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EFFECT OF YOGIC PRACTICES ON VASOMOTOR SYMPTOMS OF MENOPAUSAL TRANSITION – A LITERARY REVIEW

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ABSTRACT: Vasomotor symptoms of menopause (hot flushes, night sweats,etc) are considered as cardinal symptoms of menopause. For many women, these symptoms are frequent and severe enough to become debilitating and impact their quality of life. For the treatment of hot flashes many therapies are being studied yet few studies have demonstrated safe and effective clinical benefit for those who suffer from this distressing symptom.
Hot flashes are a common stressful symptom of menopausal transition. Hormonal therapies, including estrogens and progesterone, are the most efficient agents in alleviating hot flashes; however, the safety of these agents is questionable. Risks associated with hormone replacement therapy can prompt women to seek non-pharmacological approaches to symptomatic management.
Lifestyle modifications are proposed as the first step in the management of less severe hot flashes. Some publications have addressed non-hormonal agents as a treatment option for hot flashes. Many alternative therapies, including herbal medications and phytoestrogens, have been studied for the treatment of hot flashes but none are clinically recommended. Yoga is a traditional Indian body-mind science and it has been used effectively in various health disorders affecting almost all the major organ systems. Yoga has effect on the endocrine as well as the nervous system. The hormonal shifts accompanying menopause can be improved through the practice of Yoga (Asana, Pranayama, Dhyan), The purpose of this article is to review about effect of Yoga therapy on vasomotor symptoms of menopausal transition.
Keywords: Yoga, pranayama, menopausal hot flashes, vasomotor symptoms

INTRODUCTION

Vasomotor symptoms of menopause (hot flushes, night sweats, etc) are considered as cardinal symptoms of menopause.[1] Study of women health across the nation (SWAN) showed that 60-80% of women experience vasomotor symptoms at menopause during their lifetime.[2] According to research vasomotor symptoms are more frequently found in late peri-menopause and early postmenopausal years.[3] Vasomotor symptoms are a form of temperature dysfunction that results from fluctuating and declining gonadal hormones.[4] Menopausal VMS are expected to be useful biomarkers or predictors of cardiovascular risk and these chronic diseases rather than just temporary symptoms in menopausal women. Recent evidence indicates that VMS are associated with increased risk of metabolic syndrome, insulin resistance, non-alcoholic fatty liver disease (NAFLD), and osteoporosis [5, 6, 7]. These factors can affect the daily functioning, social activities and sexual life of female. All this issue leads to pursuance of treatment modalities to alleviate these symptoms. Hormonal therapies have been used extensively to improve the immediate symptoms of menopause and to manage its long-term consequences. There are some contraindications for estrogen therapy such as undiagnosed vaginal bleeding, severe liver disease, pregnancy, venous thrombosis, personal history of breast cancer. Also these therapies have the increased risk of the endometrial and breast cancer. Considering risk associated with hormone replacement therapy, women need to seek non-pharmacological approaches for symptom management.
Yoga is a traditional Indian body-mind science and it has been used effectively in various health disorders affecting almost all the major organ system including cardiovascular, respiratory, neuroendocrine, gastrointestinal and musculoskeletal system. Yoga teacher and Ayurvedic doctor G. Iyengar suggests that the hormonal shifts accompanying menopause can be improved through the practice of Yoga asanas (postures), due to their effects on the endocrine as well as the nervous system. This article reviews about effect of Yoga therapy on vasomotor symptoms of menopause.
Keywords: Yoga, pranayama, menopausal hot flashes, vasomotor symptoms

OBJECTIVES:-

1) To study the concept of menopausal vasomotor symptoms.
2) To understand the effect of the Yoga on menopausal vasomotor symptoms.

MATERIALS AND METHODS:

For this article data is collected from Gherand Samhita, Hathyoga Pradipika, Allied Ayurvedic literature, relevant books for study of vasomotor symptoms of menopause and yoga ,previous thesis and articles using keywords Yoga, pranayama, menopausal hot flashes, vasomotor symptoms.

DISCUSSION:

1. **Menopause :**
   Menopause is generally defined as the 12-month period of amenorrhea that occurs after the final menstrual period. This time marks the permanent end of menstruation and fertility resulting from the loss of follicular activity. It is a normal, natural event associated with reduced functioning of the ovaries, resulting in lower levels of ovarian hormones (primarily estrogen). During menopause women experience both specific symptoms due to estrogen deficiency, such as hot flushes, night sweats, fatigue, pain, decreased libido and also non-specific psychological syndrome characterized by anxiety and depression at the time of menopause.
   During menopause, approximately 70% of women report hot flashes. The pathogenesis of hot flushes has not yet been fully elucidated despite of extensive research. The circuitry involving estrogen and neurotransmitters, norepinephrine and serotonin specifically, are hypothesized to play a major role in the altered homeostatic thermoregulatory mechanisms underlying these events. The neuro-transmissive degeneration that follows hypo-estrogenemia, could be responsible for the hot flushes and also the psychological disturbances.
2. **Pathophysiology of menopausal hot flashes:**
   Hot flashes result from dysfunction in the central thermoregulatory centres in the hypothalamus.[8] Thermoregulatory models of VMS underscore that women with VMS show a narrowed thermoneutral zone observed during menopause, and that small perturbations over this zone trigger a heat dissipation event in the form of a hot flash [9] . It is hypothesized that estrogen withdrawal results in an increase in central norepinephrine release and disrupts the balance of serotonin and norepinephrine, two neurotransmitters crucial to temperature regulation. As a result, the thermoneutral zone or "set point" of the thermoregulatory centres is lowered so that even a small increase in core body temperature can trigger an exaggerated response to dissipate heat, including vasodilation and sweating [10].
   Recent studies suggest that hot flashes are triggered by small elevations in core body temperature acting within a reduced thermoneutral zone in symptomatic postmenopausal women. This narrowing may be due to elevated central noradrenergic activation, a contention supported by observations that clonidine and some relaxation procedures ameliorate hot flashes. Because hot flashes are triggered by temperature elevations, procedures to reduce temperature, such as lowering ambient temperature, are beneficial. Animal studies have shown that increased brain norepinephrine (NE) narrows the thermo-neutralzone (thermo-regulatory inter-threshold zone), and there is evidence of elevated brain NE in women having hot flashes.[11]
   Exercise which releases endorphins into the blood helps to reduce vasomotor symptoms.[12] Royal College of Obstetrics and Gynaecology recommends that women should consider exercise as a treatment for vasomotor menopausal symptoms.[13]
3. **Yoga –**
   Yoga is defined as physical, mental and spiritual practice or exercise. Yoga helps an individual not only to maintain a good health but also achieve mental stability and spiritual satisfaction. In order to achieve a sound state of body and mind, there are eight limbs or path in yoga that are:
   1. Yama: non-injury to others, truthfulness, no stealing.
   2. Niyama : purity of body and mind, self-discipline.
   3. Asana: right posture
   4. Pranayama: control of prana.
   5. Pratyahar: Control of organs or indriya nigraha
   6. Dharana: focused concentration.
   7. Dhyana: meditation
   8. Samadhi: super conscious experience of the oneness of the individualized soul with cosmic spirit.

   Yoga or the Yogasutra is an ancient scripture on yoga. Yoga developed around 5,000 years ago according to the researchers. The early writings of yoga were transcribed on palm leaves and wooden blocks that could be easily damaged and destroyed. Yoga is part of Vedic literature and was proposed by Maharishi Patanjali. Yoga comes from a Sanskrit word Yuj which means the union of the individual and universal consciousness.
4. **Asan :**
   Yoga influences woman's health at any stage of life. Benefits of yoga concern to women include relief from respiratory disorders, menopausal symptoms, premenstrual syndrome, lower back pain, depression. Asana consists of various static postures and physical movements performed to improve muscular strength, cardiovascular health, maximize the flow of energy, release tension, improve flexibility, and remove frictions.
   The practice of yoga for health benefits and overall wellness has long been promoted by leading yoga teachers and educators. Yoga has been examined as a technique for controlling hot flashes, and several trials have suggested yoga to be beneficial in alleviating hot flashes.[14,15]

Yoga has effect on plasma levels of hormones and neurotransmitters. The therapeutic benefits of yoga include stress reduction, alteration of hypothalamo-pitutory adrenal axis, balancing the autonomic nervous system and immune modulation.[16]

Menopause is associated with increased adrenocortical activity. Poses are believed to exert their effects by improving circulation to the glands through compression and release of the surrounding tissue, creating a "squeeze and soak" effect (Raman, 1998). In this manner, forward bends and twists are purported to regulate function of the adrenal glands (Sparrowe & Walden, 2002). According to B.K.S. Iyengar, these poses also "quiet" the sympathetic nervous system (B. K. S. Iyengar, 1991). Inverted poses have the additional effect of altering the position of the glands relative to surrounding organs.[17]

5. **Pranayam-**

Pranayama means a yogic practice performed for controlling flow of the vital energy. This vital energy or prana governs all the physiological process of our body. Pranayam is one of the important limb of Ashtang Yoga. It calms down the mind and body as well as enhances work ability. The word Pranayam comprises of two words- 'Prana' and 'Ayama'. Prana is a 'vital force' or 'life force' and Ayama is defined as 'expansion'. In human beings, the breath is an active connection between the body and mind while the Pranayama is considered as modification of once own breathing. Pranayama consists of three phases: 1.Purak (inhalation), 2.Kumbhak (retention) and Rechak (exhalation). This can be practiced either alone or with combination which depends upon the type of Pranayama. Pranayama is a conscious prolongation of inhalation, retention and exhalation.

Freedman et al studied the practice of slow-breathing techniques and found that these techniques may reduce small overall sympathetic tone, reducing the frequency of hot flashes 35% more than muscle relaxation alone.[18]

6. **Meditation –**

Dhyan is explained after dharana (concentration) and before Samadhi (disappearance of all distractions and self-awareness) in Ashtang yoga. Dharana stage in Astanga yoga is to increase concentration and come over distractions which provide ground to enter next stage of meditation. Hence Dharana stage is helpful for 'dhyana'. In Maitreyi and Skand Upanishada –being devoid of all subjects of 'mann' (mind) is called meditation.

A systemic review has reported that practicing mind-body therapies, such as meditation, yoga, and tai chi, can alleviate overall menopausal symptoms including vasomotor symptoms.[19]

Eight weeks mindfulness meditation training improved the quality of sleep, overall quality of life, level of attention and reduced vasomotor symptoms in postmenopausal women with insomnia.[20]

CONCLUSION:

From the overall review we can conclude that Yoga (Asan, pranayama, meditation), our ancient scientific therapy is fairly effective for women having menopausal transitional symptoms mainly vasomotor symptoms like hot flashes. Yoga is non-expensive, non-invasive therapy with no side effects. It may improve the frequency and severity of vasomotor symptoms and thus enhancing the quality of life and experience during the menopausal transition period.

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