

MENOPAUSE HEALTH ISSUES IN WOMEN- SYMPTOMS AND BIOCHEMICAL ASPECTS

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ABSTRACT

Menopause is a natural biological process that occurs in women as they age. It involves several biochemical changes in the body. It is typically characterized by the cessation of menstrual periods and the end of a woman's reproductive years. The primary biochemical reasons for menopause include hormonal changes and ovarian aging. A decrease in estrogen and progesterone levels, increase in Follicle- Stimulating hormone etc. Menopause is associated with few changes in the mental, physical and emotional behaviour of women. It can lead to weight gain, anxiety, depression, Cardio-vascular changes, genital changes, metabolic changes, cognitive changes etc. The present chapter is about reasons for menopause, stages in menopause, changes in the physical, emotional and biochemical changes and therapy involved.

Key words- Menopause, reasons for menopause, stages of menopause, biochemical changes in menopause, physical and physiological changes, Therapy in menopause.

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INTRODUCTION

“बलवन्तः महिलाः केवलं जन्म न प्राप्नुवन्ति। ते येषु तूफानेषु गच्छन्ति तेन निर्मिताः सन्ति।”

Menopause is a natural process that is due to the complete cessation of menstruation for a period of one year (1). It is referred to as the end of reproductive phase and its onset is associated with many symptoms. These vary from individual to individual. Some of the symptoms which women face are hot flushes, dyspareunia, insomnia, night sweats, changes in urinary and genital areas, dryness etc (2). As per Ayurveda, it is the transition phase from Pitta dosha dominance stage of life to Vata dosha dominance stage in which physiological functions in Pelvic region changes (3) The age of onset of menopause varies from 43-45 years (4,5). The changes that the women have to go through during the phase of menopause can last for few years, while the health issues that arise out of these changes during the menopause last till their death. Hence there is a need to educate Women and also the family members on the aspects of menopause, reasons and help them overcome the psychological disturbances that they go through. This article is a review of the stages, changes, problems that women face and help that the women can receive.

Stages of Menopause: Menopause is a complex process with several stages and transitions. These stages include perimenopause, menopause, and postmenopause. Perimenopause is the transitional phase leading up to menopause. It can start several years before menopause and is characterized by irregular menstrual cycles and hormonal fluctuations (6). Menopause itself is defined as the point when a woman has not had a menstrual period for 12 consecutive months. It marks the end of the reproductive years. At this stage, the ovaries have largely ceased to release eggs, and there is a significant decline in estrogen and progesterone production (7). Postmenopause refers to the period of time after menopause has been established. During postmenopause, hormonal levels stabilize at lower levels, and many of the acute symptoms associated with perimenopause, such as hot flashes, may diminish (8).

The timing of menopause is influenced by various factors, including genetics, lifestyle, and overall health. It's important for women to seek medical advice and support during these stages to manage symptoms and address potential health risks associated with menopause. The age of menopause onset, also known as the average age of menopause, can vary among women but typically occurs around the late 40s to early 50s. The average age of natural menopause in most populations is estimated to be between 45 and 55 years. The average age of natural menopause is often cited as around 51 years old in Western populations (9). Early menopause, also known as premature menopause, can occur before the age of 40. This can be caused by various factors, including genetics, certain medical conditions, surgery (such as hysterectomy with ovary removal), and lifestyle factors like smoking (10). Some women experience menopause later than the average age, often in their late 50s (11). The average age of menopause can vary among different ethnic and racial groups. For example, some studies have suggested that African American and Hispanic women may experience menopause slightly earlier than Caucasian women (12).

Biochemical changes: The biochemical changes collectively result in the transition to menopause, with its associated physiological and symptomatic changes. One of the hallmark biochemical changes in menopause is the decline in estrogen levels. Estrogen is primarily produced by the ovaries. As women age, there is a decrease in the number of ovarian follicles

and a reduction in estrogen production. This decrease in estrogen levels leads to various menopausal symptoms and changes in the female reproductive system. Progesterone, another hormone produced by the ovaries, also decreases during menopause. As such this hormone plays a role in regulating the menstrual cycle and preparing the uterine lining for potential pregnancy (5). As estrogen levels decline, the body's feedback mechanisms respond by increasing the secretion of follicle-stimulating hormone (FSH) from the anterior pituitary gland. Elevated FSH levels are a characteristic marker of menopause (13). Women are born with a finite number of follicles (primordial follicles) containing immature eggs. As they age, the number of these follicles decreases, leading to a decline in both the quantity and quality of eggs. This process contributes to irregular menstrual cycles and eventually the cessation of menstruation (14).

While the ovaries are the primary source of estrogen and progesterone, other tissues in the body, such as adipose (fat) tissue, also produce small amounts of these hormones. These extra-gonadal sources of estrogen can partially compensate for the decline in ovarian hormone production but cannot fully replace it (15). These hormonal changes can lead to various symptoms, including hot flashes, night sweats, vaginal dryness, and mood swings (16,17).

Symptoms of Menopause: Menopause is often associated with a range of symptoms, including hot flashes, night sweats, mood swings, sleep disturbances, vaginal dryness, and changes in sexual function. These symptoms can vary in intensity and duration among women (18). The transition into menopause is known as perimenopause, which can start several years before menopause itself. During perimenopause, menstrual cycles become irregular, and women may experience some of the symptoms associated with menopause (19). These group of signs and symptoms associated with menopausal stage are termed as menopausal syndrome (20).

Long-Term Health Effects: Beyond the immediate symptoms, menopause can have long-term health effects. For example, the decline in estrogen levels is associated with an increased risk of osteoporosis and cardiovascular disease (21). The decline in estrogen levels during menopause is associated with a loss of bone density. Over the long term, this can lead to an increased risk of osteoporosis and fractures (22). Estrogen has cardiovascular protective effects, and its decline during menopause may contribute to an increased risk of cardiovascular disease (23). Some research suggests that hormonal changes during menopause may be associated with changes in cognitive function (24). Estrogen decline can lead to changes in the genitourinary system, including vaginal dryness, atrophy, and an increased risk of urinary incontinence (25). Hormonal changes can also effect psychological well-being (26). Changes in metabolism and hormonal fluctuations can contribute to weight gain during and after menopause (27).

Psychological changes during menopause: रजोनिवृत्तौ स्थितानां महिलानां चिन्ता, तनावः, निद्राहीनता, असुरक्षा च विषयाः भवन्ति । These are diverse and can include mood swings, anxiety, irritability, and changes in overall emotional well-being. Women in menopause have hormonal fluctuations that contribute to mood swings and an increased risk of depression (28). Increased levels of anxiety and stress, life changes, sleep disturbances, irritability and emotional changes are common during this phase (29,30). Other aspects noticed include,

forgetfulness, difficulty in concentration, sleep disturbances accompanied by irritability (31, 32). A decrease in self-esteem is noticed due to changes in physical appearance and body composition (33).

Hormonal fluctuations are the main reason for this. Estrogen has a widespread influence on the central nervous system, including the brain regions involved in mood regulation (34). Estrogen affects the synthesis, release, and reuptake of neurotransmitters such as serotonin, dopamine, and norepinephrine (35). The decline in estrogen levels can influence serotonin activity, contributing to mood disturbances (36), affect neuronal health, contributing to cognitive changes and mood disturbances (37). Estrogen has been shown to influence the activity of the hypothalamic-pituitary-adrenal (HPA) axis, which is involved in the body's stress response.

Changes in estrogen levels may affect the regulation of the stress response, contributing to anxiety and irritability (38). All these factors contribute to Insomnia (39), irregular sleep-wake cycles (40), hot flashes and night sweats (41). Women are also prone to increased risk of sleep-disordered breathing such as sleep apnea during menopause (42). In some women, Restless Legs Syndrome is seen which is the urge to move the legs that can also contribute to sleeplessness (43). In some women, hormonal changes during menopause can lead to increase in circadian rhythms which potentially affect their timing of sleep or the onset of wakefulness leading to disturbed sleeping quality (44, 45). The above-mentioned reasons for sleeplessness can contribute to the psychological disturbances in women going through the phase of menopause.

Support to be given to Women in Menopause: Women in menopause may benefit from various forms of support due to the physical, emotional, and psychological changes associated with this life stage. Regular healthcare check-ups and discussions with healthcare providers can help women navigate the physical and emotional changes associated with menopause. Healthcare professionals can provide information on symptom management, hormonal therapy options, and overall health promotion (46). There are options of Hormone Therapy counselling that help making informed decisions and individualizing treatment plans (47). Guidance on adopting a healthy lifestyle, including regular exercise (48), a balanced diet, and stress management, can contribute to overall well-being during menopause (49). Cognitive Behavioural Therapy (CBT) can be effective in addressing symptoms such as insomnia, anxiety, and mood disturbances during menopause (50). Making the Women and the family members to participate in educational programs that provide information on menopause, its symptoms, and available management options empowers women and also educate their family to make informed decisions about their health (51). रजोनिवृत्तिकाले महिलानां कृते पारिवारिकसमर्थनं महत्त्वपूर्णं भवति.

Conclusion: Menopause is seen in women above 40 years and it has been observed that women do not know much about the events that happen at this phase. Educating women between the age group from 37 years to 50 years on the biochemical changes that take place in the body and what changes happens during this phase is the primary objective of this chapter. The changes in the hormones are the main reasons for the psychological changes which are accompanied by changes in the way women express their frustrations, anxiety, stress and insecurities. Women and also the family need to be educated and also be explained

about health management. Changes in life style, dietary habits, exercise and therapy can contribute to management of symptoms during this phase.

“प्रत्येकं मानवः स्वस्य स्वास्थ्यस्य वा रोगस्य वा लेखकः भवति”

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