

Siddhar Yogam in Clinical Management of COVID-19

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Abstract

COVID-19 causes Severe Acute Respiratory Syndrome (SARS) and was declared a global pandemic by the World Health Organization on 11th March 2020. Many countries across the globe joined their hands to battle against the novel corona virus. Medical experts are working at breakneck speed to find a cure for the highly infectious COVID-19. The corona virus pandemic continues to spread its wings in India. As the number of cases has been increasing, it is important to take care of our immune system to battle the infection. The spread of COVID-19 has put the focus on building our immunity to overcome this pandemic. We believe that the yoga practices, immensely contributes to immunity building. Yoga is one way to naturally uplift our vitality without stepping out of our home during this lockdown. As per Siddha concept, *YOGAM* controls five senses (Touch, Vision, Hearing, Taste and Smell) with the harmonization of mind. *Yogam* is the harmonisation of mind and body, explained in Siddha literatures as eight steps- *Astaangayogam*. *Yoga-asanam*, the third step of *Astaangayogam* depicts various physical postures for the control of mind and body, Where *Pranayamam*, the fourth step of *Astaangayogam*. *Pranayamam*, one of the means to rejuvenate the body, achieved through the art of breathing which has a direct bearing on the basal metabolic rate and the span of longevity.

Key words: *Astaangayogam, Pranayamam, Siddha*

Introduction:

The corona virus disease 19 (COVID-19) pandemic is unique and unprecedented in several aspects and has challenged health care systems. At present,

the global momentum is unabated, and a second wave is anticipated¹.

Why yoga?

“All the orthodox system of Indian

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philosophy has one goal in view, the liberation of the soul through perfection” the method is by yoga.-Swami Vivekananda. Yoga is a spiritual science for the integrated and holistic development of our physical, mental and moral-spiritual aspects of being. The philosophy of Yoga is practical and applicable in our day-to-day living. Yoga has been documented to normalise physiological function and recent advances in the field of research have shown that it has sound scientific basis. Yoga is equanimity at all levels. That is the perfect state of health wherein physical homeostasis and mental equanimity occur in a balanced and healthy harmony²

“ஏற்றிஇறக்கிஇருகாலும்பூரிக்கும்
காற்றைப்பிடிக்கும்கணக்கறிவாரில்லை
காற்றைப்பிடிக்கும்கணக்கறிவாளர்க்கு
கூற்றைஉதைக்கும்குறியதுவாமே”

- *Thirumoolar Thirumanthiram*

Yoga has been reported to reduce stress, anxiety and improves autonomic functions by triggering neuro hormonal mechanisms by the suppression of sympathetic activity. It is known that the regular practice of breathing exercise (*pranayamam*) improves cardiovascular and respiratory functions, enhances the parasympathetic tone and decreases sympathetic activity. It also decreases the effect of stress and strain on the body and improves physical and mental health³⁻⁵.

Most of the people are unaware of the difference between Yoga-asana and physical exercise. Both are not the same albeit they are aimed at maintaining and improving health. There are some differences in terms of scope, methods of practice and effects concerned. Varied components are there in *Yoga-asanam* i.e, controlled breathing, cleansing techniques, meditation, etc. all these are for physical, emotional, mental and spiritual well-being. In spite, physical exercise involves rapid and forceful movements to stay physically fit and in shape. Effect of *Yoga-asanam* is not just on physical body, but on other dimensions of personality like mind, emotions, intellectual, and cognitive functions beyond the physical body.

Various types of *Yoga-Asanam* and therapeutic applications of *asanam* are well explained in Siddha Literature. This article exemplifies the evidence based studies on the beneficial effect of *Yoga-asanam* published in manuscripts and presents the retrospective review on therapeutic application of *Yoga-asanam* mentioned in Siddha literatures.

Yoga for Mental Health

Poor mental health conditions, including stress and depression, are known to increase the risk of acute respiratory infections. Rising numbers of COVID-19 cases and

deaths possibly raise stress and anxiety, while loneliness and depressive feelings are likely due to mandatory social distancing measures. Several measures for mental health are described, including *pranayamam* and meditation. *Pranayamam* is known to improve lung function. Meditation is found to reduce inflammation markers and influence markers of virus-specific immune response⁶. Yoga including meditation could be a simple and useful home-based practice for the prevention and post-recovery management of COVID-19.

Astaangayogam

“இயமநியமமேஎண்ணிலாஆதனம்
நயமுறாபிராணாயாமம்பிரத்தியாகாரஞ்
சயமிகுதாரணையனைஞ்சமாதி
அயமுறாம்அட்டாங்கமாவதுமாமே”

Siddha literatures explained Yogam as *Astaanga Yogam* or *Agatthavam Ettu*

comprising of eight steps namely *Iyamam* (*Nannadatthai / Theethakatral*) – Self-regulations, *Niyamam* (*Nantaatral*) – Observance of good practices, *Asanam* (*Irukkai*) – Postures of Meditation and Therapeutics, *Pranayaamam* (*Valinilai/ Uyirppu*) – Breathing techniques, *Prathyakaram* (*Thogainilai*) - Detachment of the mind from external domains, *Dhaaranai* (*Porainilai*) - Concentration, *Dhyanam* (*Ninaithal*) - Meditation and *Samathi* (*Nosippu*) – Union with super consciousness / Attainment of Salvation⁷.

Among the *Astaanga Yogam* procedures, *Asanam* or *Yogasanam* is the physical postures for the control of mind and body. Apart from its spiritual purpose, Meditation and yoga can also be applied as a therapeutic way to achieve positive health and to cure diseases.



Figure 1. *Astaanga Yogam*

Pranayamam

Pranayamam is an exact science. It is the fourth Anga or limb of *Ashtaanga Yoga*. The effect or fruit of *Pranayamam* is awakening of the sleeping *Kundalini*. *Pranayamam* is a conscious prolongation of inhalation, retention and exhalation. Modern scientific study shows that a man breaths in and out 12,000 liters of air per day. This is according to respiration rate 18/ min and respiration depth of 500cc. the inspired air constitutes about 20% of oxygen and the expired air constitutes about 16% of oxygen. So it indicates that oxygen retained by the body is only 4% (480 liters /day). Similarly the blood does not utilize all its oxygen to the tissues but only 20% is being used. From this, it is clear that there is loss of energy (prana) during every act of respiration and it reveals ancient concept of Siddhars about the wastage and need of conservation of prana⁸.

Yoga is the most important approach for addressing the stress related health issues. The common Yoga intervention includes *asanam*, breathing techniques, relaxation pose (*shavaasanam*) and meditation. A 30-minute interventional study in Australia has successfully demonstrated that yoga and meditation were able to reduce perceived stress in a short duration of time and hence they are

the promising modality for stress management.⁹

For asthma, the breathing component of yoga shows improved lung functions and asthmatic symptoms, but has not proven to be better than standard breathing exercises for those specific outcome^{10,11}.

Thirimoolar pranayamam:

ஏறுதல்பூரகம்ஈரெட்டுவாமத்தால்
ஆறுதல்கும்பகம்அறுபத்துநாலதில்
ஊறுதல்முப்பத்திரண்டதில்ரேசகம்
மாறுதல்ஒன்றின்கண்வஞ்சகமாமே

Purakam is to inhale by left nostril
*mathirai*16

Kumbhakam is to retain that breath for
*mathirai*64

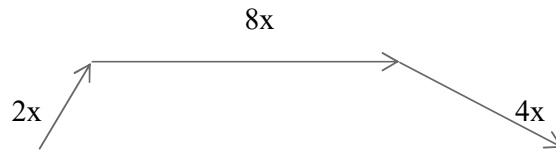
Resakam is to exhale thereafter for
*mathirai*32

Thus alternate from left to right and right to left nostrils with *Kumbhakamin* between has to be practiced.

- Explained in the text called *Thirumanthiram* (verse 568)
- Close the right nostril using right thumb, Sharp inhalation through left nostril
- Close left nostril using right ring finger and hold the breath
- Remove right thumb, slow exhalation through right nostril
- Likewise, sharp inhalation through right nostril
- Holding the breath

- Slow exhalation through left nostril
- These 6 steps represents one *pranayamam*

This practice is time specified and nostril specified. Breathing time measured with 16 *mathirai purakam*, 64 *mathirai kubhakam*, 32 *mathirai resakam*¹².



X= chanting for 8 *mathirai*

Time (*kalam*) for *pranayamam*:

- Early morning within 6.00 A.M to 7.15 A.M
- Afternoon within 12.00 P.M to 1.00 P.M
- Evening within 5.00 P.M to 6.30 P.M
- Midnight within 12.00 A.M to 1.00 A.M

So, the total 4 times/day, Each time i.e *kalam* 20 to 80 *pranayamam* can be done¹³.

Yoga and Pranayamam for building immunity

Yoga is presently considered as a complementary and alternative medicine modality¹⁴. Gardet *al.*, develop a composite top-down and bottom-up theoretical model of yoga using cognitive neurosciences and psychological theory. Their schema attempts to reconcile both peripheral and central mechanisms by which yoga brings about its effect¹⁵. Singh offers psycho neuro endocrine immunological basis for yoga action¹⁶.

Surya Namaskaram

Suryanamaskaram, or Sun Salutations, ideally done by facing the early

morning sun, helps our body to soak in its benefits. Sun rays are a rich source of vitamin D and help to strengthen our bones and also help to get a clear vision. General body endurance depends on skeletal muscle characteristics, oxygen uptake, its circulation and utilization. Performing sun salutation is similar to aerobic exercise as it involves static stretching and slow dynamic component with optimal stress on cardio-respiratory system¹⁹. Incorporating sun salutation in a yoga session significantly contributes an intense physical activity to improve cardio-respiratory fitness in unfit or sedentary individuals²⁰. Yogic practices

increase muscle strength, oxygen uptake, its circulation and utilization^{21,22}. Added to the benefits of yoga, sun salutation

practice leads to improvement in general muscle endurance.

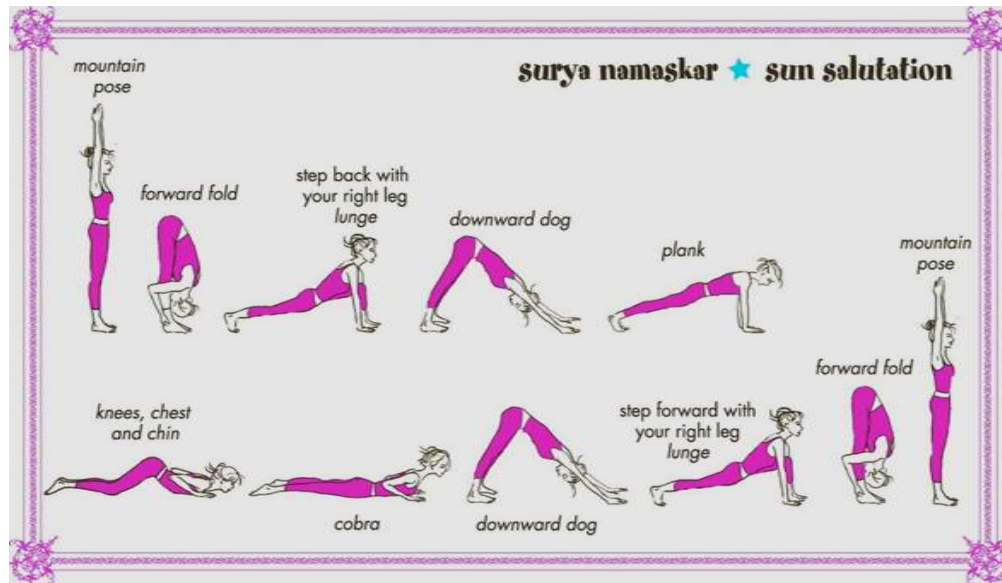


Figure 2. Surya Namaskaram

Conclusion

Effects of yoga will be perceived gradually in the early start. Yoga benefits are perceived in the form of improved flexibility and posture, as well as decreased stress and increased sense of peace. Hainsworth R's study found that inflation of lungs results in decreased peripheral resistance which leads to decreased systemic vascular resistance and DBP. This response is initiated by pulmonary stretch receptors. When there is inflation of lungs, pulmonary stretch receptors decrease systemic vascular resistance²³. Study done by Daly M, De B, Robinson BH, states that the pulmonary stretch receptors cause

withdrawal of sympathetic tone in skeletal muscle blood vessels which results in widespread vasodilatations and it leads to decrease in peripheral vascular resistance²⁴ and hence decrease in the DBP and mean blood pressure. Bernardiet al., found that slow breathing significantly increases sensitivity of baroreceptors. During slow breathing there is relative increase in vagal activity and reduction in both systolic blood pressure (SBP) and diastolic blood pressure (DBP). Yoga and pranayama practices will impact on our emotional, mental, and physical well-being in the most positive and meaningful way

We can conclude that the most effective yoga techniques such as *asanas*, and *pranayama*, are triggers to boost the immune system, improve cardio respiratory fitness, overcomes depression which helps us to battle against covid-19. Minimum

intensity and duration required at least once every day for 4 weeks. The confirmatory studies with higher methodologies are essential to scientifically prove the concepts in Siddha system and to explain the effect of Yoga in different organ system.

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