CHAPTER – 1

1. INTRODUCTION

Menopause is a normal part of life, just like puberty. It is the time of last menstrual period. Menopause is a normal condition that all women experience as they age. The term “menopause” is commonly used to describe any of the changes a woman experiences either just before or after she stops menstruating, marking the end of her reproductive period. Every woman experiences her midlife years differently. The changes that occur during this period, including changes in sexual well-being, are typically caused by a mix of both menopause and aging as well as by typical midlife stresses and demands.

With improvement in nutrition, discoveries in medical science and improved social conditions during past few decades have increased the life span of women. The expectation of life at birth in developed countries is over 70 years. WHO projections predict that the numbers of women in the age groups 50-59 years will increase from 36 million in 2000 to 63 millions in 2020. The need for special gynecological attention to this group of the population will assume increased importance.

Menopause is a natural life event. Long misunderstood in our culture, menopause is as important in the feminine life cycle as menstruation and pregnancy. Just as the onset of the menstrual cycle signals the passage from girl to woman, menopause marks a woman’s passage to wise woman elder. At around age of forty, a woman’s body begins to prepare for the menopausal transition. As many wise women have discovered, this is much more than a physical transition from the childbearing to the non childbearing years. Menopause is an opportunity for the fullest blossoming of a woman’s power, wisdom and creativity. It is a bridge to a new phase of life when many women report feeling more confident, empowered and energized. [1]
The onset of menopause heralds a time of diminished estrogen exposure, which may have both acute and chronic effect on health and quality of life. The majority of women report hot flushes developing with increasing severity in the menopausal transition and becoming incessant in the years following last menstrual period. Observational studies suggests that, as many as 75% of women will experience hot flashes after menopause. Left untreated, most women will have spontaneous cessation of hot flashes within 5 years, although some women continue to experience distressing symptoms for 30 years or more. [2]

The menopausal syndrome has not as yet been seen as life-threatening because an increased life span is a recent phenomenon for Indian women. Earlier, most women did not live long enough for the manifestations to become fatal. However, in another 25 years the situation could be different. India will have a vast population of elderly citizens, the majority of them will be women. Then perhaps the severe aspects of oestrogen depletion will be considered life-threatening. Indian women normally live between 10 and 20 per cent of their lives in the post-menopausal state, it is imperative that the public health care system gears itself to meet the challenge posed by their health needs. The public health care system has typically concentrated on women of childbearing age. Once women move out of this bracket they receive less attention, so to speak, unless they have access to private health care. [3]

Evidence suggests that, many perimenopausal and early postmenopausal women will experience menopause symptoms, hot flushes being the most common. Symptoms caused by fluctuating levels of oestrogen may be alleviated by Hormone Replacement Therapy (HRT), but there has been a marked global decline in its use due to concerns about the risks and benefits of HRT; consequently many women are now seeking alternatives. As large numbers of women are choosing not to take HRT, it is increasingly important to identify evidence based lifestyle modification interventions that have potential to reduce vasomotor menopausal symptoms. [4]
1.1 BACKGROUND OF THE STUDY

Menopause is a normal occurrence in the life of every woman. The term is derived from the Greek, which actually means ‘cessation of periods’. Menopause occurs due to cessation of ovarian function. Prior to cessation, there is a period, over 1 or 2 years of failing or declining ovarian function which is known as climacteric or premenopause. The word menopause and climacteric are used interchangeably. Climacteric also indicates a ‘change of life’ from one of reproduction, which is coming to an end. The age of menopause varies from 45 to 50 years. In some women, the age of menopause may be 51 or 52 years. Premature menopause is defined as cessation of menstruation by the age of 35, which is uncommon and not normal. Surgical menopause occurs when the uterus is removed or the ovaries are removed or destroyed by radiation or chemotherapy. It has been reported that, smokers attain menopause at an earlier age than non smokers. Menopause tends to occur earlier in malnourished women. [5]

In 2001, the Stages of Reproductive Aging Workshop (STRAW), sponsored by the North American Menopause Society (NAMS) and others addressed nomenclature and staging of menopause. Menopause is the anchor point defined as 12 months of amenorrhea following the Final Menstrual Period (FMP). Post menopause is the span of time dating from the final menstrual period whether spontaneous or induced. It is early within 5 years of FMP and the late when more than 5 years after FMP.

The transition defined by perimenopause and menopause may be viewed as problematic period of menstrual, emotional and physiological changes. Beginning with perimenopausal changes in hormones, females may begin the common degenerative process of aging, which includes the possibility of cardio vascular disease, diabetes, and osteoporosis among other diseases. However, medically, perimenopause may present an opportunity for improvement of health screening, recognition of otherwise silent disease and motivation for a healthier life style for the rest of patient’s life. [6]
As life expectancy increases, a female may expect to spend approximately one third of her life as a postmenopausal person. There were an estimated 42.9 million women over the age of 50 in the United States (U.S) in 2000. By 2020, the number of women over age 55 is estimated to increase to 45.9 million. A woman who reaches age 54 today may expect to survive to age 84.3 years. About two thirds of the U.S population may survive to age 85 or longer. No data exist on how many women will reach menopause in a given year. Based on the assumptions about spontaneous, premature, surgical and induced menopause, it is estimated that, approximately 4200 women become menopausal per day in the United States. [6,7]

Socioeconomic status is associated with an earlier age of menopause. Higher parity, on the other hand, has been found to be associated with a later menopause. Smoking has consistently been found to be associated with a later menopause onset taking place 1-2 years earlier. Although body mass has been thought to be related to the age of menopause (greater body mass index ) with later menopause.; the data have not been consistent. However, physical or athletic activity has not been found consistently to influence the age of menopause. There also appear to be ethnic differences in the onset of menopause. In the United States, black and Hispanic women have been found to have menopause approximately 2 years earlier than white women. Although parity is generally greater around the world than in the United States, the age of menopause appears to be somewhat earlier outside the United States. Malay women have menopause at approximately age 45, Thai women at age 49.5 and Filipina women between ages 47 and 48. Countries at higher altitude (Himalayas or Andes) have been shown to have menopause 1 to 1.5 years earlier. [8]

The basic characteristic of menopause is the age related depletion of ovarian follicles with degeneration of granulose and theca cells. The degenerating theca cells fail to respond to gonadotrophins which in turn lead to fall in estrogen levels. This leads to decrease in the negative feedback on the hypo thalamo pituitary axis and a consequent rise in gonadotrophins attempting to stimulate the ovaries. This process begins about 5 years before the actual menopause. At this time, the FSH (Follicular Stimulating Hormone) levels rise and estradiol level decrease while the
LH (Luteinizing hormone) and progesterone level remain unchanged, indicating that the cycles probably continue to be ovulatory. As estrogen concentration decline, there is an associated fall in prolactin levels. The declining estrodiol prior to menopause accounts for the hot flushes experienced by some women even before the actual menopause. In contrast to the follicular cells, the stromal cells continue to produce androgens in response to the raised LH level after the onset of menopause, the adrenals continue to produce androgens, the physiological decrease in estrogen-androgen ratio accounts for the increase in facial growth after menopause. Some of the androgens are converted in the peripheral body fat to weak estrogen, estrone. Hence obese women are less prone to develop menopausal symptoms and osteoporosis, but more likely to develop endometrial hyperplasia and cancer. [9]

A wide array of symptoms and signs are observed in women during menopause. The common symptoms associated with menopause and oestrogen deficiency include: hot flushes, excessive perspiration, mood swings, depression, anxiety, insomnia, urinary symptoms like frequency and nocturia, vaginal dryness, leucorrhoea, pruritis, backache, muscle weakness, joint pain, memory loss, dementia, dental problems, skin changes and hirsutism etc. Many of the above symptoms are age related and aggravated by stresses of life. A caring Gynaecological nurse must adopt a holistic approach and tender advice regarding diet, lifestyle and relaxation techniques to alleviate menopausal symptoms. Consider this as an opportunity to give a health check up and educate the women about benefits of preventive gynaecology and cancer screening and that maintenance of optimum health is very essential to maintain ones physical independence and to avoid becoming a burden to the family. [9,10]

Bachmann GA, 2005 reported that, vasomotor symptoms are the most common medical complaint of perimenopausal and postmenopausal women. Frequent vasomotor symptoms can be disabling, affecting a woman's social life, psychological health, sense of well-being and ability to work. Women with hot flushes are more likely to experience disturbed sleep, depressive symptoms and significant reduction in quality of life as compared to asymptomatic women. Despite the prevalence and impact of these symptoms, the pathophysiology of hot flushes is unclear; however, estrogen withdrawal clearly plays an important role. It is
postulated that declining estrogen concentrations may lead to changes in brain neurotransmitters and instability in the hypothalamic thermoregulatory center. The most effective therapy for relieving vasomotor symptoms and reducing their impact on quality of life is hormone therapy. Other options for women who decline hormone therapy include selective serotonin reuptake inhibitors and related agents. Most herbal therapies that have been evaluated in placebo-controlled trials have shown no clinically significant benefit. [11]

Women at menopause often experience weight gain, particularly around the abdomen. Eestrogen levels may influence body fat distribution. Many women in the early menopausal years gain fat mass as their oestrogen level drop. Women of childbearing age tend to store fat in the lower body (‘pear-shaped’), while men and postmenopausal women store fat around the abdomen (‘apple-shaped’). Animal studies have shown that, a lack of estrogen leads to excessive weight gain, although the exact mechanisms are not yet understood. Apart from declining estrogen levels, other factors that may contribute to weight gain after menopause include: loss of muscle tissue with age, lowered metabolism, reduced physical activity and altered habits. As women get older, their risk of cardiovascular (heart and blood vessel) disease increases. This may be partly due to the postmenopausal tendency to put on weight around the abdomen. Body fat stored within the abdominal wall and around the internal organs (visceral fat) is a risk factor for the development of cardiovascular disease. [12]

When looking for treatments for weight gain, it's important to begin with methods that are the least obtrusive, with the least likelihood of side effects, and progress from there. This means that lifestyle changes are the best place to begin. For example, obviously the tried and true way to cope with weight gain is to get regular exercise and eat a healthy diet high in nutrients but not overboard in portion. Typically, combining lifestyle changes and alternative medicines will produce the best results. When seeking out alternative medicines, keep in mind that because weight gain during menopause is associated with hormonal imbalance, look for herbal supplements that bring a natural balance to hormonal levels, for this will go a long way to grappling with weight gain at the core of the issue. [13]
1.1.1 Global scenario on menopause

An estimated 6,000 US women reach menopause (final menstrual period) every day, that’s over 2 million per year. In Canada, it is estimated that, by the year 2026 almost one quarter of the population will be comprised of women over age 51. The average age of natural menopause is 51.4, but some reach menopause in their 40s or 60s. Among women aged 40 to 45, an estimated 5% have already reached natural menopause (US Census Bureau, 2000). In women aged 45 to 55, 25% have already reached natural menopause (data from Women's Health across the Nation Study). It is estimated that, 2 million US women have experienced surgical menopause caused by hysterectomy with removal of the ovaries (National Hospital Discharge Survey, 2004). An estimated 6 million women are currently taking hormone therapy in the United States (National Heart, Lung, and Blood Institute, NIH). Worldwide, 8.6 million women die from heart disease each year, accounting for a third of all deaths in women (Women's Heart Foundation). A woman's risk of heart disease increases after menopause. One in three US and Canadian women will die of heart disease (National Heart, Lung, and Blood Institute, Heart and Stroke Foundation of Canada). In the United States, about 12 million people over the age of 50 are expected to have osteoporosis by 2010; another 40 million will have low bone mass. By 2020, cases are expected to increase to 14 million people with osteoporosis and over 47 million people with low bone mass (National Osteoporosis Foundation). After menopause, a woman's risk of fracture increases. [14]

In Canada, osteoporosis affects 1 in 4 Canadian women and more than 1 in 8 men over the age of 50. Almost 30,000 hip fractures occur each year; 70% to 90% of these hip fractures are caused by osteoporosis (Osteoporosis Canada). An average of 1 in 10 people age 65 and over suffer from urinary incontinence (National Institute on Aging). 30% to 40% of postmenopausal women have urinary incontinence. Whether the transition from pre to postmenopause increases the risk for developing incontinence remains unclear. In 1998 NAMS-sponsored Gallup Poll, 51% of postmenopausal US women reported being happiest & most fulfilled between ages 50 and 65, compared with their 20s(10%), 30s(17%), or 40s(16%) [14]. About 1.5 million American women reach menopause each year, at an average age of 52,
and 80 percent to 85 percent experience unpleasant symptoms such as hot flashes, night sweats, irritability, anxiety or emotional instability.[15]

1.1.2 Indian scenario on menopause

In New Delhi, a study has found that, Indian women are now attaining menopause as early as at the age of 30. It also puts them at a higher risk of being affected with osteoporosis, heart diseases, diabetes, hypertension and breast cancer.

The study conducted by Syamala T S and Sivakami M, said that women living in rural areas are more prone to premature menopause. It is of great concern that, women are attaining premature menopause. Some women are attaining it as early as 30 years. Early menopause may be a risk factor for earlier mortality from diseases related to decreased estrogen levels and may promote increased incidence of osteoporosis, heart diseases, diabetes, hypertension and breast cancer. Natural menopause occurs between the ages of 45 and 55 years with a mean age of incidence around 51 years worldwide. The mean age of menopause in India is 44.3 years. This is the time when a woman's life undergoes a transition from the reproductive to the non-reproductive stage. The data for the study, which was based on the National Family Health Survey of 1998-99, collected information from a sample of more than 90,000 married women aged between 15 and 49 and covering 99% of India's population living in 26 states. The report which was presented in Parliament has said that, in India 3.1% of the women are already in menopause by the age of 30-34, and the incidence rises to 8% for the age bracket of 35-39 with menopause setting in quite rapidly after the age of forty. Syamala T S said that, women who marry late need not panic as they have children late, resulting in delayed menopause. The study reported that, there are a higher number of illiterate women who are in premature menopause as against those who are educated. [16]

Doctors informally note that, Keralites and Punjabis have high bone mass and this could be attributed to a calcium-enriched diet - a high intake of seafood in the case of the former and the high intake of milk in the case of the latter. Anklesaria B S said that, women in the East Asian countries report few menopausal symptoms: this has been linked to their high intake of seafood. Jankharia noted that,
people from the lower socio-economic strata have a low bone mass because of poor nutrition during childhood and adolescence. While these conditions are not gender-specific, women are affected more because they place low priority on their own nutrition and health. According to doctors, a low-fat diet rich in calcium, frequent intake of green and leafy vegetables, regular exercise and avoidance of smoking can help reduce menopausal symptoms, which include osteoporosis and cardiovascular diseases. Milk and soyabean are recommended as vital ingredients of a healthy diet in old age.

Rashmi Shah has carried out a study of menopausal women and established the mean age for menopause at 44.3 years. As women age, their health becomes a multidimensional issue influenced by factors such as career, changes in home life, diet and physical activity, the economy, society and the environment. These changes, together with the natural process of ageing and the hormonal changes in the reproductive system, affect the well-being of women. The complex, interrelated nature of the process often makes it difficult to distinguish between the symptoms of ageing or those resulting from the loss of ovarian functions and factors arising out of socio-environmental conditions. It was only in the last decade that the menopausal syndrome was identified and acknowledged as an issue that affected some women and became a matter of concern to health care providers.

Rani Bang has conducted a study of 100 post-menopausal women. She believed that, rural women are definitely affected by psychosomatic factors but they have so many other problems to deal with, which makes menopause seem less important. Bang studied that, as many as 78 per cent of the women did not discuss their menopausal problems with anyone and 90 per cent did not visit a doctor. When husbands found out the menopausal status of their wives at a late stage, 75 per cent of them did not react. The women said that they did not feel the need to inform their husbands since; it was not a husband's business. When asked if there was any change in their level of sexual desire, around 55 per cent of the women said that it had decreased. Bang said that, their explanations indicated the influence of the age-old belief that sex is only meant for procreation. Similar findings were reported by Ramamurti P V and Jamuna D and they conducted a study among rural and
semi-urban women. Poonam Kathuria of the Society for Women's Action and Training Initiative, an NGO in Gujarat said that, discussions on menopause were held with local women, the response was limited. She said that, perhaps this indicates a lack of understanding on menopause as well as the low significance attached to it.[3]

Menopause symptoms vary from woman to woman in India as is the case for women elsewhere. The Indian Menopause Society’s (IMS) 2008 Consensus Statement contains important statistics about menopausal symptoms and recommendations to improve healthcare for Indian women. Some of the IMS research findings showed that, the average age of menopause in India is 47.5 years, just slightly lower than the average age of 51 for North American and European women. Premature menopause is on the rise in India due to a combination of environmental and genetic reasons. Indian women living in rural areas (72% of the population) and urban areas both are having urogenital symptoms and general body aches and pains. Interestingly, women in urban areas complain more about having hot flashes, mood swings, psychological problems, and intercourse challenges.

Being menopausal in India is not only difficult for women; it is almost officially unheard of in public circles. But women in India go through menopause just as women do elsewhere in the world. India has traditionally ignored women’s health issues including menopause but now exciting changes are taking place. Indian women face many social and cultural challenges in their lives but when it comes to menopause these women share many of the same experiences with women just like them. Women in India are not different in terms of attitudes towards menopause; some women dread and fear menopause while other women embrace or at least accept menopause. The fear and dread of menopause stem from being seen as no longer useful or productive in society. For the most part, life for Indian women centers on home and family while accepting secondary citizen status in this male dominated culture. Women’s issues including health and menopause are almost never discussed. Surgical menopause (hysterectomy) is performed widely in India and both doctors and patients view a hysterectomy as a preferred option in menopause treatment. Compare this to North America and Europe where
hysterectomies are no longer considered the best option for women. But with limited menopause treatment options, the fear of developing hormonal related cancers pushes many women to request a hysterectomy and doctors are all too willing to perform this controversial procedure. [17]

Stress is now considered a significant contributor to poor health and important factor in the development of heart diseases, cancer and many chronic and acute diseases. Most modern day, stress reduction techniques have their roots in yoga and its emphasis on the health & deep relaxation [1, 18]. Many women find the time around menopause stressful. This may be partially due to hormonal changes and resulting bothersome symptoms such as hot flashes and disrupted sleep. In addition, family and personal issues such as the demands of teenage children, children leaving home, aging parents, midlife spouses and career changes often converge on women during these years. Chronic stress is not good for anyone’s health. It may cause increased blood pressure and heart rate, headaches, gastric reflux, depression/anxiety, and over the long term, an increased risk for heart disease. Some believe that, chronic stress may affect the immune system, making the people more susceptible to illness, infections, and even cancer. Stress affects not only the health but also the relationships, work performance, general sense of well-being, and quality of life. [19]

Quality of life (QOL) has been defined by the World Health Organization as the “individual’s perceptions of their position in life in the context of the cultural and value systems in which they live and in relation to their goals, expectations, standards and concerns”. It is a broad ranging concept incorporating in a complex way the persons' physical health, psychological state, level of independence, social relationships, personal beliefs and their relationships to salient features of the environment. This definition reflects the view that quality of life refers to a subjective evaluation, which is embedded in a cultural, social and environmental context. Quality of life is the main goal of health care and a significant factor for individual health and it is used to plan and evaluate health care programs. [20, 21]
Menopause does not really require medical treatment since it is a natural biological process. The menopause treatments actually focus on relieving the symptoms of menopause and in preventing any chronic condition that may occur during the postmenopausal years such as heart disease and osteoporosis. Exercising, proper diet, not smoking, and reduction of stress are also effective ways to make menopause more bearable and also facilitate in preventing any chronic ailments that can occur in the postmenopausal years. [22]

Menopause is a stressful stage for some women. Strategies for managing stress can help women cope not only with menopause, but with life and aging in general. Practices including relaxation exercises, biofeedback, aerobic exercise, yoga, meditation and breathing techniques give women tools for dealing with their stressful lives. [23]

Achieving hormonal balance during the menopausal years is essential to good health. Practicing yoga can help prevent or reduce the common symptoms that affect women specifically during the menopausal years by providing a form of treatment directed at the root causes that result in the breakdown of the healthy functioning of the body. It’s important to bear in mind that all menopausal symptoms are related and using yoga to ease the unpleasant effect of one symptom generally leads to better health in the rest of the body. Every pose has a multitude of effects on all the systems of the body. [1]

Yoga’s approach to holistic health is a powerful tool for helping the women experience the passage in to menopause as a positive event, both physically and spiritually. Practicing the postures recommended for the menopause transition, in a way that is appropriate for the present physical and emotional condition will gradually rejuvenate the body and remove the causes of unpleasant symptoms that the women may be experiencing. Yoga stretches can benefit both the body and the mind, bringing energy and balance. This is particularly helpful to women who are currently in menopause or in menopause transition because their hormonal levels and body chemistry may be fluctuating rapidly. Yoga exercises affect the physiological instability by relaxing and gently stretching every muscle in the body, promoting
better blood circulation and oxygenation to all cells and tissues. This helps optimize the function of the endocrine glands and the organs of the female reproductive system. [24,25,26]

Meditation, the Sanskrit name being Dhyana, is a stilling of the chatter of the mind and is recognized as a major component of Eastern religions, where it has been practiced for possibly well over 6,000 years. This is a practice that helps in bringing the balance to mind, body, and spirit. As a form of alternative medicine, it brings about mental calmness and physical relaxation. It works to suspend the stream of thoughts that constantly occupy the mind. The benefits are numerous and scientifically validated. It is one of the best stress reducers and is now used by hospitals and physicians for that purpose, with many health care facilities providing classes for patients. Some of the physical benefits include stress reduction and reduction of anxiety, which helps to maintain a state of harmony with the surroundings, better concentration, slower heart rate, normalized blood pressure, lowering of cholesterol, increased serotonin levels. Those who meditate report higher levels of self-esteem. Some experts have compared it to a ‘reset button’ for of the body (“Meditation as Medication”). [27,28]

Om meditation is one of several types of meditation in which users recite a mantra or chant while meditating. During meditation, the word "om" is repeated multiple times and is believed to contain cosmic energy that helps to relieve a person’s individual suffering. Doctors who have studied the effects of practicing om meditation on soldiers returning from war, have found this particular meditation technique to be particularly helpful in reducing stressful thoughts and memories. Soldiers who suffered from Post Traumatic Stress Disorder (PTSD) have shown marked improvements in coping with stress and anxiety and appear to benefit from better sleep habits after engaging in mantra meditation. Om meditation has also helped soldiers more positively adjust to civilian life with improved communication with others and fewer negative reactions to stress.

Om meditation is purported to increase mental clarity and calm nervousness and it is also known as transcendental meditation. By using Om
chanting meditation, practitioners report the ability to make better decisions as well as the benefit of living with a more peaceful awareness of the world. Other reported benefits of om meditation include enhanced memory function, better interpersonal relationships, more restful sleep and significant stress reduction. Unlike other meditation techniques, om meditation does not require intense concentration and effort, nor does it require those doing meditation to intentionally attempt to control their mental state. Practicing om meditation also does not require special preparation, as mantras can be simply whispered, spoken out loud or even silently repeated in the mind even while a person is immersed in an otherwise busy setting. [29]

Yoga science of breathing is called pranayama. Oxygen is the most vital nutrient to the body. It is essential for the integrity of the brain, nerves, glands and internal organs. Practice of pranayama yoga has been reported to be beneficial in treating a range of stress related disorders, improving autonomic functions, relieving symptoms of asthma, stuttering and reducing signs of oxidative stress. Pranayama techniques are also effective for depression cure. Practice of pranayama develops a steady mind, strong will-power and sound judgment. In addition, regular pranayama helps extends life and enhance perception. [30]

Nadi Sodhana Pranayama, also known as Alternate Nostril Breathing, is a purifying and cleansing breathing practice. The word Nadi means channel. The body has channels for the passage and distribution of prana or energy. When these channels become blocked, person loses energy and become susceptible to illness, lethargy and diseases. Even small obstructions in the energy channels can make a person feel tired and sick. The word Sodhana means cleansing or purifying. Thus Nadi Sodhana Pranayama (Alternate Nostril Breathing) is a cleansing of the energy channels. [31]

Breath and life go together. When breathing stops, life stops. Increasing the breathing capacity, increases the vital life force. Pranayama yoga increases the supply of oxygen to the cells and internal organs and eliminates carbon dioxide and other toxins from the body. If the cells in the body get insufficient amounts of oxygen due to improper breathing, many diseases have a greater chance of developing. Pranayama yoga leads to important benefits and proves that increased
breathing capacity allows for optimum health, wellness and healing of many existing health problems. Yogis have been practicing Pranayama for thousands of years and began it as a way to connect to their higher power. Today people practice for the same reasons and need it more than ever due to stressful lifestyles. [32]

The most important benefit of yoga is physical and mental therapy. The aging process, which is largely an artificial condition, caused mainly by autointoxication or self-poisoning can be slowed down by practicing yoga. To get the maximum benefits of yoga, one has to combine the practices of yogasanas, pranayama and meditation. According to medical scientists, yoga therapy is successful because of the balance created in the nervous and endocrine systems which directly influences all the other systems and organs of the body. Yoga acts both as a curative and preventive therapy. The very essence of yoga lies in attaining mental peace, improved concentration power, a relaxed state of living and harmony in relationships. [33]

1.2 SIGNIFICANCE AND NEED FOR THE STUDY

Menopause is a part of every woman's life. It is the stage when the menstrual period permanently stops. This stage usually occurs between the age of 40 and 60 associated with hormonal, physical and psychological changes. These changes can occur gradually or abruptly. It can start as early as the age of 30 and last until as late as the age of 60. It can also occur when the ovaries are removed or stopped functioning. Symptoms include irregular menstruation, changes in sexual desire, hot flashes, vaginal dryness and urinary problems, changes in appearance, mood changes, sleep disturbances, palpitation and backache. When the body produces less estrogen and progesterone, the parts of the body that depends on estrogen to keep them healthy will react and this often causes the discomfort in women [34]. The duration, severity, and impact of menopausal symptoms vary from person to person, and population to population. Some women have severe symptoms that profoundly affect their personal and social functioning and quality of life (QOL). [21]
In cultures, where high value is placed on youth, many women see menopause as one further sign of ageing—a sign that is attended by distressing symptoms that foreshadow age related deterioration in health and quality of life. In culture, where elders are revered, menopause is often seen as a sign of maturity and experience—the elderly women or “crone” being a source of wisdom and guidance in the community. Although there has been speculation that these cultural differences may exert a strong influence on the perception or expression of menopausal symptoms, cross cultural studies confirm the presence of similar menopausal symptoms in women from different ethnic and cultural backgrounds. [2]

Narinder Mahajan, etal conducted a study to evaluate the health status, age of menopause, and its symptomatology amongst Himachali middle-aged women. A structured questionnaire was given to 100 menopausal women from general community of Himachal Pradesh in Shimla. Mean age of menopause was 44.54 years. Main symptoms associated with menopause were reported as fatigue (62%), hot flashes (56%), cold sweats (52%), and backaches (51%). Other ailments associated with menopause were arthritis (25%), hypertension (23%), and diabetes (6%). Chief co morbid conditions were arthritis and hypertension. [35]

Syed Alwi Syed Abdul Rahman conducted a study to determine the commonly reported menopausal symptoms among Sarawakian women in Malaysia using a modified Menopause Rating Scale (MRS). By using modified MRS questionnaire, 356 Sarawakian women aged 40-65 years were interviewed to document 11 symptoms commonly associated with menopause. The most prevalent symptoms reported were joint and muscular discomfort (80.1%); physical and mental exhaustion (67.1%); and sleeping problems (52.2%). Followed by symptoms of hot flushes and sweating (41.6%); irritability (37.9%); dryness of vagina (37.9%); anxiety (36.5%); depressive mood (32.6%). Other complaints noted were sexual problem (30.9%); bladder problem (13.8%) and heart discomfort (18.3%). Perimenopausal women (n = 141) experienced higher prevalence of somatic and psychological symptoms compared to premenopausal (n = 82) and postmenopausal (n = 133) women. However urogenital symptoms mostly occur in the postmenopausal group of women. [36]
Many women have a difficult time maintaining their weight as they get older. About 90% of menopausal women experience some amount of weight gain. Although weight gain is a natural and common aspect of getting older, there are ways to reduce it. The hormonal changes that occur during menopause make this even harder. Although the average woman gains 2 to 5 pounds during menopause, some women gain as much as 5 to 15 pounds. It may be impossible for the women to totally prevent menopausal weight gain, but healthy lifestyle changes can minimize the amount of weight gain. [37]

Nowadays, quality of life is considered an important outcome that reflects the impact of health conditions, diseases, and treatments from the subjective perspective of patients. Thus, the evaluation of quality of life is an important component in providing a more complete picture of the effects of menopause as well as evaluating the possible benefits of different treatments and therapies. Although it remains controversial, many authors have been supporting the association between menopause and poorer quality of life. This could be a consequence of biological modifications, symptoms and socio cultural factors. [38]

Nisar N & Ahmed Sohoo N conducted a study to investigate the severity of menopausal symptoms associated with menopausal status and to determine the quality of life of menopausal women from rural Sindh. 3062 women were selected by multistage random sampling method within the age range of 40-70 years. Along with collection of socio-demographic data, the Menopause Rating Scale (MRS) and WHO Quality of life Brief (WHO QOL Brief) were collected. The mean scores of menopause rating scale were high in all domains, the significant difference was found in the mean somatic scores of women in premenopause, perimenopause and post menopause status (P=<0.001). The psychological symptoms were more severe for women in perimenopause and post menopause status while the scores for urogenital symptoms were found to be higher in perimenopause women (P=<0.001). The mean scores for the physical, psychological, social and environmental domains of WHO QOL questionnaire were found significantly impaired for all women at different status of menopause. They concluded that, severity of menopausal symptoms decreased the quality of life in everyday life of these rural women. [39]
McGinnis, et al conducted a study to gain a deeper understanding of the factors that influence quality of life (QOL) during the menopause transition. Twelve peri or postmenopausal women between the ages of 41-57 participated in a series of semi-structured focus group discussions guided by open ended questions. Participants did report experiencing common symptoms of menopause, but stressed the variety of strategies used (such as strength training, walking, or yoga) to promote overall well-being. Participants consistently discussed the relationship of life events, societal views of aging, life philosophy, and support systems as determinants of perceived QOL. [40]

Conde DM, et al done a study to evaluate QOL and identify its associated factors in postmenopausal women. A cross-sectional study was conducted among 81 postmenopausal women. QOL was assessed by the Medical Outcomes Study 36-item Short-Form Health Survey (SF-36) questionnaire. The most prevalent symptoms were nervousness (67%) and hot flushes and sweating (51%). Factors associated with poorer QOL were sweating, palpitations, nervousness (physical component), and dizziness, nervousness, depression, insomnia and dyspareunia (mental component). They observed that, menopausal symptoms negatively affected the physical and mental components of QOL in postmenopausal women. [41]

Physicians and social workers who work with women believe that cultural and social changes influence women more significantly than hormonal changes. They said that, health care for the majority of older women in India should concentrate on counselling rather than clinical intervention. Women have a more complex phase of old age than men because of the dominant effects in them of hormonal changes caused by menopause. However, the public health care system does not acknowledge the special health needs of older women. There has been extensive research on menopause in the West but in India only a few institutes have recognized the potential of research on the subject. [3]

Non-drug options have become increasingly popular with women and this has presented new challenges to the physicians. It should be viewed as a different approach to Hormone Replacement Therapy; it can be recommended to
ensure the quality of life. The role as physicians is to offer the patients the best possible choices to manage their health and this should now include non-drug options that have been well-researched in terms of efficacy and safety. [42]

The management of menopause by hormone replacement therapy is now thought to have serious adverse effects. Many Non-pharmacological interventions like diet, exercises, relaxation techniques, yoga and music therapy are found useful in alleviating the physical and psychological symptoms of menopause.

Lunny CA, et al conducted a study to examine the determinants and use of Complementary and Alternative medicine (CAM) therapies among a sample of 423 menopausal women in Canada. 91% of women reported trying CAM therapies for their symptoms. Women reported using an average of five kinds of CAM therapies. The most common treatments were vitamins (61.5%), relaxation techniques (57.0%), yoga/meditation (37.6%), soy products (37.4%), and prayer (35.7%). The most beneficial CAM therapies reported were prayer/spiritual healing, relaxation techniques, counseling/therapy, and therapeutic touch/Reiki. [43]

Richter DL, et al conducted a study on perception of alternative therapies available for women facing hysterectomy or menopause. Women's perception of alternative therapies available for managing symptoms related to menopause and to the need for hysterectomy were explored. Data are reported from 17 focus groups of peri- and menopausal aged women (n = 82) living in two southern U.S. coastal counties. Analysis showed that, emergent themes did not vary by race or surgery experience. Herbal preparations, vitamin supplements, "healthy living" (diet and exercise), and mind/body practices were mentioned as possible alternatives for managing symptoms. [44]

Yogic life style is a way of living which aims to improve the body, mind and day to day life of individuals. The most commonly performed yoga practices are postures (asana), controlled breathing (pranayama) and meditation (dhyana). The exact mechanism as to how yoga helps in various disease states is not known. There could be neuro-hormonal pathways with a selective effect in each pathological
situation. Integrated approach of yoga therapy can improve hot flushes and night sweats. There is increasing evidence suggesting that, even the short-term practice of yoga can decrease both psychological and physiological risk factors for cardiovascular disease. [45]

Yoga reduces the effects of menopause’s hormonal changes by balancing the endocrine system. It smoothes out the hormonal and glandular changes that take place during this period. Not only does regular practice of yoga ease the physical aspects of menopause, it also inspires a spiritual awakening that helps women open to the power and beauty of this profound change. Through yoga poses, proper diet, relaxation and meditation yoga will help bring back equilibrium to the physical body, emotional balance and mental clarity. The regular practice of all the categories of poses –standing, sitting, lying down, backbends, forward bends, twists, and inverted poses- stimulates and activates all the glands, organs, tissues and cells of the body. Yoga’s inverted poses are particularly important during menopause, as they have a powerful effect on the neuro endocrine system, allowing fresh, oxygenated blood to flow to the glands in the head and neck. In each yoga posture (asana), different organs and glands are placed in various anatomical positions and are supplied with fresh blood, gently massaged, relaxed, toned and stimulated. [1]

Chattha R, et al conducted a study on the effect of yoga on the climacteric symptoms, perceived stress, and personality in perimenopausal women. One hundred twenty participants (ages 40-55 years) were randomly divided into two study arms, ie, yoga and control. The yoga group practiced an integrated approach to yoga therapy whereas the control group practiced a set of simple physical exercises under supervision of trained teachers for 8 weeks (1 h daily, 5 days per week). The assessments were made by Greene Climacteric Scale, Perceived Stress Scale, and Eysenck's Personality Inventory before and after the intervention. Of the three factors of the Greene Climacteric Scale, the Mann-Whitney test showed a significant difference between groups (P < 0.05) in the vasomotor symptoms, a marginally significant difference (P = 0.06) in psychological factors but not in the somatic component. There was a significantly greater degree of decrease in Perceived Stress Scale scores (P < 0.001, independent samples t test) in the yoga group compared with
controls (between-group analysis) with a higher effect size in the yoga group (1.10) than the control (0.27). On the Eysenck’s Personality Inventory, the decrease in neuroticism was greater (P < 0.05) in the yoga group (effect size = 0.43) than the control group (effect size = 0.21) with no change in extroversion in either the yoga or control group. Eight weeks of an integrated approach to yoga therapy decreased climacteric symptoms, perceived stress, and neuroticism in perimenopausal women better than physical exercise. [46]

Cathryn Booth-LaForcea carried out a study to assess the feasibility and efficacy of a yoga treatment for menopausal symptoms. A prospective within-group pilot study was conducted among 12 peri- and post-menopausal women. Pre and post-treatment measures included: Severity of questionnaire-rated menopausal symptoms (Wiklund Symptom Check List), frequency, duration, and severity of hot flashes (24-h ambulatory skin-conductance monitoring; hot-flash diary), interference of hot flashes with daily life (Hot Flash Related Daily Interference Scale), and subjective sleep quality (Pittsburgh Sleep Quality Index). Participants were asked to practice at home 15 min each day in addition to weekly classes. Significant pre to post treatment improvements were found for severity of questionnaire-rated total menopausal symptoms, hot-flash daily interference; and sleep efficiency, disturbances, and quality. The yoga treatment and study procedures were feasible for midlife women. [47]

A study done by Afonso R F et al on effect of yoga on insomnia in postmenopausal women. Postmenopausal women who were 50-65 years old, who had an apnea-hypopnea index less than 15 and with a diagnosis of insomnia were randomly assigned to control, passive stretching and yoga group. Questionnaire was administered to evaluate quality of life, anxiety and depression symptoms. The study concluded that, yoga might be effective in reducing menopausal symptoms as well as improving quality of life in postmenopausal women with insomnia. [48]

There is no doubt that, yoga has positive effects upon the body, regardless of a person’s age or phase in life. Even short bouts of yoga positions stretch the muscles and spine, improving flexibility and balance and help the person
to open the chests and lungs to breathe easier. Regular practitioners of yoga claim benefits such as relaxation, help with insomnia, decreased stress and an overall increased sense of health and well being. In addition, yoga has specific benefits to women entering or in the phase of menopause. [49]

**Joshi S, et al** conducted a study on effect of yoga on menopausal symptoms. Total menopause rating scale score were measured on day 1 and day 90 in the study group. MRS has been designed to measure health-related quality of life of ageing women. The study concluded that, yoga is effective in reducing menopausal symptoms and should be considered as alternative therapy for the management of menopausal symptoms. [50]

With increased life expectancy, today, women spend one-third of their life after menopause. Thus more attention is needed towards peri and postmenopausal symptoms. Estrogen replacement therapy is the most effective treatment; however, it has its own limitations. The present need is to explore new options for the management of menopausal symptoms. Yoga has been utilized as a therapeutic tool to achieve positive health and control and cure diseases. There have been multiple studies that have combined many aspects of yoga into a general yoga session in order to investigate its effects on menopausal symptoms. [51]

Menopausal transition may make women more aware of future health risks due to increased symptomatology and help-seeking behaviour. Motivation for health promotion may be further strengthened if women perceive life-style modifications as an alternative, non-pharmacological, way of managing menopausal symptoms. However, more evidence on effectiveness and efficacy of lifestyle changes, especially exercise, yoga on decreasing hot flushes and other symptoms and increasing quality of life is urgently needed. In the future, menopause may act as a window of opportunity for health promotion and life-modifications [52]. Hence the investigator was motivated to evaluate the effectiveness of yoga on quality of life, physical and psychological symptoms among menopausal women.
1.3 STATEMENT OF THE PROBLEM

An experimental study to evaluate the effectiveness of yoga on quality of life, physical and psychological symptoms among menopausal women in selected areas, Kattankulathur Block, Tamilnadu, South India.

1.4 OBJECTIVES

1. To assess and compare the pre test level of quality of life, physical and psychological symptoms among menopausal women between study and control group.

2. To assess and compare the post test level of quality of life, physical and psychological symptoms among menopausal women between study and control group.

3. To determine the effectiveness of yoga on quality of life, physical and psychological symptoms among menopausal women in study group.

4. To correlate the quality of life with physical and psychological symptoms among menopausal women in study group and control group.

5. To associate the mean difference score of quality of life, physical and psychological symptoms of menopausal women in study and control group with their demographic, obstetrical and gynecological variables.

1.4.1 Secondary Objective

1. To assess the level of satisfaction on yoga among menopausal women in study group.

1.5 OPERATIONAL DEFINITIONS

1.5.1 Evaluate

It refers to determine the impact of yoga on quality of life, physical and psychological symptoms of menopausal women by systematic and structured investigation.
1.5.2 Effectiveness

It refers to determine the extent to which yoga has achieved the desired effect on quality of life which is measured by Standardized WHO Quality of life BREF scale and physical and psychological symptoms of menopausal women which are measured by 5 point rating scales.

1.5.3 Yoga

It is a planned intervention which is taught and demonstrated by the investigator to the menopausal women in study group which consists of selected yoga asanas, pranayama and meditation.

1.5.3.1 Selected yoga Asanas

It includes Tadasana, Ardha katani chakrasana, Badrasana, Paschimottasana, Bhujangasana, Ardha Salabhasana, Ardha halasana, Shavasana which are practiced 5 times for 25-30 mints.

1.5.3.2 Pranayama (Breathing exercises)

It includes Nadisodhana pranayama and Sitali Pranayama which are repeated 8-10 times for 5-10 mints.

1.5.3.3 Om Meditation

It is one of the several types of meditation in which menopausal women are asked to chant Om / Aum during meditation for 8-10 times. It is believed to contain cosmic energy that helps to relieve a person’s individual suffering. It also helps to enhance memory function, better interpersonal relationships, more restful sleep and significant stress reduction. The meditation is done for 5-10 mints.

1.5.3.4 Steps adopted

Initially, intensive training on steps of yoga is given to menopausal women for 5 days continuously for 1½ hours per day by the investigator. After the intensive training of yoga for 5 days, the menopausal women are asked to practice yoga at home on their own for 35-40 mints per day along with group yoga practice
for 2 days in a week under the supervision of investigator till 6 weeks. After 6 weeks, the menopausal women are asked to continue daily practice of yoga along with group yoga practice at weekly once for 18 weeks. Yoga performance checklist is used to assess the menopausal women’s performance of steps of yoga. Instructional manual on steps of selected yoga practice is distributed by the investigator after 5 days continuous yoga practice for their self reference. Daily yoga practice diary is issued to them for confirmation of their regular yoga practice at home which is verified by the investigator.

1.5.4 Quality of life

It refers to the expressed satisfaction of menopausal women with current life circumstances towards coping with physical and psychological symptoms which is being measured by Standardized WHO Quality of life BREF scale which contains 26 questions totally under 4 domains such as physical domain, psychological domain, social domain and environment domain.

1.5.5 Physical symptoms

It refers to the level of physical symptoms such as hot flushes, sweating, palpitation, difficulty in sleep, bladder problems, dryness of vagina, changes in sexual activity, pain in joints and muscles are experienced by menopausal women which are being measured by 5 point rating scale (Based on standardized MRS tool by Prof. Lothar Heinemann, 1992) and the weight of menopausal women is also assessed by calibrated weighing scale at every 6 weeks.

1.5.6 Psychological symptoms

It refers to the level of psychological symptoms such as irritability, anxiety, depression & mental exhaustion are felt by menopausal women which are being measured by 5 point rating scale (Based on standardized MRS tool by Prof. Lothar Heinemann, 1992) and it also includes stress level of menopausal women which is being measured by standardized Perceived Stress Scale (Sheldon cohen, 1994).
1.5.7 Menopausal women

It refers to the women who had cessation of menstruation since 1 year, who are in the early postmenopausal period within 5 years of final menstrual period (classification by NAMS, 2001) and with the age group of 45-55 years and those who experience physical and psychological symptoms of menopause as measured by Symptom Assessment Scale (SAS) devised by the investigator which is confirmed by Registered Gynecologist.

1.6 ASSUMPTIONS

Women may experience physical and psychological symptoms during menopause which require medical attention.

Stress management and health promoting practices should be incorporated into menopausal care programs to improve health and quality of life of middle-aged women.

Yoga may enhance health and adaptive behavior of an individual.

Yoga may have effect on physical and psychological symptoms of menopause and it may tend to improve quality of life of menopausal women.

1.7 RESEARCH HYPOTHESES

RH1 - There is a significant difference in the pre test level of quality of life, physical and psychological symptoms among menopausal women between study and control group.

RH2 - There is a significant difference in the post test level of quality of life, physical and psychological symptoms among menopausal women between study and control group.

RH3 - There is a significant difference in the pre test and post test level of quality of life, physical and psychological symptoms among menopausal women in study group.
RH4 - There is a significant correlation of quality of life with physical and psychological symptoms among menopausal women in study group and control group.

RH5 - There is a significant association of mean difference score of quality of life, physical and psychological symptoms among menopausal women in study group and control group with their demographic, obstetrical and gynecological variables.

1.8 DELIMITATIONS

The study is delimited to a period of one year of data collection

The study is delimited to only ten villages in Kattankulathur block

It is delimited to the menopausal women in Kattankulathur block

CHAPTERIZATION

Chapter I: It dealt with Introduction, background of the study, significance and need for the study, statement of the problem, objectives, operational definitions, assumptions, research hypotheses and delimitations.

Chapter II: It reveals the review of literature and conceptual framework.
CHAPTER – 2