

REVIEW ARTICLE

Surya Namaskar, Benefits in the Context of Physiological Perspective

Nameet Kumar Patni^{1*}, Durgawati Devi², Sonam Jain³

¹PhD Scholar, Department of Swasthavritta and Yoga, National Institute of Ayurveda (Deemed to be University), Jaipur, Rajasthan, India.

²Professor and Head, Department of Swasthavritta and Yoga, National Institute of Ayurveda (Deemed to be University), Jaipur, Rajasthan, India.

³Assistant Professor, Department of Samhita and Siddhant, MJF Ayurvedic Medical College and Hospital, Chomu, Jaipur, Rajasthan, India.

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ABSTRACT

Introduction: With the recent rise in awareness in increased understanding of the importance of physical activity in promoting overall health, greater emphasis has been placed on improving physical fitness to enhance quality of life. Asian Indians have been practicing Surya Namaskar, a part of Hatha Yoga, for hundreds of years. It is frequently employed in place of a typical workout regimen. It entails a series of asanas that are performed 12 times per cycle. Although Surya Namaskar was neither considered an asana nor a part of classical Yoga, it is now regarded as a component of current yogic practices. Before starting daily tasks, performing Surya Namaskar energizes the practitioner and gives them a fully charged day. The knowledge of energy cost and physiological responses of practicing Surya Namaskar is important and forms the basis for the recommendation of regular practice as part of any training. Based on available research, we emphasize the significance of Surya Namaskar in this review by stressing its impacts on the physiological components of the body.

Methods: Different Ayurveda classics, modern classics, research papers, and journals were referred to fulfill this part.

Results: With the help of research references, the evaluation outlines the practice's physical advantages in terms of improving joint mobility, extending muscle power, and promoting vitality.

Discussion: With the help of research references, the evaluation outlines the practice's physical advantages in terms of improving joint mobility, extending muscle power, and promoting vitality. The physiological aspects of enhancing metabolic rate, stimulating the cardiovascular system, increasing respiratory capacity, enhancing the body's mental health, and ensuring correct endocrine gland function were also covered. The Surya Namaskar movement series, when practiced steadily, patiently, diligently, and sincerely, can balance the human body's internal organ systems.

1. INTRODUCTION

The people in their lives have experienced anguish and suffering at some point, whether it was mental or physical. As a result, the sickness affects everyone and is still being partially treated. Modern medical systems are overwhelmed by the varying sophistication of the technologies due to advancements in science and technology.^[1] Modern synthetic medication effects could have negative chemical repercussions. Regarding it, society starts to worry about its effects. In addition, the cost of contemporary medication is rather high, making it difficult for people with lower/middle-income levels. These factors

have led society to be interested in the conventional health care and treatment system as a substitute.^[2]

The physical and psychological pleasures are more fully satisfied by contemporary lives that lean toward luxury. This will increase the diversity needs that must be satisfied and change people's perspectives. The inability to control one's mind and body may result in mental stress, and worry, and eventually become stressful if one's needs are not addressed.^[3] Many communities try to avoid the problem using drugs of many types, going to the movies or clubs for entertainment, or using sleeping medications to find calm and counteract the harmful impacts of modern life. It can make it easier for people to contract diseases if it persists for a long time.

In light of the aforementioned situation, cultures have a variety of options for maintaining their physical health and preventing diseases.^[4]

Corresponding Author:

Nameet Kumar Patni, PhD Scholar, Department of Swasthavritta and Yoga, National Institute of Ayurveda (Deemed to be University), Jaipur, Rajasthan, India.

Email: nameet.jain1.np@gmail.com

Patiently and methodically performing Surya Namaskar, a yoga pose, is one of the best and most affordable ways. A practice regimen known as Surya Namaskara dates back to a time when people were aware of their spiritual strength and how it was reflected in the physical environment.^[5]

Surya Namaskar is a fundamental component of the yoga method and is simple to incorporate into daily life. It simply takes between 5 and 15 min of practice to see rapid and beneficial outcomes. Therefore, Surya Namaskara is ideal for those who lead active lives, such as business owners, stay-at-home moms, students who must study for examinations or scientists who spend much of their time contemplating.

2. MATERIALS AND METHODS

Different Ayurveda classics, modern classics, research papers, and journals were referred to fulfill this part and shown in figure 1 below.

2.1. Pranamasana

Giving calm in concentrating, keep your breathing calm, orderly, and as comfortable as possible.

2.2. Hasta Uttanasana

Stretch the contents of the abdominal cavity and open the entire lung chamber, inhale as both hands are lifted up and pulled back slightly

2.3. Padahastasana

Massaging the organs related to digestive organs and back leg muscles and reducing fat in the abdomen, exhale until empty stomach when bending body.

2.4. Aswa Sancalanasana

Massaging the abdominal organs, urinary tract, and improving its function and balance of the nerves. This position is to sigh.

2.5. Parwatasana

Massaging and strengthening the nerves and muscles in both arms and legs, flexing the spine, and blood circulation. Exhale

2.6. Astangasana

Massaging and strengthening the chest muscles, leg muscles, and arms. Hold your breath in a blank state.

2.7. Bhujangasana

Stretching and strengthening the spine, massage the back muscles, and melt the fat in the abdomen. Breathe deeply as you lift your body up. The next is a movement that is repeated up to the attitude *pranamasana*.

3. RESULTS

With the help of research references, the evaluation outlines the practice's physical advantages in terms of improving joint mobility, extending muscle power, and promoting vitality.

4. DISCUSSION

4.1. Respiratory System

The spaces or components make up the human lungs. Rarely do people use their entire lungs for normal breathing. The top is rarely

used, whereas the majority solely use the bottom. In contrast to gases containing poisons such as carbon dioxide and dioxide, this scenario leads the lungs to fill up with mounds of unused air. The respiratory system and other bodily systems are gradually impacted by this buildup.^[6] The Surya Namaskar movement series, which employs rhythmic deep breathing tailored to each action, will clear the lungs of undesirable air components and replace them with new, fresher, cleaner air that has been oxygenated. All lung sacs are developed, then stimulated, and cleaned.^[7] As a result, breathing will enhance lung capacity. The automatic blood oxygen level rises, giving the body and brain's cells and tissues enough oxygen and life force. Lethargy will vanish rapidly, and respiratory conditions such as tuberculosis and others will not spread due to mucus buildup.^[8]

4.2. Circulatory System

Exercises such as the Surya Namaskar, body-improvement exercises, or gymnastics can all help our livers perform better. The outcomes can increase blood flow, hasten the removal of harmful waste, give the cells new oxygen and nutrients, and improve blood circulation. Improved blood circulation results from the removal of the blood that accumulates in the spleen and other organs. A heart attack is less likely because of the strengthened heart muscle, doubled coronary arteries, and strengthened heart blood vessels. Blood vessel disease brought on by sluggish blood flow can also be cured. The Surya Namaskar movement series, which consists of patience, diligence, and sincerity, can also improve blood circulation in the lymph nodes, which helps to keep the body's fluids in balance.^[9] This may strengthen the immune system and release more of the body's own natural healing mechanism. Stretching the leg muscles, using the force of gravity backward, and restoring blood flow from the lower body to the heart are all benefits of *Padahastasana* and *Parwatasana*. Training in Surya Namaskar can nourish or enhance blood flow to the body and brain as well as help the body rid itself of pollutants (detoxification).

4.3. Digestive System

Along with a thorough massage of all abdominal cavities, the alternating movements of stretching and emphasis on Surya Namaskar's movements balance the entire digestive system. The poses *padahastasana* and *bhujangasana* are extremely effective at both suppressing and stimulating the abdominal organs. It also boosts the digestive flame, which stimulates appetite and hastens the juices' absorption, in addition to breaking down unneeded substances. The foundation of general health is good digestion. Undigested food will ferment in the stomach and intestines and produce gas, clogging everybody drain. Constipation and other digestive issues can be resolved.^[10]

4.4. Urinary System

The kidney plays a crucial role in controlling the amount of water and salt in the body. It also reduces blood pollutants, which the bladder excretes as urine. The disease-causing nitrogen level of the blood might increase due to kidney diseases, which can also produce a salt imbalance. *Bhujangasana*, *Ashtanga Namaskara*, *Asvasancalanasana*, and *Virabhadrasana* of the spine and back muscles can be developed in a specific way to suppress and gently massage the kidneys when performing Surya Namaskar.^[11] A tendency to develop kidney stones or the emergence of an infection marked by the color of the urine, which is rather black, a strong urine smell, and pain in the kidneys will occur if the kidneys are not smooth or have mild kidney problems. Hence, practicing Surya Namaskar movement series and balanced

drinking enough water, the pain gradually in the waist is getting healed and the urine can be smooth.

4.5. Skin

The largest and most visible element of the human body is the skin. In addition, the skin covers the internal organs of the body, controls body temperature, and sweats out impurities. If our bodies' blood circulation is healthy, toxins that have accumulated in the blood will emerge through the skin in the form of pimples, acne, red spots, and other skin conditions as well as foul odors. By correctly performing the Surya Namaskar practice on a regular basis and with patience, effort, and sincerity, this can be overcome.

Surya Namaskar exercises properly and steadily in the morning will get the sweat out, improve circulation, and encourage toxins reduction through the digestive and urinary systems. All disorders that occur in the skin as mentioned above can be cured.^[12] Likewise, when Surya Namaskar practices in the morning while facing the sunrise, automatic sun-emitted ultraviolet rays will be absorbed by the skin. The ultraviolet from the sun consists of Vitamin D that is very good for the skin's health.

4.6. Nervous System

The asana movement series are found in Surya Namaskar and serves to stretch the spine. Voluntary and involuntary nerves make up the two components of the spine's nerve system. As opposed to the major and unconscious muscle motions such as breathing, heart rate, and glandular secretions, these nerve systems control the bodily activities that are under conscious control. Two subsystems, namely the sympathetic and parasympathetic, make up the involuntary system. The autonomous or autonomic nervous system parts on the left and right sides of the spinal cord are known as the simpaticus and parasimpaticus nervous systems, respectively.^[13] Internal organs such as the heart, lungs, liver, kidney, spleen, and others are affected by its independently operating (autonomous) nature. Our bodies are healthy when they are in a working equilibrium.

4.7. Endocrine System

The most significant and mysterious system of all systems is the endocrine system. A specific organ is controlled by the chemical substances that are released into the bloodstream and distributed throughout the body. This hormone serves as a catalyst, causing other organ stimulants to carry out their particular duties in a coordinated manner.

Patience, persistence, tranquilly, and steadiness of Surya Namaskar training is one effective technique to preserve the balance of the endocrine system. This indicates that every Surya Namaskar movement can maintain the glandular balance of the endocrine system. As a result, when teaching the Surya Namaskar movement, yoga instructors should focus on asana (body movement), pranayama (breathing), and pratyahara (concentration).

5. CONCLUSION

The Surya Namaskar technique, which originated in Indian traditional physical training, is the most extensively used set of asanas. In addition, it differs greatly from contemporary Indian yogic traditions in many ways. With the help of research references, the evaluation outlines the practice's physical advantages in terms of improving joint mobility, extending muscle power, and promoting vitality. The

physiological aspects of enhancing metabolic rate, stimulating the cardiovascular system, increasing respiratory capacity, enhancing the body's mental health, and ensuring correct endocrine gland function were also covered. The Surya Namaskar movement series, when practiced steadily, patiently, diligently, and sincerely, can balance the human body's internal organ systems, particularly those linked to the endocrine, respiratory, circulatory, digestive, urinary, and skin systems. The abovementioned arguments lead us to the conclusion that Surya Namaskar practice is required for everyone, not just regular yogis or spiritual searchers, to preserve one's physical, physiological, and mental health while devoting as little time as possible to it. This exercise helps kids grow better not only physically but also mentally if it is introduced to them when they are 7 or 8 years old. For the sake of the entire family's health, we suggest that Surya Namaskar practice be done as a family activity. Surya Namaskar is a blessing for individuals who desire to participate in yogic activities but cannot commit even an hour each day.

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11. DATA AVAILABILITY

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