Sexual Disorders in Women

Medications With the Potential to Enhance Sexual Responsivity in Women

by BARBARA BARTLIK, MD; PETER KAPLAN, MD; JED KAMINETSKY, MD; GEORGE ROENTSCH, BS, RPH; and JAMES GOLDBERG, PhD

Despite recent advances in pharmacologic treatment of male erectile disorders, there have not been comparable gains with regard to women. In fact, compared with other important aspects of health and well-being, relatively little is known about the sexual disorders of women and their treatment.

The reasons for the dearth of research on women's sexuality are complex and are explained in detail in the introduction to this issue. A number of the medications that have proven effective for male erectile disorders have the potential to alleviate arousal and orgasm difficulties in women. However, conclusive studies remain to be performed. This article outlines several of these medications, in addition to others, that may prove to be effective in treating sexual disorders of women. They include sildenafil; alprostadil; a topical preparation of aminophylline, isosorbide dinitrate, and co-dergocrine mesylate; the psychostimulants methylphenidate and dextroamphetamine; ephedrine; bupropion and other antidepressants and anxiolytics; apomorphine; oxytocin; testosterone and other hormones; and alternative medicines such as ginkgo biloba, ginseng, and ma huang.

SILDENAFIL

Sildenafil, a phosphodiespherase type 5 inhibitor prescribed for the treatment of male erectile disorder, theoretically, should enhance the vaginal engorgement/lubrication response in women through localized genital vasodilation just as it enhances the erectile response in men. Although there has been speculation about the use of sildenafil for women, systematic studies have not been reported. However, among our private female patients, we have observed several cases of heightened sexual responsivity in response to sildenafil. Two of these cases are described briefly below.

Case 1. A 30-year-old married woman had never experienced orgasm despite numerous attempts over several years, both alone and with a partner. The patient had undergone, without success, sex therapeutic treatment that included guided masturbatory exercises. Two hours after taking 50 mg of sildenafil, the patient reported becoming more highly aroused during lovemaking than usual. Although she was not orgasmic, she remained aroused throughout the night and awoke with sexual dreams, vaginal engorgement, and lubrication. The next morning (12 hours after taking sildenafil) she awoke with strong feelings of sexual desire and initiated sex with her partner. She achieved her first orgasm after 10 minutes of clitoral stimulation. She noted that she also felt pleasantly aroused throughout the following day. After several successful experiences, she could achieve orgasm without sildenafil.

Case 2. A 32-year-old married woman taking 20 mg of paroxetine for major depression...
had been unable to achieve orgasm for the 2 years that she had been taking that medication. Even before paroxetine, the patient had difficulty with orgasm, in that she was orgasmic only half of the time that she had sexual relations. The patient was resistant to performing the prescribed sex therapeutic exercises because she was uncomfortable with both self-stimulation and directing her partner about the type of stimulation she liked best. Approximately 1 hour after taking 50 mg of sildenafil, the patient noted strong sexual urges and a sensation of fullness in her labia. As her husband was unavailable at the time, she masturbated. She noted a higher degree of arousability than usual and a greater than usual ease of orgasm. During subsequent lovemaking with her husband while taking sildenafil, she continued to experience positive changes and she was orgasmic on all attempts despite paroxetine. In due course, the paroxetine was discontinued and the patient no longer felt the need to use sildenafil. She was orgasmic practically each time she had sex because, as she put it, she "now knew what to do."

These cases describe the use of sildenafil to treat primary female orgasmic disorder and female orgasmic disorder exacerbated by antidepressant medication. It is conceivable that in heightening vaginal engorgement, sildenafil allows for increased arousal and greater ease of orgasm. In case 2, an increase in sexual desire was noted, which, according to the package insert, does not occur in men. In addition, the resolution phase after orgasm was enhanced in case 1, in that the patient remained to remain subtly aroused. This suggests that sildenafil may be useful to those who desire repeated sexual experiences in close proximity to one another. It may also be of use to women who want to achieve multiple orgasms. The value of sildenafil to women learning to gain control over their orgasmic ability is illustrated in both cases. After an initial learning period, sildenafil was no longer necessary. Our group has also noted positive effects of sildenafil in several postmenopausal women; however, these patients tended to require 100 mg.

In addition, we have had success in treating female orgasmic disorder with a specially compounded topical preparation of sildenafil. Some who object in principle to the idea of taking a pill to enhance sexual functioning have no difficulty accepting a topical cream. In this preparation, half the dose of the oral preparation is used per application (G. Koentsch, BS, RPH, personal communication, July 1998). It appears that sildenafil has the potential to enhance all four phases of the sexual response cycle—desire, excitement, orgasm, and resolution. If this is correct, sildenafil may be helpful in the treatment of a variety of female sexual problems, including hypoactive sexual desire disorder, female sexual arousal disorder, female orgasmic disorder, inadequate lubrication, dyspareunia, and sexual dysfunction secondary to medication or illness. Certainly, further systematic research on the use of sildenafil for treating female sexual dysfunction is warranted. Clinical trials are currently under way outside of the United States.

**PHENTOLAMINE MESYLATE**

Phentolamine mesylate (Vasomax), an oral medication designed for men with erectile disorders, is scheduled to become available in 1999. It is thought to relax smooth muscle and stimulate blood flow to the pelvic region in both women and men. Unlike sildenafil, it is not organ specific and has a general vasodilatation effect on the body. It may turn out to be less effective for erectile disorder than sildenafil, but may have a more rapid onset. It has not been studied in women.

**ALPROSTADIL**

Prostaglandin E, is a naturally occurring vasodilator. This agent has been used to stimulate penile blood flow via intracavernosal injection and transurethral suppositories. It is well suited to stimulate blood flow to the female genitalia, as either a vaginal suppository or a topical gel.

The goal of a topical therapy is a consistent delivery, through the vaginal layers, to achieve therapeutic levels. The drug must absorb through the (1) non-keratinized stratified squamous epithelium (epidermis), (2) dermis (or amina propria), and (3) muscularis. Of these, the epithelium is the layer most resistant to drug absorption.

One can heighten absorption by increasing the solubility of the drug through the epithelium with the addition of skin enhancers. It is as yet unclear which skin enhancers will be necessary to achieve adequate absorption in the vagina. However, clinical trials are under way in men, with the topical administration of prostaglandin E, and skin enhancers to the glans penis. In addition, a trial is under way evaluating lipophilized liposomal prostaglandin E, for female sexual arousal disorder. The drug comes in both a gel and a spray formulation. It is believed that it will enhance capillary blood flow within the vaginal and clitoral tissue, stimulate nerve endings for increased sensitivity, and facilitate vaginal lubrication, thus enabling greater sexual satisfaction and possibly orgasm.

We have used the urethral suppository form of alprostadil for men, in women with arousal disorder. The 500-mcg dose was massaged into the anterior vaginal wall. All patients noted an increase in vaginal engorgement, a warm "tingling" feeling, and increased pleasurable sensations during sexual relations.

**OTHER TOPICAL VASODILATORS**

The results of the few studies that have examined topically applied vasoactive medications as treatments for erectile disorder have
been variable and inconclusive. However, in one Egyptian study, a topical cream of three vasoactive medications—aminophylline 3%, co-degocgrine mesylate 0.05%, and isosorbide dinitrate 0.25%—was used on men with erectile difficulties. Ultrasonograms performed 15 and 30 minutes after the cream was applied to the penis showed a significant increase in penile blood flow in patients receiving active medication compared with control subjects. In addition, spontaneous penile tumescence occurred in the laboratory in two-thirds of the patients receiving active medication, but in none of the control subjects.

The patients were then sent home with the cream containing active medication only. Twenty-one of 36 responded with full erection and successful intercourse. The treatment was most successful for patients with psychogenic impotence (90%), moderately successful for patients with neurogenic impotence (50%), and successful for a small proportion of patients with arterial insufficiency (25%).

Absorption of topical vasoactive medications may be even more complete in women than in men due to the relative thinness of the vaginal mucosa, as demonstrated by the following case.

The 50-year-old wife of a male patient with erectile disorder found that she became more sexually responsive when her husband applied a vasoactive cream containing aminophylline, co-degocgrine mesylate, and isosorbide dinitrate to his penis prior to intercourse, as described by Gomaa et al. in 1996. The cream did little to help the husband, but the wife experienced heightened arousal, improved lubrication and vaginal engorgement, greater ease of orgasm, and more intense orgasmic pleasure when she applied the cream to her vulva. Approximately a half an hour before sexual activity. Because of the unabated positive response, the patient has, thus far, continued the treatment for more than 1 year.

**PSYCHOSTIMULANTS**

The psychostimulants methylphenidate and dextroamphetamine have been reported to be helpful in alleviating delayed or inhibited orgasm secondary to selective serotonin reuptake inhibitors (SSRIs) and other antidepressants, both by our group and by Gitlin. In her 1974 book *The New Sex Therapy*, Helen Singer Kaplan included amphetamines, when they are used occasionally and in low dosages, among the drugs that enhance libido and sexual functioning. Hallowell and Ratey, in their book *Driven to Distraction*, reported the case of a woman with attention deficit hyperactivity disorder who had her first orgasm during a routine sexual experience days after initiating treatment with methylphenidate.

In our experience, low-dose stimulants, methylphenidate (5–15 mg) and dextroamphetamine (5–10 mg), used occasionally a few hours before sexual activity, enhance all four phases of the sexual response cycle in patients with sexual dysfunction secondary to antidepressant medication. In our limited sample, women appear to respond more vigorously than men. One patient, who began using 10 mg of a racemic mixture of amphetamine and dextroamphetamine salts while she was taking an SSRI, found that the positive sexual effects persisted when the SSRI was discontinued. During the past year, she has noted an increase in sexual desire, and a more rapid rate of arousal when she takes 10 mg of the stimulant medication a few hours before a sexual experience. This patient found this medication to be more effective than comparable dosages of both dextroamphetamine and methylphenidate. There is evidence that females are more sensitive to males to increased levels of brain dopamine conferred by stimulants. Increased dopamine leads to heightened sexual desire and sensation and a change in sexual behavior that is more assertive than passive. However, no controlled studies exist on the use of stimulants to treat sexual disorders. Caution should be exercised given their potential to cause arrhythmia, addiction, and other side effects.

**EPHEDRINE**

Sympathetic nervous system activity plays an important role in the female sexual response, particularly during the stages of high arousal when there is generalized sympathetic discharge. Medications that block peripheral sympathetic nervous system activity reduce sexual responsiveness in both humans and laboratory animals. Medications and activities that augment peripheral sympathetic activity probably have the reverse effect, enhancing sexual excitement. One recent study has shown that strenuous physical exercise, which causes sympathetic discharge, heightens plethysmographic measures of vaginal blood volume and physiologic arousal.

Ephedrine, an alpha- and beta-adrenergic agonist, facilitates sexual behavior in female rats. Ephedrine has also been found, in double-blind, controlled studies of sexually healthy women, to increase plethysmographic measures of vaginal engorgement during the viewing of erotic video. Ma huang, the plant from which ephedrine is derived, has long been marketed as a sexual-enhancing nutritional supplement. Its use has been complicated by occasional deaths due to overdose, heart attack, and stroke. Some cold medications that contain pseudoephedrine, which is pharmacologically similar in structure, have been noted to enhance libido in isolated cases.

Whether ephedrine or similar medications have the potential to aid women with sexual dysfunction is another area worthy of further investigation. Although these medications may have a generalized excitatory effect that facilitates sexual arousal and orgasm, their capacity...
to cause nervousness and vasoconstriction may limit their applications for sexual therapy. Furthermore, any benefits may be undermined by abuse, tolerance, and irritability or compulsive sexual behavior, which is disruptive to sexual relationships. Similarly, alcohol and tranquilizers have frequently been used by women with short-term sexual benefits but severe long-term liabilities.

**BUPROPION AND OTHER ANTIDEPRESSANTS**

Bupropion is an unconventional antidepressant with primary dopamine reuptake and secondary noradrenaline reuptake actions, but without any effect on serotonin reuptake or serotonin receptor activity. Although a chemical derivative of ephedrine with mild dopaminergic stimulant effects, bupropion is not metabolized to amphetamine, is not a scheduled drug, and has not been found to be abused. It has recently been approved by the Food and Drug Administration for smoking cessation.

Prior to its approval as an antidepressant in the late 1980s, bupropion was tested in a 60-patient, controlled, double-blind, 32-week trial for treatment of low sexual desire and other sexual response deficits in nondepressed women and men (30 women and 30 men). Beneficial sexual effects were expected due to bupropion’s selective dopamine reuptake action, as dopamine stimulation has been consistently and strongly associated with pleasure and sexual stimulation in both male and female animal research studies.

Statistically significant sexual improvement was found in more than 60% of the patients treated with bupropion, but in less than 10% of those treated with placebo. Study results were peer reviewed and published. Improvement was noted as a return to or achievement of normal sexual desire and functioning without hypersexuality. However, two patients showed remarkable initial reactions, which we present in the case reports below.

**Case 1.** A 40-year-old premenopausal woman had reported a lifelong lack of orgasm despite limited pleasurable genital sensations during masturbation. She had no genital feelings during intercourse with her husband. Despite a repressive religious upbringing, she said she “always felt sexual in my head, but my body just doesn’t like to go along with what my head would like to do.” During 20 weeks of double-blind, placebo treatment, she consistently reported “nothing.” Ten days after she was switched to active, double-blind bupropion treatment (300 mg/d), she experienced intense, pleasurable genital sensations spontaneously while working in the kitchen. She wanted to have sexual stimulation and intercourse “right that minute.” Over the next few weeks, during which she was intensely stimulated and orgasmic, she threatened her husband that she would find someone else if he could not satisfy her desire for intercourse. She continued to be orgasmic during 12 weeks of bupropion treatment. Although genital stimulation was less intense and orgasm less consistent after she stopped bupropion, she felt normal pleasure during masturbation and intercourse because she now knew “what orgasm was” and could focus on stimulation for sexual pleasure.

**Case 2.** A 52-year-old happily married woman reported a lifelong lack of sexual feeling and responsiveness. She was not sure she lacked “sexual desire” because she did not know what that was and she refused masturbation or intercourse. During 20 weeks of double-blind, placebo treatment, she reported no change in desire or response. Two weeks after being switched to double-blind bupropion treatment (300 mg/d), she was “assaulted” at her desk at work by intense genital throbbing sensations that were relieved only by masturbation. She found the genital stimulation unpleasant and annoying, yet admitted that she was somewhat glad that she could now respond to the sexual advances of her husband. The intensity of the genital sensations subsided during the next few days to her satisfaction. During the next 10 weeks, she consented to intercourse almost weekly to please her husband, although she still did not “enjoy” sexual activity. During initial partner group sexual education sessions, while still receiving double-blind, placebo treatment, this woman had confided to the female group facilitator that she had been raped when 18 and that this was the first time she had disclosed her secret to anyone.

The dose of bupropion appropriate for women being treated for sexual dysfunction, depression, or both is 225 to 300 mg/d. The sexual studies were conducted with the immediate-release formulation, but currently a sustained-release formulation is typically prescribed. The sustained-release formulation is currently being tested in a controlled clinical trial for treatment of hyposexual sexual desire. Problematic side effects due to bupropion’s stimulant property include nervousness, insomnia, tremor, and, rarely, seizure.

Bupropion has chemical actions similar to those of methylphenidate, but has far less noradrenergic potency. Its stimulant potency is less than that of methylphenidate or amphetamines; it may not be strong enough for some women who have responded to these scheduled stimulants for treatment of sexual dysfunction. Furthermore, there is a delay of at least 10 to 14 days typical with antidepressants before any therapeutic effect is noted.

**Other Dopaminergic Drugs**

New dopamine stimulants are currently being developed to treat cocaine abusers, but the only other dopamine activator available is the non-amphetamine deprenyl, which is prescribed as an adjunct medication to treat Parkinson’s disease. Deprenyl has shown strong aphrodisiac actions in male rats, but has not been tested for sexual effects in female animals or humans. The
clinical impression is that it may have a mild beneficial effect on female sexual desire, but less than that of bupropion. However, it is a safe drug with minimal possibility of causing nervousness or insomnia. Of particular note, much of its chemical action is due to a massive increase in the endogenous body stimulant phenylethylamine (PEA), which has been hyped during the past decade as the "chemistry of love" component causing chocolate to be an aphrodisiac (without any research or clinical evidence).

**Serotonergic Drugs**

Nanette Gartrell reported an unusual increase in libido in 6 of 13 women treated with trazodone for depression and presented 3 case descriptions of this increased sexual arousal.14 Nefazodone is a newer antidepressant that is chemically similar to trazodone and has been characterized by lack of negative sexual effects in contrast to SSRIs. This suggests that nefazodone may be a superior antidepressant for postmenopausal women, particularly those with diminished sexual responsiveness secondary to declining levels of endogenous testosterone. The SSRIs may further exacerbate sexual dysfunction in these patients. Mirtazapine is another serotonergic antidepressant that is not associated with sexual side effects because, like nefazodone, it blocks serotonin-2A receptors.

Helen Singer Kaplan15 has written an entire book detailing the involvement of sexual aversion, phobia, and panic disorder particularly in female sexual dysfunction. She suggests the use of SSRIs to resolve these difficulties that are often unrecognized but crucial factors in female sexual disorders. Additionally, SSRIs may be used to decrease aggressive and irritable tendencies, which often undermine progress in sexual therapy treatment.

Buspirone is a serotonin 5HT-1A agonist prescribed for the treatment of generalized anxiety disorder. Othmer and Othmer16 treated 9 patients (6 women and 3 men) who had both generalized anxiety and low sexual arousal with an average daily dose of 45 mg of buspirone for 4 weeks. Eight of the 9 patients returned to normal sexual arousal and function while taking buspirone, without any evidence of hypersexual- ity. There have been no further reports of the efficacy for buspirone in sexual dysfunction treatment; however, many reports of buspirone’s decreasing the time to ejaculation in animals8 suggest that buspirone could facilitate orgasm in women and should be tested for use in female orgasm dysfunction.

**APOMORPHINE**

More promising is an oral (sublingual) form of apomorphine, a direct dopamine receptor agonist, which currently is in clinical trials for erectile dysfunction treatment (approval by the Food and Drug Administration is probable in 1999). This dopamine agonist can be taken on an as-needed basis shortly prior to sexual activity. Because it has both a local genital vasodilation effect and a central action on areas of the brain inducing sexual response, it may be particularly effective in facilitating female orgasm. However, no research, even of an investigational nature, has been conducted regarding oral apomorphine for women. Although apomorphine is considered solely a dopaminergic agonist, its efficacy in stimulating penile erection has been shown to involve direct stimulation of nitric oxide.17 Initial findings of research in progress show a strong synergy among dopamine, nitric oxide, and testosterone. This suggests that the mixtures of sildenafil with dopaminergic agents such as apomorphine and/or testosterone may eventually be used to treat severe female sexual dysfunction.

**OXYTOCIN**

Oxytocin is a neuropeptide “touch” hormone that is secreted during human and animal interpersonal touch and sexual arousal, particularly at orgasm.9 Anderson-Hunt and Dennerstein18 have described sexual arousal and orgasm on two occasions in a 26-year-old woman given two sprays of synthetic oxytocin to facilitate postpartum milk letdown. Oxytocin strongly stimulates sexual responses in both female and male animals.9 In rats, oxytocin stimulates penile erection through an increase in nitric oxide.18 As with sildenafil and apomorphine, female genital vasodilation would be increased by induction of a nitric oxide mechanism. It should be noted that oxytocin is activated by the presence of estrogen, so that postmenopausal estrogen replacement therapy may resolve a menopausal oxytocin-deficiency state. An oral form of oxytocin has recently become available that will facilitate exploratory use of oxytocin for female sexual dysfunction.

**TESTOSTERONE AND OTHER HORMONES**

**Testosterone**

For several decades it has been known that testosterone is the hormone responsible for sexual desire in women, yet this information has not been translated into routine clinical practice.20 When testosterone is low, a significant number of women suffer a decline in sexual functioning, affecting desire, arousal, and orgasm. Despite the evidence in its favor, to date, there are no Food and Drug Administration–approved testosterone preparations indicated for the treatment of sexual dysfunction due to testosterone deficiency in women.

Women who want testosterone supplementation may take a fraction of an oral methyltestosterone pill produced for men, or they may take a combination of oral esterified estrogen and methyltestosterone made for women. They may also take minute dosages of specially compounded testosterone preparations. These include oral methyltestosterone (0.25 to 1.0 mg/d), a topical cream of methyltestosterone...
(0.25 to 1.0 mg/d), and a topical cream of testosterone propionate (0.25 mg/d). The creams may be applied to the vulva, or to the skin of the inner thigh or wrist. For a more complete description of testosterone’s role in female sexuality and a discussion of the combined use of testosterone replacement therapy and sex therapy, see the articles by Rako and Bartlik, Legere, and Andersson, respectively, in this issue.

**Raloxifene Hydrochloride**

Raloxifene hydrochloride is a relatively new selective estrogen agonist used to prevent osteoporosis in menopausal women. The drug acts selectively in the bone and vagina, and may have central nervous system effects as well. One main advantage of raloxifene hydrochloride is that it is not associated with an increased risk of breast and uterine cancer. It also is not associated with the same problematic gastrointestinal side effects as alendronate sodium. We and several of our colleagues in obstetrics and gynecology have observed increased libido in both premenopausal and postmenopausal women taking raloxifene hydrochloride. This may be related to increased testosterone levels, occurring in response to raloxifene hydrochloride.

**Progesterone**

Natural progesterone is a precursor for estrogen, testosterone, and other hormones. Some sources report that it stimulates libido whereas others indicate the reverse. The increase in sex drive that some women experience during the late stages of pregnancy has been attributed to elevated levels of progesterone. Similarly, the increased desire that some women experience premenstrually may be linked to elevated progesterone levels at that time. Certainly, some synthetic derivatives of progesterone, such as medroxyprogesterone, are antiandrogenic and strongly interfere with sexual drive, hence their use in the treatment of sex offenders.

**Estrogen**

The effects of exogenous estrogen on libido vary considerably from woman to woman. Sexual changes in both directions have been reported with conjugated estrogens (Wyeth-Ayerst, personal communication, 1998). As stated above, estrogen may activate oxytocin and thereby stimulate nitric oxide production, which would facilitate arousal. Psychological factors may play a role, in that the feminizing effects of estrogen on breasts, skin, and genitals may improve self-confidence and, indirectly, sexual desire. Without question, the woman for whom intercourse is painful due to estrogen deficiency will have difficulty with sex until this is corrected. It appears that estrogen does not enhance sexual desire in as strong a way as testosterone does, but, rather, in a more subtle manner. On the other hand, exogenous estrogen can sometimes have a negative effect on sexual desire and arousal, by causing an increase in the amount of circulating sex hormone binding globulin (SHBG). SHBG binds indiscriminately to both estrogen and testosterone, thereby reducing the unbound or free fraction, which is the only form that is active in the body. Different routes of administration are available, including oral, vaginal cream, and, most recently, an intravaginal ring.

**ALTERNATIVE MEDICINES**

Many alternative medications are purported to enhance sexual functioning. Cohen and Bartlik reported a series of cases in which ginkgo biloba, the ancient Chinese remedy derived from the leaf of the ginkgo tree, reversed sexual dysfunction caused by antidepressant medications. The mechanism of action by which ginkgo biloba may enhance sexuality is not yet clear. It may be related to three or more separate actions: (1) enhanced vascular flow to the genitals through cholinergic stimulation and inhibition of platelet-activating factor, perhaps similar to the mechanism by which it enhances cerebral blood; (2) enhanced activity of prostaglandins, which in turn improve erectile function and vasodilatation; and (3) yet undefined changes on serotonin and norepinephrine receptors. Ginkgo may also play a role in the production of nitric oxide. To date, there are no published controlled studies on ginkgo biloba for sexual dysfunction, although work is in progress. Furthermore, caution should be exercised due to ginkgo’s blood thinning action.

Ginseng is another ancient Chinese herbal remedy that has been said to have positive effects on sexuality for hundreds of years. It may work by augmenting the efficacy of the body’s own sex hormones. However, by the same token, it may potentially enhance the growth of any hormonally responsive tumors that may be present, so it should be used judiciously.

Ma huang, which was discussed earlier in this article, is another herbal remedy purported to have positive sexual effects, perhaps due to its stimulation of the peripheral sympathetic nervous system.

**CONCLUSION**

This article has presented many medications with the potential to enhance sexual functioning in women. Thus far, none of them have been systematically studied in female clinical populations. On many levels, there appears to be resistance to conducting research on women’s sexuality, particularly with respect to substances that may improve sexual desire and performance. Given the lack of fundamental knowledge on women’s sexuality and the difficulty in obtaining funding in this controversial area, researchers are reluctant to propose such studies or undergo training in sexuality research. This has led to a vicious circle and the current situation where even the most basic questions...
about female sexuality remain unanswered.

The time has come to recognize the potential to improve the quality of life for women through pharmacologic treatment for female sexual disorders. Clinicians in practice are beginning to use some of these medications, both alone and in combination, for refractory sexual problems. However, because these medications are not approved by the Food and Drug Administration for these purposes, caution is advised. At the same time, one must weigh all the relevant relationship factors and avoid simplistic resolutions, which merely mimic current treatments for men. The development of pharmacologic treatments will expand and deepen our appreciation of all aspects of female sexuality.

REFERENCES
10. Meston CM, Moe IE, Gorzalka BB. The effects of sympa-