

Effect of Surya Namaskar and Chandra Namaskar on Hormonal Balance among Menopausal Women

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Abstract:

Menopause is a natural physiological transition in every woman's life characterized by the permanent cessation of menstruation. During this phase women commonly experience vasomotor symptoms, mood disturbances, insomnia, anxiety, vaginal dryness, osteoporosis, and cardiovascular risks. The decline in estrogen and progesterone levels significantly affects physical and psychological well-being. Yoga is considered an effective holistic therapy for improving health during menopausal transition. Surya Namaskar and Chandra Namaskar are yogic sequences that support endocrine balance, mental relaxation, flexibility, and emotional stability. Surya Namaskar energizes the body and stimulates circulation, whereas Chandra Namaskar has cooling and calming effects on the nervous system. Regular practice of these yogic techniques may help prevent or reduce menopausal symptoms naturally and improve quality of life.

Keywords: Menopause, Menopausal syndrome, Surya Namaskar, Chandra Namaskar, Yoga therapy, Women's health

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Introduction

Women nearly spend their one-third life after menopause thus it is necessary to pay attention towards pre and post-menopausal symptoms. Menopause is a phase of women's life marked with cessation of menstrual cycle after 12 consecutive months of amenorrhea. In modern medicine estrogen replacement therapy is most effective treatment, but it has its own limitations. Yoga is an ancient science to maintain one's health and prevent disease and a therapeutic tool to achieve positive health and cure diseases. Yoga is basically restraint of activities of mind. Many studies have been conducted to investigate the effect of yoga in menopausal symptoms. Surya namaskar and Chandra namaskar involve a series of dynamic yoga posture performed in a sequence along with specific breathing pattern. Various asanas in Surya namaskar and Chandra namaskar stimulates the organs which in turn help to prevent menopausal symptoms. In order to prevent menopausal syndrome regular practice of Surya namaskar and Chandra namaskar from the age of 35 yrs can be helpful. Thus Yoga lessens the negative impact of stress and promotes multiple positive downstream effects on metabolic

function, neuroendocrine status and various vascular complications. The World Health Organization defines natural menopause as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity without an obvious intervening cause and is confirmed only after 12 consecutive months of amenorrhea. (Pallikadavath, Ogollah, & Stones, 1998) ¹The natural menopause occurs between 45 and 55 yrs of age ²In India, the range of mean age at menopause reported in different studies appears to be rather young, between 41.9 and 49.4 ³. Surya namaskar or sun salutation is of ancient origin and serves as the cornerstone upon which the science of Yoga rests. This is the unique combination of Asana, Pranayama and meditation. It can be considered as ideal way to practice Yoga; it helps to develop the strength of the body and mind on the one hand and spiritual focus on the other ⁴. Surya namaskar is a process to harness solar energy to build a dimension within you where your physical cycles become in sync with the Sun's cycles. Chandra namaskar is an invention of the late 20th century. The Bihar school, which is a yoga school in India founded in the 1960s, first published the sequence in Asana Pranayama Mudra Bandha in

1969. The twelve positions of Surya namaskar relate to the twelve zodiac or solar phases of the year, the fourteen positions of Chandra namaskar relate to the fourteen lunar phases ⁵.

Material and Methods

The present review article is based on literary sources including Ayurvedic texts, modern medical literature, yoga texts, research articles, and scientific journals related to menopause and yoga therapy.

Discussion:

Post-Menopausal Syndrome

Post-menopausal syndrome includes symptoms that appear before, during, and after menopause. The symptoms may affect physical, emotional, and social well-being.

Symptoms Related to Menopausal Syndrome ⁶

- Hot flashes
- Irritability
- Mood swings
- Insomnia
- Vaginal dryness
- Stress incontinence
- Osteoporotic symptoms
- Depression
- Anxiety
- Difficulty concentrating
- Headache
- Vasomotor symptoms

Principal Health Concerns of Menopausal Women include⁷

1. Vasomotor symptoms
2. Urogenital atrophy
3. Osteoporosis
4. Cardiovascular disease
5. Cancer
6. Psychiatric symptoms
7. Cognitive decline
8. Sexual problems

Menopausal Symptoms and Their Management⁸

The core 4 symptoms: Vasomotor, Vaginal Atrophy, Insomnia and Moods.

1) Vasomotor Symptoms:

Hot flashes are reported by up to 85% of menopausal women. Narrowing of the thermoregulatory system in association with fluctuations in or loss of estrogen production. In the past, hot flashes were thought to be related solely to a withdrawal of estrogen. However, there is no acute change in serum estradiol during a hot flash. Others have related hot flashes to variability in both estradiol and follicle stimulating hormone (FSH) levels. It is thought that decreased estrogen levels may reduce serotonin levels and thus up regulate the 5-hydroxytryptamine (serotonin) (5-HT_{2A}) receptor in the hypothalamus. This activation changes the set point temperature and results in hot flashes. Regardless of the exact cause of the hot flash, both hormone therapy and nonhormonal regimens can help to relieve vasomotor symptoms.

Hot flashes are one of the most common menopausal complaints and are reported in the majority of menopausal women. Hormonal fluctuations affect thermoregulatory mechanisms and produce sudden sensations of heat, sweating, and discomfort.

2) Vulvovaginal Atrophy:

The fluctuations in estrogen lead to vaginal dryness or dyspareunia in association with menopause. Furthermore, the urinary tract contains estrogen receptors in the urethra and bladder, and as the loss of estrogen becomes evident, patients may experience UI. Menopausal hormone therapy (MHT) is an effective treatment of vaginal atrophy and dryness. For this systemic or vaginal estrogen is used, although locally applied estrogen is recommended and can be administered in very low doses.

Reduction in estrogen levels causes vaginal dryness, discomfort, and urinary disturbances. Local estrogen therapy and lifestyle modifications are commonly recommended.

3) Sleep Disturbances and Insomnia:

Sleep quality generally deteriorates with aging, and menopause. Over time, reports of sleep difficulties increase in women such that by the post menopause more than 50% of women report sleep disturbance. Women with mood disorders, particularly anxiety and depression, may experience difficulty falling asleep and/or early awakening. Treatment of sleep complaints depends on the clinical findings. Sleep apnea is often treated with continuous positive airway pressure devices. Restless leg syndrome can be treated with dopamine agonists, gabapentin, and opioids. Hormone therapy can be considered for women with difficulty maintaining sleep because of vasomotor symptoms but seems to be effective mostly in postmenopausal women with surgically induced menopause.

Menopausal women frequently report poor sleep quality, insomnia, and fatigue. Psychological stress and hormonal changes contribute significantly to sleep disorders.

4) Adverse Mood and Depression:

Women with episodes of depression are still 2 to 4 times more likely to experience a depressive episode during the menopause transition compared with the pre menopause. Anxiety symptoms have been found to precede depression in some instances, and anxiety may also be viewed as increasing a woman's vulnerability to a midlife depressive episode. A depressive episode can be classified as mild, moderate, or severe, with or without psychotic symptoms. Psychotic symptoms can include hallucinations (usually auditory perceptual disturbances) and delusions (false beliefs). A depressive disorder may be recurrent if a patient has had an episode in the past. Treatment is often tailored to patient preference and severity of depression. A more severe episode would require combined psychotherapy and pharmacotherapy. A

mild to moderate episode may respond to either psychotherapy or an antidepressant alone. Yoga is a group of physical, mental and spiritual practices or disciplines. Yoga in Indian traditions, however is more than physical exercise, it has a meditative and spiritual core.

Anxiety, irritability, emotional instability, and depression are common psychological manifestations during menopause. Yoga and relaxation practices may help improve emotional balance and mental health.

Yoga and Menopausal Health:

Yoga is a combination of physical, mental, and spiritual practices that improve body awareness, flexibility, breathing efficiency, and emotional stability. Yogic practices stimulate the parasympathetic nervous system, reduce stress hormones, and improve endocrine function.

Benefits of yoga during menopause include:

- Improved sleep quality
- Reduced anxiety and stress
- Better flexibility and muscular strength
- Improved circulation
- Enhanced emotional stability
- Hormonal balance

Surya Namaskar (Sun Salutation):

Surya namaskar involves a series of dynamic yoga postures performed in a specific sequence. A brisk Surya namaskar performed in an energetic way increases cellular requirements for oxygen and glucose. To meet these requirements, insulin production is stimulated through brain signaling. Surya namaskar helps in better calorie burn also helps in loosening up, stretching, massaging and toning all the joints, muscles and internal organs of the body. It is the most useful methods of inducing a healthy, vigorous and active life while, at the same time, preparing for spiritual awakening and the resulting expansion of awareness. Surya namaskar is a sequence of 12-consecutive poses, producing a balance between flexion and extension, performed with synchronized breathing. It is a complete sadhana, spiritual practice, in itself for it includes asana, pranayama, mantra and meditation techniques. In yoga the sun is represented by pingala or surya nadi, the pranic channel which carries the vital, life-giving force⁹

Table 1: 12 Steps of Surya Namaskar

Position	Asana
Position 1	Pranamasana (prayer pose)
Position 2	Hasta Utthanasana (raised arms pose)
Position 3	Padahasthasana (hand to foot pose)
Position 4	Ashwa Sanchalanasana (equestrian pose)
Position 5	Parvatasana (mountain pose)
Position 6	Ashtanga Namaskara (salute with eight parts or points)
Position 7	Bhujangasana (cobra pose)
Position 8	Parvatasana (mountain pose)
Position 9	Ashwa Sanchalanasana (equestrian pose)
Position 10	Padahasthasana (hand to foot pose)
Position 11	Hasta Utthanasana (raised arms pose)
Position 12	Pranamasana (prayer pose)



Fig 1-12: Steps of

Suryanamaskara

Table 2: Asana with their Corresponding Chakras¹⁰

Asana	Chakras
Pranamasana	Anahata
Hasta Utthanasana	Vishuddha
Padahasthasana	Swadhishtana
Ashwa Sanchalanasana	Ajna
Parvatasana	Vishuddha
Ashtanga Namaskara	Manipura
Bhujangasana	Swadhishtana
Parvatasana	Vishuddha
Ashwa Sanchalanasana	Ajna
Padahasthasana	Swadhishtana
Hasta Utthanasana	Vishuddha
Pranamasana	Anahata

Benefits of Surya Namaskar:

Surya namaskar practice as a whole gives a great number of benefits. It stimulates and balances all the systems of the body, including the endocrine, circulatory, respiratory and digestive systems. Its influence on the pineal gland and the hypothalamus helps to prevent pineal degeneration and calcification. This balances the transition period

between childhood and adolescence in growing children. This removes carbon dioxide from the lungs and replaces it with fresh oxygen, increasing mental clarity by bringing fresh, oxygenated blood to the brain. It helps in reduction in diastolic blood pressure, improved cardiorespiratory fitness, myocardial perfusion, serum cholesterol, upper limb muscle endurance, body flexibility, balance, bone density, and overall positive benefits for weight and physical fitness management. In a study, a yoga intervention consisting of 25 minutes of Surya namaskar along with other yoga postures and a deep relaxation technique in premenopausal women resulted in a significant decrease in diastolic blood pressure and hip circumference, and beneficial effects on glycemic outcomes.

Chandra Namaskar (Moon Salutation):

It's an invention of the late 20th century. The Bihar School, which is a yoga school in India founded in the 1960s, first published the sequence in Asana Pranayama Mudra Bandha in 1969. The twelve positions of Surya namaskar relate to the twelve zodiac or solar phases of the year, the fourteen positions of Chandra namaskar relate to the fourteen lunar phases. The lunar energy flows within Idanadi. It has cool, relaxing and creative qualities. Ida is the negative, introverted, feminine or mental force which is responsible for consciousness. One must learn Surya namaskar before attempting Chandra namaskar as the postures are the same for both, except for one extra pose.

The 14-pose sequences of Chandra namaskar are as follows¹¹

Table 3: 14 Steps of Chandra Namaskar:

Position	Asana	Mantra
Position1	Pranamasana	Om Kameswari Namaha
Position2	Hasta Uttanasana	Om Bhagamalini Namaha
Position3	Padahasthasana	Om Nityaklinnayai Namaha
Position4	Ashwa Sanchalanasana	Om Bherundayai Namaha
Position5	Ardha Chandrasana	Om Vahnivasini Namaha
Position6	Parvatasana	Om Vajreshwari Namaha
Position7	Ashtanga Namaskara	Om Dutyai Namaha
Position8	Bhujangasana	Om Tvaritayai Namaha
Position9	Parvatasana	Om Kulasundari Namaha
Position10	Ashwa Sanchalanasana	Om Nityayai Namaha,

Position11	Ardha Chandrasana	Om Nilapataka Namaha
Position12	Padahasthasana	Om Vijayavani Namaha
Position13	Hasta Uttanasana	Om Sarvamangalaya i Namaha
Position14	Pranamasana	Om Jwalamalini Namaha
Position15-28	Positions 1-14 form the first half of the round and positions 15-28 form the second.	

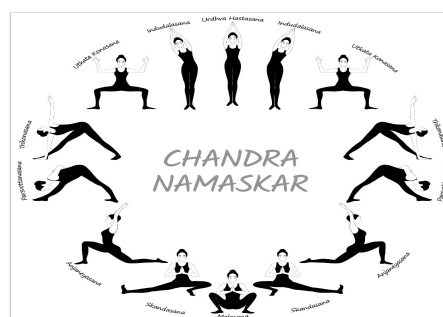


Fig 2: Steps of

Chandranamaskara

In the second half, the same positions are repeated with the following changes

- In position 18, Ashwa sanchalanasana, instead of stretching the right foot backward, the left leg is stretched back first.
- In position 24, the same pose, the left knee is bent and the right foot is brought forward in between the hands. After completion of one whole round there is a cross over in the leg positions of these stages, creating a balanced effect in the body¹²

Benefits of Chandra Namaskar:

- Calms the nervous system
- Reduces stress and anxiety
- Improves sleep quality
- Promotes emotional balance
- Cools the body and mind
- Enhances flexibility and coordination

For women with menstrual cycle, Chandra namaskar can be a balm for low energy days. It calms down the mind and encourages releasing stress and anxiety. It cools down the entire body. It is helpful in insomnia.

Duration and Frequency of Yoga Practice:

The best time for Surya namaskar practice or in fact for other Yoga is during elimination phase, that is between 4 a.m. (Brahma Muhurta) and 12 at noon phase. Less favorable is the period of digestion assuming that stomach has been empty for a

minimum 2 to 3 hours. One should not practice Surya namaskar or any Hatha Yogic practices during the assimilation phase of the cycle. Chandra namaskar is best practiced at night with empty stomach. The recommended type, duration, and frequency of yoga practice have not been clearly defined, and studies have analyzed various frequencies and durations of yoga practice. Durations of yoga practice ranging from 10 minutes, 25 to 35 minutes, and 60 minutes daily, 45-to 60-minute sessions 6 days a week, and three sessions of 75 minutes each per week, to 90-minute sessions twice weekly have shown beneficial results. Many studies have reported beneficial effects after 3 months of the intervention, while in a few studies, interventions of 15 days, 40 days, and 6 months were evaluated.

Conclusion:

Yoga therapy is relevant for wellness, as well as for illness. Surya namaskar regulates the pituitary gland thereby influences the whole endocrine system¹³. It activates thalamus and Hypothalamus, which are responsible for the emotions and which regulate the autonomic nervous system and limbic system. It improves self-confidence and decreases nervousness, anger and tiredness. Surya namaskar and Chandra namaskar includes forward and

backward bend, this practice actively exercises muscles by stretching and toning up every major muscle group in the body. The spine is elongated allowing improved circulation in that area and spinal cord nourishment and stimulation of the nerves, pressure on the abdomen region gives massaging effect to all the internal organs. The forward stretches tend to stimulate the parasympathetic nervous system while the backward stretches stimulate the sympathetic nervous system. Surya namaskar and Chandra namaskar if practiced at their respective time regularly in equal sets from the 35yrs of age in women it can help to prevent further problems during the menopausal age.

Menopause is a natural transition associated with multiple hormonal, emotional, and physical changes. Surya Namaskar and Chandra Namaskar provide safe, economical, and holistic approaches for managing menopausal symptoms. These yogic practices improve endocrine balance, enhance flexibility, reduce stress, and promote emotional well-being.

Regular practice of these yogic techniques from middle age onward may help women experience a healthier menopausal transition and improve overall quality of life.

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