

## MENOPAUSE TRANSITION: AN EMERGING PUBLIC HEALTH CONCERN AND THE ROLE OF NURSES (Postprint)

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**Date:** 2023-03-06T00:00:00+00:00

### Abstract

Menopause halts reproductive life of a woman and signpost a gradual decline in ovarian function. This phase of life has significant impact on physical, psychological and social well-being of an individual woman as well as their Life Satisfaction (LS). Menopausal women experienced signs and symptoms which may include; hot flushes; night sweats; osteoporosis, vaginal dryness, reduction of pubic, axillary and head hair; reduces hours of sleep and triggers moodiness. Dynamics associated with menopausal period are reduced cervical size, uterine cavity and fallopian tube; reduction in the size of clitoris, emergence of gray hair on the scalp and the breasts also become less full and solid. These symptoms usually occur in different ways depending on the individual and as such, some women only have mild symptoms and are able to manage themselves.

### Full Text

#### Preamble

**ChinaXiv-NursRxiv DOI:** 10.12209/issn2708-3845.20230209003

**Version:** 1.0

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### MENOPAUSE TRANSITION: AN EMERGING PUBLIC HEALTH CONCERN AND THE ROLE OF NURSES

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## Abstract

Menopause marks the cessation of a woman's reproductive life and signals a gradual decline in ovarian function. This phase significantly impacts physical, psychological, and social well-being, as well as life satisfaction (LS). Menopausal women experience various signs and symptoms including hot flashes, night sweats, osteoporosis, vaginal dryness, reduced pubic, axillary and head hair, decreased sleep duration, and mood disturbances. The physiological changes associated with menopause include reduced cervical size, uterine cavity, and fallopian tubes; clitoral atrophy; emergence of gray hair; and loss of breast fullness and firmness. These symptoms manifest differently among individuals, with some women experiencing only mild symptoms that are self-manageable.

However, women with moderate to severe menopausal symptoms face serious health issues requiring medical intervention. Many women are adversely affected by these physiological changes due to lack of awareness about menopausal transition, sometimes leading to health concerns. Public Health Nurses are uniquely positioned by virtue of their profession to create awareness and sensitize women about menopausal transition and potential symptoms. This paper presents the concept of menopause, its symptoms, associated myths and facts, management strategies, and the role of Public Health Nurses in improving menopausal women's health and life satisfaction.

**Keywords:** Menopause, Transition, Public Health Issues

## Introduction

Menopause is the process marking the cessation of a woman's menstrual cycle, while postmenopause is the period that follows [1]. During this stage, the body gradually produces less progesterone and estrogen, causing menstrual cycles to stop naturally. This phase is also known as the climacteric transition. Menopause can occur naturally, prematurely, slowly, involuntarily, surgically, or artificially, with natural menopause characterized by a steady decline in ovarian function. It typically occurs after twelve months of amenorrhea in midlife women. Premature menopause, whether natural or induced, occurs before age 40 [2], while delayed menopause occurs after age 58 [3,4].

These hormone deficiencies produce various somatic, vasomotor, sexual, and psychological symptoms that affect women's life satisfaction (LS) [5]. LS has been defined as "a person's general evaluations of his or her life" [6] and is particularly relevant to human life and hope in relation to thoughts and feelings during problematic conditions. The experiences of many menopausal women

lower their LS, making their general health status a global concern [6]. Studies show that perimenopausal and early postmenopausal stages have the most profound effects on LS, especially among symptomatic women [7].

Historically a concern in wealthy nations, menopause is becoming increasingly significant in developing countries as maternal mortality declines and life expectancy rises. Approximately 25 million women worldwide go through menopause annually, with projections indicating 1.2 billion menopausal and postmenopausal women by 2030, including an additional 47 million women entering this population each year. In sub-Saharan Africa alone, roughly 5 million women will reach middle age during 2020–2030 [8].

According to the World Health Organization, the number of people over 60 years in sub-Saharan Africa will rise from 46 million in 2015 to 157 million by 2050. With sub-Saharan African women having an average life expectancy of 76 years, the number of women experiencing menopause (typically between ages 45 and 55) will increase substantially. This population raises special considerations, as these women will spend a significant portion of their lives in postmenopause.

Menopausal symptoms negatively impact both women's sexual activity with their husbands and their daily activities [9,10]. Psychological, somatic, vasomotor, and sexual symptoms affect functional ability and general well-being, with hot flushes, headaches, sadness, bone pain, sleep disturbance, palpitations, irritability, loss of sexual desire, anger, urinary incontinence, and fatigue all detrimentally affecting quality of life [11,12].

Research on Nigerian women in Imo state, particularly in metropolitan areas, found that their postmenopausal symptom experiences are comparable to those in other cultures. While most menopausal symptoms are common, cultural norms promoting positive attitudes about menopause enable women with moderate symptoms to manage without medical attention [10]. However, women with moderate to severe symptoms view them as serious health issues and seek therapy [13].

Hormonal changes during menopause impact women's moods, with some reporting anger, despair, and mood swings—experiencing extraordinary highs and severe lows in quick succession. These hormonal fluctuations can significantly affect women, sometimes making them feel completely overwhelmed as if they have temporarily lost control of their lives [14,15]. Menopausal women's quality of life is greatly influenced by their roles, social circumstances, and cultural norms. Social interactions provide significant support and help women cope with stressors and life problems, which can have substantial psychological impact.

Understanding menopausal transition, its symptoms, and associated myths and facts is necessary so that policymakers can include menopausal care in comprehensive sexuality education and healthcare personnel can support healthy transition into menopause.

## Developmental Stages from Menarchy to Menopause

The following table outlines the hormonal changes and diagnostic criteria across reproductive life stages:

Developmental Stage	Age Range	Hormonal Level	Status
Onset of menstruation (Menarche)	12-16 years	Normal estrogen and progesterone	Reproductive stage
Reduction in quality and quantity of menstruation	35-40 years	Reduced hormonal levels	Pre-menopause
Fluctuation of menstruation	41-49 years	Reduced hormonal levels	Perimenopause
Final stoppage of menstruation	50-55 years	Hormone cessation	Menopause
Consecutive months without menstruation	55+ years	Hormone reduction; reproductive organ atrophy	Postmenopause

*Adapted from Cleveland Clinic 2019 [16]*

The body begins producing less estrogen during menopause, altering the hormone balance and causing negative signs associated with this estrogen decline [16,17]. While menopause is a natural part of aging, certain factors can trigger early onset before age 40, including chemotherapy, autoimmune diseases, pelvic radiation therapy, oophorectomy, hysterectomy, and conditions like Turner syndrome—collectively termed early ovarian failure.

### Stages of Menopause

According to Field-Springer et al. [1], the spontaneous transition process of natural menopause can be distinguished into early and late perimenopause as well as early and late postmenopause phases. The National Institute on Aging and National Institutes of Health identifies three stages: (1) **Perimenopause**, which begins with menstrual fluctuations several years before final cessation; (2) **Menopause**, defined as the end of menstruation, established twelve months after amenorrhea; and (3) **Postmenopause**, the years following menopause that vary by individual [18].

Perimenopause marks the onset of endocrinological, biochemical, and clinical signs of impending menopause [19]. Shukla et al. [20] postulated that the transition can be divided into three phases:

**Perimenopause** typically begins around age 40 and can extend 8-10 years prior to natural menopause. Estrogen production gradually declines during this period, marked by menstrual irregularities such as shortened cycles, variable flow duration, or excessive bleeding, along with increased mood problems, insomnia,

and hot flashes [21]. The climacteric transition results from biological aging, occurring gradually over years rather than abruptly.

**Menopause**, known as the final stage that draws curtains on the menstrual cycle, occurs when ovaries stop producing eggs. It is diagnosed when a woman experiences 12 consecutive months without menstruation. At this point, women face health challenges including hot flashes, daytime and night sweats, libido decline, weight gain, hair loss, anxiety, mood swings, irritability, fatigue, and temporary memory loss.

**Postmenopause** refers to the years after menopause. During this stage, menopausal symptoms such as hot flashes begin to subside for most women, though they remain at risk for cardiovascular disease, sleeplessness, osteoporosis, breast cancer, and urinary tract infections [22].

## Menopausal Symptoms

Menopausal symptoms can impair women's daily activities and sense of well-being throughout the transition phase.

### Sexual Symptoms of Menopause

The menopausal transition is typically accompanied by irregular menstrual cycles due to decreased ovarian response to pituitary gonadotropins. Luteinizing Hormone (LH) and Follicle Stimulating Hormone (FSH) levels decrease, resulting in less frequent ovulation, shorter follicular phases, reduced progesterone synthesis, and irregular cycles. Subsequently, estrogen production ceases while sexual desire and libido decrease, accompanied by smaller, less firm breasts and dyspareunia [21].

### Mental and Emotional Signs of Menopause

These include loneliness, anxiety, temporary memory loss, depression, irritability, insomnia, sexual dysfunction, infertility, psychological distress, and social disruption [22]. Sleep disorders (insomnia) are the most typical sign of depressive disorders during menopause, including: (i) continuous sleep disorders—reduction in slow-wave sleep time and REM sleep abnormalities; (ii) early wakefulness—a trait of depressive disorders; and (iii) sleep problems—the hallmark of anxiety disorders. Insomnia is defined as sleep problems that deprive individuals of adequate rest or cause difficulty achieving sound sleep, closely related to modern civilization's advancement and disconnection from natural life cycles [23].

### Vasomotor Symptoms of Menopause

Many menopausal women experience vasomotor disturbances commonly known as hot flushes—a sensation of warmth spreading from the chest to the face and neck. Hot flushes are often accompanied by sweating and sleep disturbances,

occurring as frequently as 20-30 times daily and typically lasting 3-5 minutes [23]. Osteoporosis also occurs, as estrogen mineralizes bones and prevents natural breakdown, but its decline during menopause greatly accelerates bone loss.

### **Somatic Symptoms**

Somatic symptom disorder features physical symptoms such as pain or fatigue that cause major emotional distress and related problems [11]. Manifestations include fatigue, anger, irritability, and dizziness, with menopause symptoms potentially triggering known depressive disorders.

## **Menopause Myths**

### **Myth 1: Menopause Begins at 50 and Above**

Menopause might start at age 50, 42, 36, or 61. While menopause typically begins at age 52, hormonal decline can initiate the process anytime between ages 30 and 60.

### **Myth 2: Weight Gain is Inevitable in Menopause**

Weight gain during menopause is not inevitable but may be more complex than simple “calories in, calories out.” As women enter perimenopause and menopause, ovaries produce fewer sex hormones, potentially causing imbalance. The body may attempt to defend itself, making physical exercise necessary to reduce weight increase.

### **Myth 3: There’s No Difference Between Natural and Surgical Menopause**

Women must understand the differences between surgical and natural menopause. A total surgical hysterectomy causes instantaneous, profound hormonal alteration overnight, unlike natural menopause’s longer transition.

### **Myth 4: Menopause Will Decrease Libido**

Sex can be enjoyable and beneficial at any age. However, many women are misinformed that spermatozoa will be stored in their abdomen since they no longer menstruate, and that libido decline is a “natural” component of aging—a significant problem in clinical practice.

### **Myth 5: Hot Flashes are Mandatory**

Although media consistently associates menopause with hot flashes, initial menopausal signs may actually be any of various symptoms.

### **Myth 6: Female Hormones Completely Stop at Menopause**

Hormones continue to be produced, though in reduced amounts, no matter how long after menopause has started. The adrenal glands become primary producers, creating 50% of estrogen and progesterone throughout menopause.

### **Myth 7: Age at Menarche Relates to Age at Menopause**

The exact reverse is true for many women. Many start menopause earlier despite beginning menstruation later than usual. While predicting menopause

onset is difficult, some guides include: the year of one's mother's menopause onset, smoking status (which may cause early menopause), alcohol consumption (which may delay menopause), and pregnancy history (with more pregnancies indicating delayed menopause).

#### **Myth 8: Physical Symptoms Only Signify Menopause**

Feeling depressed or blue may occur, sometimes compared to a “raving madman.” Hormonal changes during perimenopause and menopause cause many women to report unsettling changes in emotions, memory, and focus. Mood swings may result from estrogen and progesterone variations, with reduced progesterone making women more irritable and moody.

#### **Myth 9: The Best Way to Get Through Menopause is to Take Hormones**

Choices are always available regarding one's body and health. Given potential hazards and side effects of hormone replacement therapy (HRT), it is extremely important to be aware of alternatives [26].

### **Menopause Interesting Facts**

Approaching menopause can be frightening, with perimenopausal years bringing subliminal fear that menopause will make one “less of a lady.” Women may question whether their prime has passed.

#### **Menopause Engenders Hot Flashes**

Hot flashes are the most common menopausal symptom, possibly resulting from hypothalamic alterations.

#### **There May Be Headaches**

Hormonal changes may cause menopausal women to experience unprecedented headaches, particularly likely in women who previously experienced menstrual headaches or headaches while using oral contraceptives.

#### **May Cause Sleep Disturbance**

Perimenopause can disrupt sleep, partially caused by nighttime hot flushes.

#### **May Cause Brain Fog**

Memory and clarity issues may occur, potentially caused by hot flashes (night sweats), insomnia, and interrupted sleep.

#### **May Cause Emotional Roller Coaster**

Menopausal women are more likely to suffer mood fluctuations unlike anything they have previously experienced.

#### **There May be Vaginal Dryness**

As estrogen declines, women commonly experience dryness and vulvo-vaginal issues including itching, discharge, pain, or burning.

#### **There May be Reduced Libido**

Menopausal women may experience decreased sexual desire, though some may

experience stronger than typical sexual desire.

#### **Embarrassing Leakage is Likely**

Urinary incontinence may occur due to decreasing estrogen causing urethral lining thinning, resulting in uncontrollable urine leakage.

#### **Skin Changes May Occur**

Skin may become less elastic and wrinkled, drier than usual, with thickness and collagen loss when estrogen levels are low.

#### **Changes in Hair Growth**

Hair becomes thinner and may grow in unpleasant places such as the chin or upper lip, caused by altered androgen-to-estrogen hormone ratios [27].

### **Management of Menopause**

Several treatments may be helpful when menopausal symptoms become severe enough to negatively affect daily living and functional ability, depending on symptoms and medical history [28]. The Consumer Education Committee of the North American Menopause Society has outlined these symptoms and management techniques [27,28].

#### **Management of Vasomotor Symptoms of Menopause**

**Hot Flashes** are the most common symptom experienced during menopause, both day and night (night sweats). Obese women experience more hot flashes, which may be mild and manageable, moderate and bothersome, or severe and incapacitating [28,29]. Treatment depends on severity and is individualized.

**a. Lifestyle Changes** -Women with hot flashes have sensitive thermostats ingrained in their brains, making them more environmentally sensitive. Staying cool and reducing stress is helpful. Preventive measures include avoiding triggers such as warm rooms, hot drinks, hot foods, alcohol, caffeine, bright lights, excess stress, and smoking. Engaging in light regular exercise, adequate rest, using cotton clothing and bed linens (which do not generate heat), dressing in removable layers, and maintaining healthy weight are also recommended.

**b. Nonprescription Remedies** -Supplements containing soy isoflavones like Promensil and tofu minimize hot flashes. Remedies containing black cohosh, such as Remifemin, also reduce hot flashes.

**c. Prescription Therapies** -Hormonal options like Hormone Replacement Therapy (HRT) reduce hot flashes but have side effects. Several antidepressants also reduce hot flashes, including escitalopram, venlafaxine, and paroxetine (Paxil) (Lexapro). Gabapentin (Neurontin), used for epilepsy, migraines, and nerve pain, reduces hot flash frequency. Sleeping pills may not stop hot flashes but can prevent insomnia.

## Management of Sexual Symptoms of Menopause

**Vaginal Dryness/Atrophy** causes dryness, stinging, burning, discomfort, and pain during sexual activity. Other symptoms include reduced elasticity, decreased secretions and lubrication, and vaginismus (involuntary vaginal muscle tightening). These significantly affect quality of life and sexual satisfaction, worsening over time due to estrogen deficiency and aging, unlike hot flashes [3,4].

### Treatment includes:

**Nonhormonal Remedies:** (a) **Vaginal Lubricants** such as K-Y Jelly, Astroglide, and K-Y Silk-E reduce discomfort during intercourse; (b) **Vaginal Moisturizers** like Replens and K-Y Liquid beads line vaginal walls and maintain moisture; (c) **Frequent Sexual Stimulation** promotes blood flow and secretions; (d) **Vaginal Dilators** can stretch and enlarge the vagina after severe atrophy, especially with infrequent sexual activity or vaginismus.

**Pelvic Muscle Exercises (Kegel exercises)** strengthen weak pelvic and vaginal muscles and reduce incontinence episodes.

**Vaginal Estrogen Therapy** restores healthy vaginal pH, increases tissue thickness and suppleness, enhances secretions, and relieves dryness and discomfort.

## Management of Menopause Psychosocial Symptoms

**Depression and Irritability** are managed with Selective Serotonin Reuptake Inhibitors (SSRIs), antidepressants frequently prescribed to menopausal women because they lessen hot flashes. Examples include citalopram (Cipramil), dapoxetine (Priligy), escitalopram (Cipralex), and fluoxetine (Prozac or Oxactin). SSRIs are highly effective but can cause nausea, anxiety, and decreased libido [30].

## Management of Somatic Symptoms

**Somatic symptom disorder** may benefit from psychotherapy (talk therapy) and occasionally drugs, especially when depression is present. Massage therapy, yoga, moderate exercise, and physical activities are recommended. Women should join menopausal support groups to verbalize anxiety and seek help from healthcare practitioners [31].

## Management of Osteoporosis

**Calcium and Vitamin D Intake:** Consume two to four servings of dairy products and calcium-rich foods daily, including fish with bones (canned salmon, sardines), broccoli, and legumes. The goal is 1,200 milligrams of calcium daily. Vitamin D supplements are encouraged and can be obtained from early morning sunshine.

**Regular Light Exercise:** Walking instead of using elevators and Kegel exercises strengthen pelvic floor muscles, preventing uterine prolapse and urine leakage.

#### **Other Treatments:**

**Hormone Replacement Therapy (HRT):** Several HRT types replace estrogen lost when ovaries stop production. The three primary varieties are: (1) **Cyclical HRT** -contains estrogen and progesterone for women still having periods but experiencing symptoms; (2) **Estrogen-Only HRT** -for women whose wombs and ovaries have been removed; (3) **Continuous-Combined HRT** - for postmenopausal women who have gone more than a year without periods.

HRT successfully prevents night sweats, vaginal discomfort, and hot flashes. Long-term use helps prevent bowel cancer and osteoporosis, though studies reveal connections between HRT and breast cancer and stroke [18].

**Tibolone**, similar to HRT, is frequently used by postmenopausal women as combined HRT alternative, reducing night sweats, hot flashes, and sexual anxiety.

**Clonidine**, originally developed for hypertension, helps some women have fewer hot flashes and night sweats.

### **Herbal Treatments for Menopause**

Several homeopathic treatments may lessen symptoms:

**Black Cohosh** has undergone extensive testing. Studies show this root-based remedy aids hot flashes, though it should be avoided by those with liver issues.

**Wild Yam** lotions and supplements are popular menopause treatments. Yams contain natural substances resembling human progesterone and estrogen, and while no clinical trials demonstrate efficacy, some women find this a helpful HRT alternative.

**Red Clover** is a well-known supplement for menopause symptoms, though research remains ongoing [27].

### **Dietary Needs and Health Promotion During Menopause**

Women during menopause should aim for the following dietary groups [9]:

**Dietary Guidelines Typically Adopted for Menopause:** Eat varied foods to obtain necessary nutrients for this life stage.

**Increase Iron Intake:** Consume at least three servings of iron-rich foods daily, including non-fatty red meat, chicken, fish, eggs, leafy green vegetables, nuts, and enriched grain products. The daily recommended iron intake for older women is 8 milligrams.

**Consume Enough Fiber:** Adult women need about 21 grams of fiber daily from whole-grain breads, cereals, pasta, rice, fresh fruits, and vegetables.

**Consume Fruits and Vegetables:** Eat at least 1½ cups of fruit and 2 cups of vegetables daily, including vegetable smoothies, almond nuts, carrots, oranges, grapes, and leafy vegetables. Make plates colorful with vegetable varieties.

**Examine Labels:** Read package labels to make wise choices and avoid stimulants that can spike symptoms.

**Drink Plenty of Water:** While the general rule is eight glasses daily for healthy adults, menopausal women should drink more to cool their bodies and prevent hot flash effects.

**Maintain Healthy Weight:** Eat fewer high-fat meals and smaller portions if overweight. Don't skip meals; engage in regular exercise, weight checks, and body mass index monitoring.

**Limit High-Fat Foods:** Fat should comprise 25-35% of daily calories maximum, with saturated fat no more than 7% of daily intake. Saturated fat (found in cheese, full milk, ice cream, and fatty foods) increases cholesterol and heart disease risk. Avoid trans fats in some margarine, baked goods, and vegetable oils, and keep daily cholesterol intake at 300 milligrams or less.

**Reduce Salt and Sugar:** Use in moderation, as excess sugar and sodium can lead to diabetes and hypertension. Avoid smoked, salted, or charbroiled foods containing nitrates linked to cancer.

**Limit Alcohol Intake:** To one drink or less daily.

**Soya** contains estrogen-like substances and is considered a potent menopause treatment.

## Public Health Concerns

Many non-communicable diseases and related mortality can be prevented through proper nutrition, healthy lifestyle, and regular exercise. Overweight and obesity are significant risk factors for these diseases but can be prevented through balanced diet and physical activity [9]. Life stages require lifestyle and dietary modifications; menopause increases needs for some nutrients while decreasing others. Nurses must better understand menopausal symptoms and encourage women to verbalize feelings and seek appropriate medical care to relieve symptoms.

## Role of Public Health Nurses

Public Health Nurses should provide health information that improves life satisfaction for menopausal women and encourage regular medical checkups, including yearly physical examinations of blood pressure, bone density, and blood sugar levels. Through health information and screening, they should improve

overall midlife women's health by addressing controllable elements such as comorbidity problems. They must inform premenopausal and perimenopausal women about healthy diets focusing on fiber, micronutrients, phytochemicals, and antioxidants. Regular light exercise and lifestyle changes are important for coping with menopause challenges. Nurses should dispel misconceptions about this critical life stage, enabling women to address difficulties directly, relieve symptoms, enjoy sexual life, and ultimately prolong life. Community health practitioners should plan and execute nurse-led interventions focused on menopausal women's health and wellbeing in community settings. Governments, program planners, and policymakers should develop health programs and policies to improve life satisfaction for women in this important life phase.

## Conclusion

Every woman will eventually experience menopause, making awareness of its signs and symptoms essential for preparation, healthier living, and contribution to family and national economic development. As the adage suggests, "the best informed man is the most successful man in life," leading to the conclusion that nutritionists and public health professionals should launch programs educating about healthy lifestyle during menopause to lessen symptoms and chronic non-communicable disease risk. This will inform premenopausal, perimenopausal, and menopausal women about appropriate diets rich in micronutrients, phytochemicals, antioxidants, and fiber. Ultimately, this helps women manage menopausal difficulties, dispel myths, control symptoms, enjoy sexual activity, and live longer. Family support, especially from husbands, is advised during this vital time. Governments and non-governmental organizations should encourage comprehensive sexuality education programs including menopause, as women nearing menopause typically need information and time rather than just medication.

**Conflicts of Interest:** There are no conflicts of interest.

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*Note: Figure translations are in progress. See original paper for figures.*

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