discrepancy	0.5966	0.3735

95% confidence interval	19.03 to 21.47	19.94 to 21.47
R squared (partial eta squared)	0.9754	0.9907

Discussion:

Nowadays lack of exercise is the major factor in student’s laziness. Hence focusing this factor the present study is carried out. Many times the time is not available for exercise to students in their busy lifestyle hence a schedule required less time for exercise is planned in the present study. The *suryanamaskara*, *pranayam* and Om meditation cycle completes within 20- 25 minutes hence time factor was overcome in the study. The *suryanamaskara* practice is done since ancient time, now it has been experienced that *suryanamaskara* are combination of best physical exercise and yogic breathing. *Suryanamaskara* has various effects on physical health like improving muscle tone, improving functions of circulatory, digestive, respiratory and nervous system. It improves the functions of vital organs like heart, lungs, liver, spleen etc. Practice of *suryanamaskara* increase the body weight by influencing the skeletal muscles but at the same time reduce excessive fat if any. Taking into consideration this important benefit of *suryanamaskara* practice the present study was designed. Results of study accessed with BMI shows the changes in the mean of group after the completion of six months from 20.25 to 20. 71. As the study was conducted to see the results before and after the completion of practices. One sample t test applied to the values before and after which shows significant P value.

Pranayama practice is equally important as *suryanamaskara* in effect on physical health. In *pranayama* mind is passively attached to the process, Mind becomes calm, quite and tranquil because

of slow, smooth and prolonged breathing. *Pranayama* reflexly stimulates cerebral circulation and improves functions of the brain. *Pranayama* is quite different from simple deep breathing because it has got more effect on nervous system than that of respiratory one. Vital capacity of the lungs is the amount of air that one can exhale in deep exhalation. It is about 3.5 liters. Vital capacity/ weight of the body called as vital index. This vital index is considerably increased through regular practice of *pranayama*.

Om chanting creates vibrations in body which gives positive energy to the person throughout the day. During mantra chanting vibrations are experienced in the relative area of the body which in turns gives nervous stimulation to the particular area and affects overall, hence meditation is must after the yoga practices and breathing practices.

Conclusion:

Suryanamaskara are beneficial for preservation of our physical as well as mental health. Practice of *suryanamaskara* daily is possible due to less time consuming, no any diet restrictions during practice, also no any costly instruments required to exercise. *Suryanamaskara* practice is done generally in morning sunlight as morning sunlight is the great source of Vitamin D which is important for bones and joints, ultimately physical health but *Suryanamaskara* can also practiced in evening time with empty stomach. The present study concludes the 12 rounds of *suryanamaskara* daily are beneficial to maintain the physical health.

Nadi Shudhi Pranayama is advised for purification of *Nadis* or Nerve passages in human body. *Nadi Shudhi Pranayama* can be practiced by anyone without any contraindications. It improves oxygenation to the cell and impacts on mental health positively. Meditation or *Dhyana* is done

after the *suryanamaskara* and *pranayama* to achieve complete relaxation. There are various methods of meditation. Om meditation adopted is easy in practice, can be practiced with minimum time to get the benefits of meditation.

Reference-

ⁱ The yoga science for everyone, Prof Dr. Ravindranath R. Javalgekar, Choukhambha Sanskrit Sansthan, Varanasi, second edition.2005

ⁱⁱ "[BMI Classification](#)". *Global Database on Body Mass Index. World Health Organization. 2006. Archived from the original on April 18, 2009. Retrieved July 27, 2012.*

ⁱⁱⁱ Dynamic suryanamaskara Sun Salutations, Krzysztof Stec, Swami Vivekanand Yoga Prakashana, ISBN 978-81-925042-0-9

^{iv} The yoga science for everyone, Prof Dr. Ravindranath R. Javalgekar, Choukhambha Sanskrit Sansthan, Varanasi, second edition.2005, page no 72.

^v The yoga science for everyone, Prof Dr. Ravindranath R. Javalgekar, Choukhambha Sanskrit Sansthan, Varanasi, second edition.2005, page no 82-83.

^{vi} Graph pad prism 8 software for statistics 8.1.2.(332)