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*Research Article*

## **Yogic Approaches For Primordial Interventions For Lifestyle Disorders And Comorbid Complications**

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**Abstract:** Nowadays, people are suffering from a variety of health problems as a result of their sedentary and poor daily lifestyle choices. Modern urban fast-paced lifestyle transitions include frequent air travel, sedentary desk occupations, long-standing, less frequent use of stairs, long driving, late night sleeping, excessive screen time, high-risk culture, malnutrition, stress, and a lack of exercise. This is exacerbated by irregular eating times, which is the leading cause of health complications at a young age. Many non-communicable diseases are also caused by these lifestyle choices. Yogic lifestyle, yogic practices, yogic diet, and other yoga kriyas are more advantageous in terms of lowering the risk of health problems, improving health, strengthening the immune system, and meeting nutritional needs. Asanas, Pranayamas, Mudras, Meditation, and Satkarmas are yogic practices that boost blood circulation, relax the mind, maintain bodily postures, promote muscular relaxation, aid in daily lifestyle habits, and improve concentration power. Yogic practices that are more beneficial in the therapy of lifestyle disorders are discussed here, such as psychological reconditioning and physiological development of right attitudes; stress management; metabolic normalization; relaxation, visualization, and contemplative practices.

**Keywords:** health, lifestyle complications, non-communicable disease, yogic practice, diet, immune system, asanas, and meditation.

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### **Introduction:**

The Yogic lifestyle is a most essential key that helps to attain that state of not only physical health but mental and social health also. We must know that yoga and our ancient medicine systems are evidence-based systems, which are more effective, affordable, and have no adverse effects. The holistic science of yoga is the best-designed and most effective for many lifestyle

complications like disc dislocation, sciatica, diabetes, hypertension, migraine, insomnia, heart disease, cancer, arthritis, stroke, obesity, osteoporosis, Polycystic Ovarian Disease (PCOD), Polycystic Ovarian Syndrome (PCOS), depression, dementia, chronic kidney failure, metabolic syndrome, colitis, irritable bowel syndrome, Asthma, Alzheimer disease, liver cirrhosis, fatty liver, chronic obstructive pulmonary disease, atherosclerosis,

Spondylitis, etc. Yoga needs to be viewed as more than just a physical practice, according to recent research, which has started to concentrate on its psycho-physiological health benefits (1).

According to the World health organization (WHO), Yoga is a valuable tool to increase physical activity and decrease non-communicable diseases. The regular practice of yoga, a 5000-year-old tradition, is a helpful tool for people of all ages to make physical activity an integral part of life and attain the level needed to maintain good health (2) as underlined in WHO's newly released Global Action Plan on Physical Activity 2018-2030 that entails at least 60 minutes per day of strenuous to moderate-intensity exercise for kids and teenagers ages 5 to 17. Adults need at least 150 minutes per week of moderate-intensity exercise (3).

Lifestyle diseases are linked to the way an individual or group of individuals conducts their daily activities. In other words, diseases classified as lifestyle non-communicable diseases are those whose occurrence is mostly based on a person's daily routine and is a result of that person's incorrect interaction with their environment. India is one of the countries, World Health Organization (WHO) has recognized as having the majority of lifestyle-related illnesses soon (4). But the crucial point is that lifestyle problems are not only increasing in prevalence but also displaying a sharp shift towards the younger generation. So Yogic lifestyle (Dincharya & Ritucharya) is the need to reduce lifestyle complications or non-communicable diseases. As a result, a yogic lifestyle (Dincharya & Ritucharya) is required to prevent lifestyle problems or non-communicable diseases (5).

A yogic diet helps to reduce the complications of lifestyle disorders. Sattvic, Rajasic, and Tamasic meals all have different features and health benefits when it is included in yogic practices. Sattvic foods are considered to be pure and balanced, promoting feelings of serenity, joy, and mental clarity. The word "sattvic" means "pure essence". Fresh fruits and vegetables, sprouted grains, legumes, roots, tubers, nuts, cow milk, curd, and honey are all components of the sattvic diet. The tamasic diet includes high-fat fried foods, salt, sugar, spices, chilies, onion, garlic, meats, butter, and liquor that are said to promote weakness and laziness, while foods that are rajasic (spicy, hot, bitter, sour, and pungent) are described as too stimulating. Sattvic foods are seen to be the healthiest of the three, and Sattvic diets are linked to high intakes of micronutrients and vitamins (6). According to Ayurveda, the Sattvic diet is the finest option for improving lifespan, physical fitness, and mental health (7). In a study, Sattvic foods were tested to study their effects on psychological mood using EEG (electroencephalography)(8). Sattvic foods (obligatory thermogenesis) produced Alfa readings, indicating a vibratory state of mental peace and serenity, whereas Rajasic foods (Adaptive thermogenesis) produced more Beta Waves, creating restlessness and worry in the mind. Cleansing techniques are part of most indigenous health systems, in Yoga & Naturopathy. The Hatha Yoga Pradipika, Gheranda Samhita, Shiva Samhita, and Hatha-Ratnavali are the four main scriptures of the Hatha Yoga tradition. Among them, the Gheranda

Samhita and the Hatha Yoga Pradipika discuss the process of purification of the body using six different types of purification techniques (9,10). The subtypes and advantages of the Shatkriya are thoroughly described in the Gheranda Samhita (11). The major goal of Shatkriya is to balance the body's three senses of humor (tri dosha), which are mucus (kapha), bile (pitta), and wind (vata) (9). Dhauti (internal purification), Basti (yogic enema), neti (nasal purification), trataka (concentrated gazing), nauli (abdominal massage), and kapalabhati are the Shatkriya practices (frontal sinus cleansing) (9). These six cleansing practices in Yoga are known as Shatkarma, which are said to promote health and well-being by purifying the whole body (9).

### **Research on Yoga & Lifestyle Diseases:**

Comprehensive evaluations have revealed that yoga lowers the risk of cardiovascular disease profile by reducing the activation of the hypothalamic-pituitary-adrenal axis and the sympathoadrenal system & also by encouraging a sense of well-being and directly increasing parasympathetic activity(1). The study also suggested that yoga offers a beneficial kind of social support, which may also be a factor in lowering the risk of heart disease. Yoga appears to improve lipid profiles, which is a significant risk factor for heart disease.

Yoga-based stress management and lifestyle adjustment programs have been shown to significantly lower risk factors for diabetes and cardiovascular disease within nine weeks. Yoga interventions are helpful in lowering body weight, blood pressure (BP), glucose levels, and high cholesterol, according to a comprehensive evaluation of 32 papers published between 1980 and 2007 (12,13).

Studies carried out in Puducherry, India Bhavanani Sanjay Madanmohan 2011 (14), Bhavanani Ramanathan 2012, Bhavanani Madanmohan Sanjay 2012, (15) Bhavanani Madanmohan Sanjay and Basavaraddi 2012 (16,17), Bhavanani Madanmohan 2012, S. Zeena and Vithiyalakshmi 2012 (18), Madanmohan Bhavanani Sanjay Vithiyalakshmi Dayanidy 2013 (19) have recorded the instantaneous effects of several pranayamas in hypertension where yoga has been demonstrated to be an efficient adjunct therapy.

Other notable research on coronary artery disease (20), (21), (22) conducted as prospective, randomized controlled trials have proven the benefits of Yoga in coronary artery disease. With the use of yoga therapy, researchers were able to treat illness patients and show that lifestyle changes based on yoga can enhance myocardial perfusion and cause coronary lesions to regress. The preventative and therapeutic benefits associated with a yogic lifestyle on a few controllable risk factors may be the cause of coronary artery disease. Patients with hypertension were researched using various pranayamas and theories regarding the mechanisms underlying normal decreases in heart rate, systolic pressure, diastolic pressure, and mean blood pressure and blood pressure markers including rate-pressure product and double product calculations were made. Sukha (inhalation: exhalation) Savitri (6:3, 6:3) Chandra nadi exclusive left nostril breathing, and Pranava pranayamas using loud Aum chanting during

extended sequential exhalation in sitting and supine positions have all been found to have instant benefits. These alterations were ascribed to the stabilization of autonomic cardiovascular rhythms brought on by increased vagal regulation, decreased sympathetic activity, improved baroreflex sensitivity, and increased endogenous nitric oxide generation.

It was suggested that the prolonged exhalation phase of Pranava pranayama mimicked the Valsalva maneuver and lowered venous return, cardiac output, and systolic pressure. These discoveries may have therapeutic implications for both commonplace and clinical circumstances where it is urgent to lower blood pressure. These straightforward and affordable methods can be used in conjunction with standard medical treatment to manage hypertension (15).

A retrospective review by the Centre for Yoga Therapy Education and Research (CYTER)(23)sought to ascertain the cardiovascular effects of every individual yoga session in 1896 healthy adults and patients. Yoga can be capable of exerting favorable effects even in a single session. Clinical data of different illness disorders were examined after just one yoga session the CYTER team discovered a healthy decrease in heart rate, blood pressure, and other cardiovascular markers which is determined by the pre-existing medical condition and the yoga therapy technique used. These modifications were linked to improved cardiac autonomic function due to coordinated breath-body work and yoga-induced mind-body calm.

#### **Intervention:**

The following fundamental yogic principles are employed in the treatment of lifestyle disorders (24)(19):

1. Psychological reconditioning and development of appropriate attitudes such as yama-niyama achatur bhavana and pratipaksha bhavanam
2. Stress management through counseling jathis, loosening techniques, asanas, postures, kriyas, systematic rational breath body coordination movements, and pranayama breath energy harmonizing techniques
3. Helping to normalize metabolic activity through physical activity such as Surya namaskar, asanas, kriyas, and pranayama
4. Using meditation, visualization, and relaxation techniques can help us to feel calm and peaceful inside.

Swami Kuvalayananda, the originator of Kaivalyadhama, asserts that being in good health is more than simply being free from illness; rather, it is the pinnacle of well-being on all levels, including the physical, mental, emotional, social, and spiritual (25). As a result, the goals of yogic intervention are to promote good hygiene and health by enhancing the body's and mind's innate natural abilities. Yoga does this while paying particular attention to various elimination processes and reconditioning the body and mind's natural adaptability and adjustment abilities (26). Humans naturally possess the capacity for positive adaptation and adjustment, which enables them to experience good health rather than just being free from

disease. He stresses that yoga leads to nadi shuddhi, or the purification of all channels of communication, and mala shuddhi, or the elimination of elements that disrupt the harmonious operation of the body and mind(27).

According to Swami Kuvalayananda, Yoga promotes good health through the following three crucial steps(25):

1. Formation of the right psychological attitudes (maitri, karuna, mudita, and upekshanam) toward the sukha, dukha, punya, and apunya
2. Retraining the body's neuromuscular and neuroglandular systems will improve its ability to resist stress and strain.
3. Putting a strong emphasis on a diet that will keep us at such a peak level of health and stimulate our body's natural elimination processes through different nadi shuddhi or shuddhi mala.

It's critical to have a healthy lifestyle and do healthy things to live a long and healthy life. There is a pandemic of lifestyle disorders in modern society that need deliberate modifications by people on their own. Yoga focuses tremendous emphasis on leading a proper, healthy lifestyle, which consists primarily of the following: (24), (19).

- a) **Achar:** Yoga suggests performing asanas, pranayamas, and kriyas regularly and emphasizes the value of healthful activities like exercise and improvement in Achar (discipline) is one of the most important aspects of principal outcomes of such healthy activities.
- b) **Vichar:** Well-being depends on having the proper thoughts and the right attitude toward life. By abiding by moral guidelines and ethical observances, one can achieve a state of mind that is balanced (yama-niyama) (28). There is plenty on this planet to meet everyone's needs, but not enough to satisfy any one person's greed, as Mahatma Gandhi once said.
- c) **Ahar:** Yoga places a strong emphasis on the importance of eating a balanced diet rich in fresh foods, green salads, sprouts, plenty of fresh water, fresh fruits, and unrefined grains. It is crucial to understand the necessity of a sattvic diet that is made and served with love and care.
- d) **Vihar:** Good health requires appropriate leisure activities that help the body and mind unwind. This entails maintaining a state of calmness throughout the action; speech and thought as well as group actions that make one lose their sense of identity. Karma Yoga is a great way to let go of our sense of individualism and embrace the universe (29).

#### **Yogic Approaches to Prevent & Management of Lifestyle Complications:**

##### **Yogic Principles and Practices:**

The cultivation of proper attitudes through the formation of yogic attitudes toward every aspect of life is crucial to combat lifestyle illnesses. The therapist should promote the attitudes preached by Maharishi Patanjali (maitri, karuna, mudita, and upekshanam) to achieve mental clarity (Chittaprasadhanam) (30). The need of

having the opposite perspective toward negative thoughts and deeds (Pratipakshabhavanam) must be emphasized by the therapists, along with the cultivation of Karma Yoga, Raja Yoga, and Bhakti Yoga principles in daily life.

### Healthy and Nutrient-rich diet:

According to ancient Hindu Vedas, "Annam is Aham," which means "you are what you eat" (31). The significance of achieving a healthy body through food cannot be overstated, as malnutrition in both its forms undernutrition (wasting, stunting, underweight, and micronutrient deficiencies) and overnutrition (obesity and other non-communicable diseases (NCDs)) pervades all nations (32, 33). Poor nutrition impairs growth and development, hampering our ability to perform optimally. Regular meals should be eaten and there should be enough green vegetable salads, sprouts, fenugreek, turmeric, and bitter gourd & neem (34). The diet should have the least amount of salt possible and should be sufficient in potassium and calcium, which are found in fruits and low-fat dairy products (35). Maintaining adequate hydration is crucial, and therapists must emphasize that losing a few kilograms of body weight will assist lower blood pressure and improve insulin sensitivity. Some helpful advice is to eat when

you're hungry and after your previous meal has been digested, eat frequent, short meals of complex carbohydrates, and avoid processed foods and junk food (36). Plant-based foods have been found to lower the rates of mortality, heart disease, and other lifestyle chronic illnesses by the presence of phytochemicals (non-nutrients), dietary fiber, antioxidants, vitamins, and minerals. Guggulu, arjuna, turmeric, sarpagandha, neem, amla, fenugreek, and maharishi amrit kalash (a blend of fruits and herbs) are some of the ayurvedic plant-based foods that have a positive impact on cardiovascular health and diabetes (37). A systematic review of the clinical trials on the sattvic diet and all-cause mortality by Gosh in 2021, showed an inverse relationship between whole grains, fruits, and berries (when included in a diet with vegetables and fruits) for either cardiovascular diseases (CVD), cancer, coronary heart diseases (CHD), or all-cause mortality. Yoga practitioners get benefits from wheat, rice, barley, maize, milk, ghee, sugar, butter, sugar candy, honey, dried ginger, patola fruit, fresh vegetables, moong, unripe plantain, and pure water (38). The general population should be made more aware of the potential benefits of a yogic diet to reduce the prevalence of malnutrition and NCDs.



**TABLE1. Some important functional compounds and phytochemicals in various food sources with their mechanism of action:**

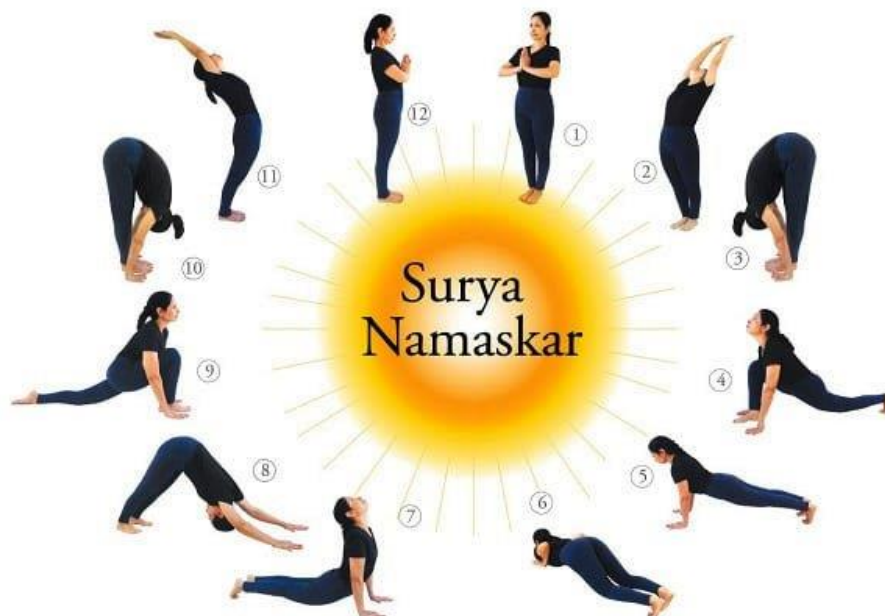
Functional & phytochemical	ingredients	Food source	Effects/mechanism
Fibre		Whole grains, legumes, pulses, fruit pulp, vegetables	Cholesterol-lowering activity
Lycopene, Carotenoids		Tomato, watermelon, carrots, Green leafy vegetables (GLVs), bell peppers, fruits	Antioxidant, anti-inflammatory, anti-cancerous activity, LDL oxidation prevention
Curcuminoids		Turmeric	Lipid-lowering effect
Quercetin.		Broccoli	Blood pressure lowering
Glucosinolates, Sulforaphanes, Isothiocyanates	Indoles,	Cruciferous Vegetables	Anti-cancerous activity
Flavonoids		Tea, apples, peaches, onions, berries, cocoa	Antioxidant, antiproliferative, anticancer, anti-hypertensive activity, LDL oxidation prevention
Lignans (phytoestrogens) Isoflavones		Linseeds, fruits & vegetables Soybean	Estrogenic activity

Source: Mamtani & Mamtani (44), Ruhee et al. (45), and Kaur et al. (46).

### **Breathe Body Movement Practices**

The importance of techniques that improve mind-body harmony by utilizing "breath-linked motions" should be focussed. Practices such as Sukshma vyayama and Sheetalikarana vyayama in addition to the enjoyable jathis of the Gitananda tradition are beneficial (26).

When performed slowly while paying attention to one's breathing, the Suryanamaskar can also result in psychosomatic harmony. The postures can also be kept for a little length of time without strain if one is mindful of the Surya mantras (names of the sun) (39).



Source: Yogic lifestyle

1. **Om Mitrāya Namah** (Salutations to the friend) – Pranamasana Breathe out, stand upright, with your hands in the prayer position. Look inwards.
2. **Om Rāvaye Namah** (Ever shining Salutation) – Hasta Uttanasana Breathe in, raise your hands up, gently bend towards the back. Look upwards.
3. **Om Sūryāya Namah** (cosmic light Salutations) – Pada Hasta Asana Breathe out, bend frontward, stretch your legs, press your palms on the floor, on the sides of your feet. Look downwards.
4. **Om Bhānave Nama** (Salutations to the illuminator) – Anjaneya Asana Breathe in, stretch your right leg far behind. Arch your spine. Look frontwards.
5. **Om Khagāya Namah** (Salutations to the performer) – Adho Mukha Svanasana Breathe out, move your left leg far behind. Line up your legs back and stretch your limbs. Look downwards.
6. **Om Pusne Namah** (Salutations to the nourisher) – Ashta Anga Namaskara Breathe in, move your toes under, knees down and hips up. Breathe out, by looking downwards while touching your chest and chin on the floor.
7. **Om Hiranya Garbhāya Namah** (cosmic power Salutations) – Urdhva Mukha Svanasana Breathe in and raise your head and chest, raise your thighs and pelvis off the floor. Stretch frontward and arch your back. Look upwards.
8. **Om Maricāye Namah** (cosmic rays Salutations) – Adho Mukha Svanasana Breathe out, press your palms and feet on the floor, raise your hips up and lower your head. Stretch your legs and hands. Look downwards.
9. **Om Adityāya Namah** (Salutes to the son of Aditi) – Anjaneya Asana Breathe in, move your right foot frontward between your palms. Stretch your left leg back. Arch your back and open your chest. Look forward.
10. **Om Sāvitre Namah** (Salutations to the stimulator) – Pada Hasta Asana Breathe out, move your left foot forward, straighten your legs, bend frontward. Stretch your hands downwards, bend down your head. Look downwards.
11. **Om Arkāya Namah** (Salutes to the elixir of life) – Hasta Uttanasana Breathe in, roll up, straighten your back, stretch your hands up and look backward. Look upwards.
12. **Om Bhāskarāya Namah** (Salutations to the enlightener) – Pranamasana Exhale, stand upright, with your hands in the prayer position. Look inwards.

### **Yogic Asanas**

According to the patient's physical state and any other related health issues, modified versions of the following asanas may be used. In standing positions asanas like Padottanasana, Trikonasana, Tadasana, Mehru Asana, Hastapadasana, and Padangusthasana are beneficial. Bhujangasana and Ardhashalabasana are advantageous



in prone positions, whereas Vakrasana, Gomukhasana, Ustrasana, and Yoga mudrasana are advantageous in seated positions. Matsyasana, Pavanamukta asana, Eka

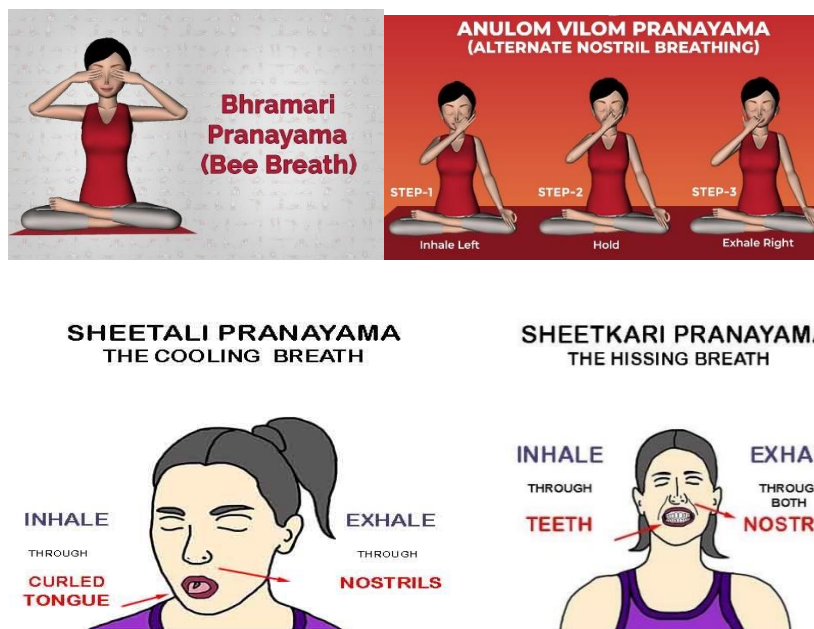
and Dwipada Uttanpadasana, and others are among the supine positions.



Baroreceptor reflex mechanisms that control blood pressure may be reset by adopting topsy-turvy positions. If the patient is unable to perform asanas like Sarvangasana and Sethu Bandhasana, this may also be

accomplished via "head-below-heart" postures that accomplish the same thing (2, 26).

#### Yogic Pranayam:



Source : Yogic Life Style

Chandra bhedan & Chandranadi pranayamas are helpful to reduce sympathetic hyperactivity in addition to vibhaga and pranava pranayama. Savitri nadi shodhan pranayama, anulom viloma, and bhamari pranayamas

are good practices to decrease stress levels and Sheetal and sitkari pranayamas also help in relaxation (26).

### Yogic Kriyas to cleanse toxins:



Source: Yogic Life Style

Patients can practice cleansing techniques to reduce the risk of lifestyle diseases. Neti, dhauti, basti, nouli, tratak, and kapalbhati are yogic kriyas that help to flush toxins out from the body. These techniques are more powerful yogic practices to prevent and manage lifestyle complications.

### Mudra:

Viparitkarani mudra helps to reduce the effect of the heart and psycho neuro-endocrine axis (40).



VIPARITKARANI MUDRA



SHANMUKI MUDRA

Shanmuki mudra helps to the inner calm of tranquility, while Brahma mudra with breath and vibration (Nada) promotes a feeling of rest and revitalization and decreases stress, and restores the natural function of reflex systems in the head and neck area (41).

### Meditation & Relaxation

In Shavasana posture, you can practice the relaxation techniques of hatha yoga such as Marmanasthanam Kriya and Spandha-Nishpandha Kriya alternating tension and relaxation (42).



SHAVASANA

Part-by-part relaxation plus kaya kriya dynamic body relaxation yoga nidra and anuloma-viloma kriya two yogic relaxation techniques that can ease stress and promote psychosomatic harmony, (26) even basic Makarasana is a wonderful stress reliever and helps people with various psychosomatic ailments (43). The well-liked meditation techniques om-japa and ajapa-japa are examples of concentration exercises.

### Conclusion

Yoga has evidenced enormous promise for preventing and treating lifestyle-related illnesses and a yogic lifestyle can significantly enhance the health of the general public. Yoga has the potential to halt the disease's course and if began early perhaps even to produce a cure. The majority of studies on the relation between yoga and heart health indicate promising results which are encouraging for the future of healthcare in

general and the integration of yoga into integrative healthcare systems in particular yogic lifestyle components. Healthy eating habits, exercise, relaxation, and a happy outlook as well as the psychosomatic balancing effects of pranayama and yogic relaxation may be accountable for the majority of its health advantages. According to tradition, yoga refers to both the process and the achievement of a state of psychosomatic harmony and balance (Samatvam Yoga Uchyate Bhagavad Gita) (27) and the restoration of physical mental emotional, and spiritual balance may be the driving force behind all short- and long-term studies. Yoga, it has been correctly stated, is generally safe, simple to learn, and can be practiced by even the sickest elderly or disabled people with no discernible side effects and numerous collateral benefits. It has also been suggested that it be considered as a beneficial adjuvant for patients with such disorders because it is a safe, simple, and cost-effective therapy.

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