

Sexuality as women age

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An older couple were seated in the examination room, he (Ken) on the exam table and she (Trish) in the chair next to him. It was hard to believe that this good-looking man and woman were in their late-70s. They seemed to be the perfect picture of health and marital happiness. However, Ken had just completed radiation therapy following prostatectomy for prostate cancer, and Trish had undergone a partial mastectomy several years previously. She was on antiestrogen therapy and had suffered from bouts of depression. Both Ken and Trish had hypertension and hypercholesterolemia that required multidrug therapy, and both also had arthritis pain that caused them to curtail many of their activities.

They frequently accompanied each other to the office for checkups. On the occasions when they scheduled separate visits, they still ended up in the same examination room, sharing medical concerns just as they had shared their lives for many years. Wrapping up the current visit, I was expecting Trish to launch into her customary questions about the latest medical news, so I was caught off guard when Ken turned to me and spoke.

“You know, doctor,” he said, “this has been a tough year for us. I am starting to feel stronger, and I’m glad that the lab work looks good. But this surgery and radiation have ruined our sex life. Even if she happens to be in the mood, I just can’t satisfy her the way I used to, even with that medicine you gave me.”

“That’s not it, Ken, and you know it,” Trish interjected. “It’s just not the same for either of us anymore, and it’s no one’s fault. Stop blaming yourself!”

“No, now, I’m not blaming myself or you,” Ken responded. “It’s just...you know, all our family is gone. Our relationship is what’s really important to us. Trish and me, doc, we’re all we’ve got!”



Regardless of age, sexual preference, physical disability, or medical condition, human beings are sexual beings. Sexuality is a measure of overall health and quality of life throughout the lifespan. Physical intimacy does not diminish in importance as we grow older. Although it has been observed that the frequency of sexual encounters decreases with age,^{1,2} older persons report that sex takes on a deeper meaning when the hectic activities of careers and child-raising have slowed. Sexuality for older persons also encompasses new dimensions. Emotional closeness, hugging, snuggling, touch, massage, kissing, and oral sex may prove to be both as pleasurable and satisfying as sexual intercourse.³

Several large studies have confirmed the importance of continued sexual intimacy with aging. A recent review of data from the American Association of Retired Persons (AARP) Modern Maturity Sexuality Survey¹ led to the conclusion that the “expression of sexuality in later life is an interplay of mind, body, and social context.” In 2003, the

Wisconsin Longitudinal Study⁴ mail survey tabulated the responses of 2,156 men and 1,955 women to questions regarding physical health, sexual functioning, psychological distress, and satisfaction with relationship. Results of the study demonstrated that sexual expression remains an important aspect of intimate relationships into the seventh decade of life.⁴

The National Social Life, Health, and Aging Project (NSHAP)² used a survey to explore sexual practices in 3,005 adults in the United States who were aged 57 to 85 years and who were sexually active (defined as “any mutually voluntary activity with another person that involves sexual contact, whether or not intercourse or orgasm occurs”). Results, published in 2007 in the *New England Journal of Medicine*, confirmed that aging is associated with progressively less sexual activity, which was lowest in the oldest cohort (age > 75 years).² Yet even in this group of noncelibate elders, 54% of respondents reported having sexual contact at least two or three times

per month, and 23% reported having sexual contact once a week or more.

A recent cross-sectional analysis compared results from the NSHAP² and the Midlife Development in the United States national survey (which defined sexual activity as having “had sex with anyone”) to measure sexual activity, quality of sexual life, interest in sex, and average remaining years of sexually active life (ie, “sexually active life expectancy”).⁵ The results showed that sexual activity, good quality sex life, and interest in sex were rated higher among men than women, and this gender gap widened with age. All sexual domains analyzed in the study⁵ were positively associated with good health in middle age and later life. For men in both study cohorts, having good or excellent health predicted a longer sexually active life. Good or excellent health also benefited women’s sexual lives, though less so than for men. The authors of the study proposed the use of “sexually active life expectancy” as an important quality-of-life indicator for public health and policy planning.⁵

As the couple I discussed in my introduction demonstrates, medical or psychological conditions that affect one partner have implications for both partners in the couple. The NSHAP survey² found that erectile dysfunction was the leading cause of sexual difficulty for men (reported by 37% of respondents), while women reported multiple problems, including diminished desire or arousal (43%), difficulty with vaginal lubrication (39%), and inability to climax (34%).

During the past decade, phosphodiesterase-5 inhibitors have provided a medical solution for erectile dysfunction (formerly considered a natural age-related change), with 14% of men in the NSHAP survey² reporting use of these drugs.

Notwithstanding the availability of treatments for erectile dysfunction, it remains a

demographic fact that more women than age-matched men lack sexual partners.² At any given age, women are less likely to be partnered in an intimate or marital relationship than are men. Death or illness of a sexual partner or lack of a partner who is interested in sex are commonly cited reasons given by older women for declines in sexual function.^{2,5,6} A recent Australian study found that the rate of women without a sexual partner increased from 15% in the group aged 40 to 49 years to 53.6% in the group aged 70 to 79 years.⁷ Lack of an able partner may account for the widening of the sexual activity gender gap with age.

Physiologic effects of aging on sexuality

Trish and Ken have been relatively fortunate in the sense that their potentially life-limiting diseases (breast and prostate cancer) were discovered early through routine screening, and they were treated aggressively. However, the long-term consequences of treatment have impacted both their sexual desire and sexual activity. Trish has experienced decreased interest in sex, vaginal dryness and soreness, which she blames on antiestrogen therapy. Ken complains of erectile dysfunction that is not adequately addressed by oral medication. As a consequence of illness and hospitalizations, they both take several antihypertension medications and other medications, and they have reduced their lifelong pattern of physical activity and social interaction. Both admit to feeling more tired and less motivated to exercise because of osteoarthritis pain in the knees, hips and back.

Many older individuals have one or more chronic conditions that cause pain (eg, fractures, osteoarthritis, osteoporosis), decreased exercise tolerance (eg, cardiovascular disease, obesity, pulmonary disease), neurologic impairment (eg, dementia, demyelinating

disease, Parkinson disease, stroke) or other effects that limit overall physical and sexual function.⁸ Diabetes mellitus is a well-established cause of erectile dysfunction, and it also causes other forms of decreased sexual function and satisfaction in both men and women.^{9,10} Urinary incontinence, which adversely affects intimacy and sexual activity, is a vexing problem that was reported by 50% of women attending a menopause clinic.⁹

Medications used to treat these and other conditions, especially those drugs with effects on the autonomic nervous system, are also implicated in sexual decline and dysfunction.^{1,10} Thus, chronic diseases themselves and the adverse effects of medications used in treatment for these diseases may negatively impact sexual function.

One might reasonably conclude that effects of disease and treatment are major factors impacting the observed decline in sexuality with aging. However, the AARP Modern Maturity Sexuality Survey¹ posed several hypotheses regarding sex and aging, covering such factors as the effects of physical, psychological and social domains on sexual behavior in later life. Surprisingly, the survey found that diagnosed illnesses and their associated treatments had little influence on the frequency of sexual behavior. Instead, the authors reported that “positive attitudes about and desire for sex and having a physically satisfying relationship were strongly associated with greater frequency of sexual behaviors in both men and women.”¹

Although physical health has been established as an essential component for optimal sexual functioning in later life, the findings of the AARP survey¹ speak to the importance of psychological well-being and social interaction in sexuality among aging individuals. In other words, relatively good health may be a necessary, but not sufficient, requirement for satisfying sex as we age.

Sexuality and menopause

Trish was diagnosed with localized breast cancer and underwent breast-conserving therapy (ie, lumpectomy) three years ago. She has been taking the selective estrogen receptor modulator (SERM) tamoxifen citrate. Although she has remained disease-free, she has complained of changes in her level of sexual desire, with occasional pain and burning during intercourse. Because estrogen therapy is contraindicated for her condition, Trish has used topical personal lubricants, which she has found to be helpful.

Most mature women agree that menopause poses challenges to a fulfilling sex life. Postmenopausal changes in the body, such as fat redistribution (ie, weight gain with tendency to central adiposity), urogenital changes (ie, vaginal atrophy, dryness, dyspareunia, dysuria or urinary incontinence), decline in bone mineral density (leading to osteoporotic fractures), skin and hair changes and vasomotor instability are common concerns.¹¹ Perimenopause is also associated with generalized body and joint aches, sleep changes, anxiety, fear and depressed mood.¹² These changes have been implicated in altered self-image and loss of self-esteem, which can negatively impact women's sexual function.

Many, if not most, of the unwanted symptoms of menopause can be mitigated by estrogen replacement. Although vaginal dryness can be reduced by topical lubricants, patients with vaginal atrophy and dyspareunia are more effectively treated with estrogen, which can be administered intravaginally, orally or transdermally.^{11,12}

Use of exogenous estrogen can reduce the vasomotor symptoms of flushing and sweating, commonly known as "hot flashes." Exogenous estrogen can also improve urinary continence by increasing urethral resistance, raising the sensory threshold of the bladder (by increasing adrenoreceptor sensitivity in urethral smooth muscle), and promoting relaxation of the detrusor muscle. In addition, estrogen increases urethral closure pressure and vascular dilatation in periurethral vessels.¹²

There are currently 2 million women in America living with breast cancer.¹³ The

impact of this cancer on female sexuality has not been well studied.¹³ SERMs are widely-prescribed antiestrogen adjuvant therapies. Despite the proposed estrogenic effect on vaginal mucosa, women treated with tamoxifen typically report decreased libido, arousal, and ability to climax while women on aromatase inhibitors are more likely to complain of vaginal dryness and dyspareunia.¹⁴ In addition to gynecological effects, tamoxifen may cause increased vasomotor symptoms,¹⁵ which can negatively impact sexual functioning.

The Women's Health Initiative (WHI)¹⁶ objectively evaluated decades of clinical practice that assumed all menopausal women would benefit from continued hormone therapy (HT). Because premenopausal women had lower levels of heart disease than did age-matched men, it was believed that estrogen was cardioprotective. It was further hypothesized that the neuroprotective effects of estrogen would prevent or delay the onset of dementia in older women. However, the results of the WHI¹⁶ proved otherwise, leading to a shift away from the use of estrogen for symptom prevention and to its use for symptom relief.¹¹

The WHI study cohort was comprised of women who were several years postmenopausal, and many of the women had preexisting heart disease.¹⁶ One of the main criticisms of the WHI¹⁶ is in regard to the population demographics selected for study. Another criticism is that the WHI failed to study effects of initiation of HT during perimenopause, when severe hazards appear to be negligible.⁸ Thus, whether HT (ie, estrogen with progestin) that is initiated prior to or early in menopause can deliver its proposed beneficial effects remains to be demonstrated.

Currently, there is no indication for use of HT for prevention of heart disease or cognitive decline. However, use of estrogen alone for women who have undergone hysterectomy and use of HT for women with an intact uterus can mitigate many, if not all, of the unpleasant effects of the climacteric.¹² Women must weigh the risks and benefits of estrogen therapy or HT with their physicians and make informed decisions regarding the use of exogenous hormones.

In general, current recommendations for HT are for the shortest period of use at the lowest possible dose that will relieve unpleasant menopausal symptoms. Current recommendations also call for appropriate preventive screening measures, such as biannual mammography, and—for women older than 30 and younger than age 65—Papanicolaou tests (ie, Pap smears) every three years.

A position statement issued by a panel of the International Menopause Society in 2006 suggested that the presence of menopausal symptoms that disrupt quality of life or sexuality might be a "hallmark of a biological vulnerability of the individual, which might predict the likelihood of developing degenerative diseases."¹² The panel urged that appropriate therapies be instituted to prevent or delay onset of chronic diseases and the adverse effects of treatment, giving due consideration to the changed hormonal milieu of menopause. The panel also warned that use of SERMs (eg, raloxifene hydrochloride, tamoxifen), estrogen, progesterone and testosterone should be weighed against their potential risk for cancer and other adverse effects. In recognition of the effects of the climacteric on the aging process, the panel urged physicians to inquire regularly about quality of life and sexuality as part of the routine workup of older patients.¹²

The choice of which type of estrogen and/or progestin therapy to use must be made on an individual basis and must take into account the patient's risk factors, such as family history of breast cancer, colon cancer, uterine cancer and osteoporosis. Numerous options are available; both estrogen and progesterone are available as injections, pills, patches, gels and intravaginal creams. Selective estrogen receptor modulators are useful for prevention of osteoporosis in women for whom estradiol therapy is contraindicated as a result of risk factors for breast cancer. Alternatively, bisphosphonates are effective for reducing fracture risk.¹²

Genazzani et al¹² have proposed that a potentially "ideal pairing" of extremely low-dose estrogen with a SERM (off-label) might give patients the benefits of improve-

ment in menopausal symptoms (eg, vaginal dryness, vasomotor instability) and prevention of endometrial stimulation, high amenorrhea, and neutral breast effects—while reducing the risk for breast cancer and osteoporotic fractures.¹² However, the increased risk for embolic events with use of combination estrogen and SERM therapy awaits further study before recommendations can be made for use in routine clinical practice.

Sexuality and mood disorders

Trish's lifelong career as a television newscaster put a premium on her appearance; her radiant white hair was her hallmark. During her perimenopausal years, she began to notice thinning of her hair and changes to her skin, as well as weight gain "in all the wrong places." She was a willing participant in a study of transdermal HT for several years, but after publication of the WHI findings¹⁶ she decided to discontinue HT. After this discontinuation, she experienced her first serious episode of depression.

Although the majority of women do not experience depression during the transition to menopause or after menopause, a perimenopausal woman is twice as likely as a premenopausal woman to have a first diagnosis of major depression and four times as likely to report a new onset of depressive symptoms. Several longitudinal community-based studies have observed more frequent depressive symptoms in perimenopausal women than in postmenopausal women.¹⁷⁻¹⁹ Community-based and clinic-based surveys support the finding that the perimenopausal period is relevant to the development of affective disorders, because a substantial number of these women experience clinically significant depression.²⁰⁻²²

Several studies revealed that women who have hot flashes are at greater risk of major depression, and women who report high levels of anxiety report more hot flashes, than other women, suggesting that depression and menopausal symptoms may aggravate one another.^{23,24} However, these results have not been uniformly observed. The multiethnic Study of Women's Health Across the Nation²² and a longitudinal cohort study²⁵ showed that depression is independent of vasomotor symptoms. Interestingly, women



with a history of major depression have a 20% higher rate of entering menopause early, compared with women with no history of depression—even after adjusting for cigarette smoking, parity, age at first menses, and body mass index.²⁴

Estrogen therapy has greater efficacy as an antidepressant in perimenopausal women than in postmenopausal women. It appears to work by stabilizing central estrogen levels.²⁶ Sherwin^{27,28} reported that estradiol therapy enhances mood in women after surgically induced menopause. However, there are two main limitations of studies that attempt to assess the mood-enhancing effects of estrogen: 1) the studies do not account for the relationship between estrogen deficiency-related vasomotor symptoms and mood disturbances, and 2) many of the studies fail to include participants who meet the standardized diagnostic criteria for depression.

Some placebo-controlled clinical trials have demonstrated beneficial effects of estrogen plus progestin on mood symptoms in perimenopausal women who have high scores

on depressive symptom rating scales.²⁹⁻³³ Although it has been noted that progestins may induce a dysphoric state in some women receiving HT, progestin-induced dysphorias are not uniformly experienced by all women. Furthermore, predictors of dysphoric response are not known.

A meta-analysis of studies examining HT and mood found that use of a combination of estrogen and progestins was associated with less improvement in depressive symptoms than use of estradiol alone.³⁴ Although data from multiple reports suggest that individual women may experience substantial mood symptoms during the progestin phase of HT, other reports in the literature have not found this association.^{18, 27,33-36}

Any discussion of HT must stress the fact that women with an intact uterus should not receive unopposed estrogen therapy, nor should estrogen be used as a primary treatment for women with depression. Instead, antidepressant therapy coupled with psychological support services are recommended for women experiencing depression during



or after the transition to menopause. Unfortunately, a frequent adverse effect of treatment with most antidepressants is sexual dysfunction. Effects of antidepressants on libido, arousal, and orgasm are a more frequent reason for treatment dropout over time than are such adverse events as headache, fatigue and dizziness.³⁷

Selective serotonin reuptake inhibitors (SSRIs) (eg, citalopram hydrobromide, escitalopram oxalate, fluoxetine hydrochloride, fluvoxamine maleate, paroxetine hydrochloride, sertraline hydrochloride) frequently cause sexual difficulties. On the basis of a variety of studies, it appears that as many as 60% of patients receiving SSRIs report some form of treatment-emergent sexual dysfunction.³⁸⁻⁴¹ These medications produce beneficial effects on arousal and orgasm, compared with antidepressants that target norepinephrine, dopamine, and melatonin systems.

Talking to patients about the potential

for adverse effects from SSRIs on sexual function and outlining options for changing treatments help to diminish the possibility that patients will decrease their dose or discontinue treatment because of sexual dysfunction.⁴² If left unaddressed or inadequately treated, treatment-emergent sexual dysfunction may prolong or worsen depression, compromise treatment outcome, impact quality of life, and lead to noncompliance.⁴³⁻⁴⁵ Premature drug discontinuation prompted by unwanted effects on sexual function can lead to recurrence of depressive symptoms, which can, in turn, have negative effects on sexuality—resulting in a vicious cycle.

In addition to anticipatory guidance, management strategies include augmenting the SSRI with a dopaminergic agent (eg, dextroamphetamine sulfate, methylphenidate hydrochloride)⁴⁶ or switching to a non-serotonergic agent (eg, bupropion hydrochloride).^{40,47,48} Based on a survey of

practicing psychiatrists, adding a dopaminergic agent or bupropion was the most common first-line strategy for combating impaired libido, arousal, and orgasm in men and women—followed by decreasing the antidepressant dose and waiting for spontaneous remission.⁴⁶ With its dual inhibition of norepinephrine and dopamine reuptake, bupropion has no direct effects on the serotonin system. Theoretically, it has the potential to produce beneficial effects on sexual desire and arousal. Several randomized controlled trials have replicated a favorable sexual tolerability profile for bupropion.^{40,47,48}

Psychological interventions, such as cognitive behavioral therapy, are useful either in place of or in addition to medications. Lifestyle interventions initiated during perimenopause have the potential to maintain or improve the physical and mental health of aging women.

Aging, sexuality and lifestyle

Trish was prescribed SSRI antidepressant therapy to combat the depression that threatened to affect her career and marriage. When she realized that this therapy was causing changes in her libido, she opted to make lifestyle changes (including daily aerobic exercise) and to wean herself from the medication. Counseling was also helpful. Trish found that the time she spent exercising—consisting of vigorous walks with her husband—brought her and her husband closer together. Their daily routine of diet and exercise became a mutually beneficial quality-of-life habit.

Because there is no doubt that good health is a factor in life expectancy, it follows that sexually active life expectancy may be improved by modifiable factors, such as smoking cessation, normal body mass index, exercise, dietary intake of fruits and vegetables, and moderate alcohol intake. Medications have adverse effects, and any attempt to improve the quality or frequency of sexual activity for older individuals must go beyond prescription drugs alone. When possible, medications should be avoided—except when necessary for chronic conditions and symptom management.

A lifestyle issue that should not be overlooked when discussing sexuality with older patients is prevention of sexually transmitted infections. In 2009, the Centers for Disease Control and Prevention reported that 16.8% of new diagnoses of human immunodeficiency virus (HIV) infection in the United States were in individuals older than age 50 years.⁴⁹ Older adults are vulnerable to late or missed diagnoses of HIV infection and poorer treatment outcomes because of the misconception that they are not at risk.

A community-based study used a cross-sectional group of women aged 58 to 93 years to examine the effects of race and marriage on sexual attitudes, behavior, and patient-physician communication about sexuality and HIV/AIDS.⁵⁰ The study found that 57% of the women had engaged in sexual activities since their 60th birthdays, and some of their sexual behaviors were potentially risky. Many of the women

in the study expressed the belief that physicians should address issues of sexuality with them, though only 52% of the women said that a physician had ever done so. African-American women in the study cohort were significantly more likely than white women to report HIV-related changes in sexual behavior and to discuss other sexual behaviors with their physicians.⁵⁰

Final notes

Men and women remain sexually active as they age. Physicians can offer their aging patients much information to help them maintain fulfilling sex lives, yet patients and physicians alike may be reluctant to broach discussions about this important though intimate health-related subject.² Human sexuality is complex and may be affected by physiologic, psychological, and interpersonal factors. A physician knowledge base that takes into account the role of patient education and counseling, combined with the clinical ability to identify potentially treatable sexual problems, is needed. An interdisciplinary approach that includes medical and psychological interventions may be of greatest benefit.

No medical magic can return Trish and Ken to the level of physical and sexual wellness they enjoyed in youth. However, maintaining open lines of communication, identifying and addressing both psychological and medical concerns, offering supportive reassurance, and making appropriate modifications to medication regimens helped them to restore a satisfying state of physical intimacy. Trish and Ken are in a loving, intimate partnership. With maintenance of their physical and psychological function, they have been able to continue a fulfilling sexual relationship into their ninth decade of life.

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