Menopause and Sexuality

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KEYWORDS

• Menopause • Sexuality • Vulvovaginal atrophy • Hypoactive sexual desire disorder
• Hormone therapy

KEY POINTS

- Sexual dysfunction increases with age and is highly prevalent among menopausal women.
- Most menopausal women consider sex to be an important part of their life and strongly desire to maintain sexual activity.
- Few women disclose their concerns to health care providers; therefore, health care providers should routinely query perimenopausal and menopausal patients about their satisfaction with their sexual functioning.

INTRODUCTION

Sexuality may impact quality of life through effects on the emotional and psychological health of a woman. Consequently, clinicians who take care of women appreciate when they may be vulnerable to sexual dysfunction. The menopausal transition, a time characterized by hormonal, physiologic, and social changes, is often associated with sexual dysfunction. The physiologic mechanism by which the menopausal transition affects sexual health involves declining and fluctuating gonadal steroid hormone levels that adversely affect elasticity of the vaginal mucosa and vaginal secretions and result in vaginal atrophy and pain with sexual intercourse.[1] Additionally, social conditions or life stressors, such as divorce, lack of a partner, job loss, or declining health, may affect desire for sexual intercourse.

Improved access to medical care and nutrition has increased the average life expectancy. Therefore, the average woman making the transition into menopause can expect to live for at least 25 years.[2] With increased expectations for a longer and

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healthier life, women are thinking more about quality-of-life issues, which include maintaining sexual function.[3] Additionally, attitudes and expectations regarding sexual function were further impacted when the Food and Drug Administration (FDA) approved phosphodiesterase type 5 inhibitors for male erectile dysfunction, which resulted in more menopausal women with male partners who have renewed sexual interest and improved function.[4,5]

ATTITUDES ABOUT SEX AND THE MENOPAUSE

Regardless of age and menopausal status, sexual interest continues for many women. Seventy-six percent of middle-aged women in the Study of Women's Health Across the Nation (SWAN) reported sex was moderately or extremely important to them.[6] Even though sex is important to reproductively senescing women, sexual activity and function decline with age. In the Women's Healthy Aging Project cohort, an extension of the Melbourne Women's Midlife Health Project, a significant decline from 74% to 56% in sexual activity ($P<.001$) was reported between early postmenopausal women and late postmenopausal women.[7] Short Personal Experience Questionnaire (SPEQ; a 9-item sexual-function instrument) scores also indicated that 42% of early perimenopausal women had sexual dysfunction in the Melbourne Women's Midlife Health Project at baseline. After 8 years of follow-up, the percentage of women with sexual dysfunction, as determined by SPEQ scores, more than doubled to 88%.[8] The etiology of this decline in sexual function and activity may vary and is often multifactorial. Thus, a careful evaluation is required to determine the cause and recommend the best intervention.

PHYSIOLOGY

In the regularly menstruating woman, in each month's follicular phase, follicle-stimulating hormone (FSH) stimulates follicular growth and estradiol synthesis. Increasing estradiol production from the dominant follicle mediates a negative feedback and suppressive effect on FSH and luteinizing hormone (LH). Estradiol synthesis from the dominant follicle continues until a critical level is reached and estradiol-positive feedback induces an LH surge and ovulation.[9] Estradiol synthesis during the menstrual cycle affects vaginal secretions and the vaginal mucosa.

PATHOPHYSIOLOGY

Multiple physiologic changes that occur during the menopausal transition result from reduced ovarian reserve, defined by reduced numbers of gonadotropin-responsive follicles. Menstrual cycles in late perimenopausal women are characterized by increased FSH, decreased inhibin B, and irregularly short and long cycle lengths.[10] Until the time of the last menstrual period (LMP), estradiol levels are equally variable in perimenopausal women. By the time of the LMP, women enter a persistent state of hypogonadism and hypergonadotropism (elevated FSH and LH).[11,12] After estradiol falls, estrone, primarily generated by the aromatization of androgens, becomes the main circulating estrogen. Compared with estradiol, serum androgen levels demonstrate a steady but less dramatic decline (**Fig. 1**).[8,13] The less dramatic fall in serum androgens is related to the decrease in sex hormone binding globulin associated with hypoestrogenism.[14]

SEX AND HORMONES

Hormonal changes during menopause may impact sexual functioning. A prospective, population-based study of Australian-born women, observed for 8 years as they