

Antidepressants and sexual dysfunction: managing common treatment pitfalls

William W. Finger, PhD

ABSTRACT Sexual dysfunction associated with antidepressants has attracted increased interest in recent years, as patients and physicians are becoming aware of medications interference with sexual function. A healthy sex life is just as important to people with a history of depression as to others; patients with depression will likely become distressed by the disruption to their sexual function that often accompanies this disease. Therefore, the clinician that prioritizes the restoration of sexual function as a treatment goal is likely to have satisfied patients but, in turn, may be frustrated by the additional disruption to sexual function that often occurs when antidepressants are prescribed. Most antidepressants have some effect on sexual function, but some are more toxic than others, and a few have only minimal or no such effects. By assessing baseline sexual function before initiating drug therapy and encouraging patients to discuss sexual concerns, it may be possible to minimize sexual dysfunction, enhance patient adherence, and reduce frustration for the clinician.

Anhedonia, or diminished interest or pleasure in activities, is a hallmark of the depressed patient. This symptom can involve loss of interest in a wide range of activities, including sex. In a recent study of untreated depressed persons, 40% of men and 50% of women reported decreased interest in sex, 50% reported arousal difficulties (obtaining or maintaining erections for men; less subjective feelings of arousal for women), and 20% of men and 15% of women reported difficulties with orgasm or ejaculation.¹ It would be wrong to assume that problems with sexual function are of no concern to persons with depression. On the contrary, depressed persons are just as likely as those with no history of depression to say that a good sex life is very important.² Therefore, attending to sexual issues and concerns is crucial when evaluating and/or treating a patient with a diagnosis of depression.

Because sexual problems are so common in depressed patients, some clinicians may assume that any sexual concern is a symptom of the depression, and that treating the depression will also resolve the sexual concern. A complicating factor is, however, that many of the commonly used antidepressants affect sexual function or desire. Use of pharmacologic antidepressants may delay resolution of a preexisting sexual problem, worsen a preexisting problem, or create one where none existed before. It has be-

Practice Tips

- Take a baseline sexual history before you initiate drug therapy.
- Continue to monitor sexual function throughout the course of treatment.
- The best treatment option is one that you and your patient select together.
- Consider the side effect profile of an antidepressant before prescribing it; patients who suspect the drug is disrupting their sexual function are likely to stop taking it.
- Consider drugs with fewer sexual side effects when this is an option.
- If you need to change classes, opt for a class with fewer sexual side effects.

William W. Finger, PhD

Psychologist, James H. Quillen VA Medical Center
Mountain Home, Tennessee
Associate Professor, Departments of Psychiatry and Behavioral Sciences
James H. Quillen School of Medicine
East Tennessee State University, Johnson City, Tennessee

come clear that reduced sexual desire, alteration of arousal, and anorgasmia or ejaculatory problems are common consequences of prescribed antidepressants.³

A change in direction

Once considered an unavoidable consequence of good pharmacologic management, we now know that no one needs to tolerate sexual side effects. Avoiding or eliminating sexual side effects is not a luxury: failure to address sexual problems may result in patient lack of adherence or may delay recovery from, or exacerbate, depression as the patient becomes more distressed by the disruption to sexual function. Careful assessment of pretreatment sexual function combined with sensitive drug therapy and close follow-up can help avoid these treatment pitfalls.

Ten years ago, only one antidepressant (fluoxetine) was listed in the top 20 most prescribed medications in the United States. Today there are three (fluoxetine, sertraline, and paroxetine).⁴ More primary care clinicians today than ever before are treating psychiatric concerns, in part thanks to increased awareness of such problems and their role in overall health, and in part because the newer drugs are safer, less toxic in overdose, easier to dose and titrate, have fewer drug interactions, and have kinder side effect profiles. Antidepressants are currently being prescribed for a wide range of conditions (eg, anxiety, panic attacks, premenstrual symptoms).

Use caution when reviewing the evidence

In light of their widespread use, the potential for antidepressants' negative effects on sexual function takes on an added significance. Despite increased awareness to this problem, well-designed, large, placebo-controlled studies are few, and the available evidence-based information often does not hold against the test of long-term use. Healthy skepticism is still recommended when evaluating the existing literature, as much of the information comes from anecdotal and/or case reports. However, although clinical intuition and experience are still useful tools in treating drug-induced sexual dysfunction, we cannot rely upon them exclusively. Use what information is available, incorporate your own experiences, and modify treatment as indicated.

New drugs. This is especially true with regard to newer drugs, where initial reports of low incidence of adverse

sexual effects do not always hold up to empirical scrutiny. One such example is fluoxetine (Prozac[®]), which, when first released was believed to have considerably fewer adverse effects on sexual function than its predecessors. The reported incidence of sexual dysfunction with fluoxetine has increased from the initial <2% to as much as 60% in recent studies.⁵ Such initial response is often the result of study design—many studies are small or retrospective, or they rely on spontaneous reporting by patients.

Spontaneous reporting. Spontaneous reporting of sexual problems often results in significant underreporting, because patients may not attribute sexual problems to the medication, or they may be too uncomfortable to discuss these concerns with their physician. In one sample of depressed women taking

sertraline (Zoloft[®]), spontaneous reporting of orgasmic disorder was only 1%, consistent with early estimates of this problem with the selective serotonin reuptake inhibitors (SSRIs). However, when these same women were specifically asked about orgasmic problems, the incidence rose to nearly 20%.⁶ Also, women who are anorgas-

mic or are rarely orgasmic before treatment may not notice any change with drug therapy or they may feel that the change is too insignificant to report, which contributes to significant underestimation of the drug's potential impact.⁷

Men are just as prone as women to underreport changes in orgasmic function because of embarrassment or failure to attribute the problem to the antidepressant. Also, for many men who consider their orgasmic latency to be too brief, a delay in orgasm would be advantageous. Since this is not considered "a problem" for these men, physicians rarely hear about this side effect in this subgroup.

These caveats highlight the need for caution when applying the existing literature, but we now have sufficient data to begin to evaluate the impact of antidepressants on sexual function as we consider patient management. Keep in mind, however, that research is limited, study design is often suspect, and caution is still encouraged. The information about these drugs changes frequently, and what is recommended today may be discarded in the near future.

Antidepressants with sexual side effects

The first-generation agents included tricyclic antidepressants and monoamine oxidase inhibitors. Despite

The reported incidence of sexual dysfunction with fluoxetine has increased from the initial <2% to as much as 60% in recent studies.

their significant contribution to the treatment of mood disorders, they had many noxious side effects, including severe disturbance of sexual function. For the most part, these classes have now been replaced by newer classes, although some of these agents are still being used today (eg, tricyclics are commonly used for chronic pain and peripheral neuropathy).

Tricyclics. Tricyclic antidepressants can affect all phases of sexual response, including desire, arousal, and orgasm. Studies conducted in the 1980s, when these drugs were the mainstay of depression therapy, showed that men using these agents commonly experienced decreased sexual desire and difficulty reaching orgasm; similarly, women reported reduced sexual desire and delayed or absent orgasm. Because these adverse effects may take weeks to develop, underreporting of such side effects is likely, as once they occur, patients may not attribute them to the drug.⁷ Even clinicians who inquire about sexual side effects initially may miss these problems unless they monitor the course of treatment.

Of the tricyclics, clomipramine (Anafranil[®]), doxepin (Sinequan[®]), amitriptyline (Elavil[®]), and imipramine (Tofranil[®]) may have the highest rate of sexual side effects.⁷ Sexual side effects with clomipramine are especially common, even at relatively low doses, as was shown almost two decades ago, with anorgasmia and ejaculation as high as 70% and delayed orgasm at 92%.⁸ Tricyclics that may have a relatively lower incidence of sexual side effects include desipramine (Norpramin[®]) and nortriptyline (Pamelor[®]).⁷

MAOIs. Monoamine oxidase inhibitors (MAOIs) such as phenelzine (Nardil[®]) and isocarboxazid (Marplan[®]) may impair sexual desire, erectile function, and orgasmic function as was shown in old studies. Because of the relatively infrequent use of these drugs, however, recent studies are lacking. Early case reports and small studies suggest that erection problems and anorgasmia are the most common sexual sequelae of this class. Rates of these disorders vary from 22% to 40% and often take 1 to 3 months to appear. However, tranylcypromine (Parnate[®]), an amphetaminelike MAOI, and the newer MAOI moclobemide (Manerix[®]), which is not available in the United States, have been shown to produce few changes in sexual desire or response.⁵

SSRIs. Selective serotonin reuptake inhibitors (SSRIs) have replaced the tricyclics and MAOIs as the most

commonly prescribed antidepressants. Initially believed to have fewer sexual side effects than the first-generation agents, it is now clear that this is not the case. Recent studies suggest that anorgasmia and delayed orgasm are common side effects of the SSRIs.⁵ Delayed orgasm occurs in as many as 75% of patients, and few SSRIs seem to be spared this effect.⁵ Decreased desire also occurs at a high rate, and erectile dysfunction is more common than initially assumed.⁵ The newer SSRIs—including fluvoxamine (Luvox[®]) and citalopram (Celexa[®]), and the serotonin/norepinephrine reuptake inhibitor venlafaxine (Effexor[®])—were initially thought to have fewer sexual side effects; however, preliminary new evidence suggests their rate may be as high a rate as that of the first wave of SSRIs.^{5,9,10}

Some sexual side effects occur quickly, others may take weeks to develop.

Better choices?

Some newer and a few older antidepressants may offer less sexually toxic alternatives. Phenylpiperazine antidepressants—which include trazodone (Desyrel[®]) and nefazodone (Serzone[®])—have been shown as less likely to impair desire, erectile function, or orgasmic response,⁵ but cases of priapism have been reported with trazodone.¹¹ Although rare, priapism is a serious side effect, and clinicians may consider this sufficient reason to stay away from trazodone. If you choose to prescribe trazodone, warn the patient of this potential problem and alert him to seek medical attention if priapism occurs. This side effect has not been noted with nefazodone.

Other drugs that may have limited or absent sexual side effects include bupropion (Wellbutrin[®]), maprotiline (Ludomil[®]), and mirtazapine (Remeron[®]); however, decreased desire, erectile difficulties, and delayed orgasm have been reported at relatively low rates with mirtazapine.^{5,12} Keep in mind that mirtazapine is a relatively new drug; controlled studies are lacking and sexual side effects may become increasingly apparent with increased clinical experience. Table 1 lists the different antidepressants currently being prescribed for depression and for other conditions, and their effects on sexual function.

Assessing sexual function

Baseline sexual history. Given the frequency of sexual problems associated with depression, taking a baseline sexual history before you initiate drug therapy is crucial. Determine the frequency of sexual activity, level of desire, and any difficulties with arousal (lubrication in

TABLE 1 Antidepressants' effects on sexuality

Drug	Class	Common side effects
HIGH INCIDENCE OF SEXUAL SIDE EFFECTS		
Clomipramine (Anafranil®)	TA	Decreased desire, delayed orgasm, erectile disorder
Doxepin (Sinequan®)	TA	Decreased desire, delayed orgasm
Amitriptyline (Elavil®)	TA	Decreased desire, delayed orgasm
Imipramine (Tofranil®)	TA	Decreased desire, delayed orgasm
Isocarboxazid (Marplan®)	MAOI	Decreased desire, reduced arousal, delayed orgasm
Phenelzine (Nardil®)	MAOI	Decreased desire, reduced arousal, delayed orgasm
Citalopram (Celexa®)	SSRI	Delayed orgasm, erectile disorder, decreased desire
Fluoxetine (Prozac®)	SSRI	Delayed orgasm, erectile disorder, decreased desire
Fluvoxamine (Luvox®)	SSRI	Delayed orgasm, erectile disorder, decreased desire
Paroxetine (Paxil®)	SSRI	Delayed orgasm, erectile disorder, decreased desire
Sertraline (Zoloft®)	SSRI	Delayed orgasm, erectile disorder, decreased desire
Venlafaxine (Effexor®)	SNRI	Delayed orgasm, erectile disorder, decreased desire
LOW INCIDENCE		
Desipramine (Norpramine®)	TA	Decreased desire, delayed orgasm
Nortriptyline (Pamelor®)	TA	Decreased desire, delayed orgasm
NO INCIDENCE OR RARE EVENTS		
Tranlycypromine (Parnate®)	MAOI	Lack of orgasm, erectile disorder (rare)
Moclobemide (Manerix®)	MAOI	Minimal or no sexual side effects reported
Nefazodone (Serzone®)	PPA	Decreased desire (rare)
Trazodone (Desyrel®)	PPA	Priapism (rare)
Bupropion (Wellbutrin®)		Minimal or no sexual side effects reported
Maprotiline (Ludiomil®)	T4	Minimal or no sexual side effects reported
Mirtazipine (Remeron®)	T4	Decreased desire, erectile disorder, delayed orgasm (rare)

TA=tricyclic antidepressant; MAOI=monoamine oxidase inhibitor; SSRI=selective serotonin reuptake inhibitor; SNRI = serotonin/norepinephrine reuptake inhibitor
PPA=phenylpiperazine antidepressant; T4=tetracyclic antidepressant

women, erection in men), and problems with orgasm or ejaculation (too fast, too slow, painful) before prescribing an antidepressant. Asking about sexual function early on may also help put the patient at ease and encourage a frank discussion of sexual concerns, should any arise once treatment begins.

Address sexual function in a manner similar to any other potential problem area, and if a problem exists secondary to the depression, reassure the patient that improvement in sexual function is a goal in the treatment. Encourage discussion of any changes in sexual function, positive or negative. Whereas some sexual side effects occur quickly, others may take weeks to de-

velop, so regularly inquire about sexual function throughout the course of treatment. Failure to recognize and/or treat these concerns may exacerbate depression or delay remission.

Identify exact problem. When a patient reports disruption to sexual function, determine what component of the sexual response cycle is affected. Is there a disruption in desire, arousal, orgasm, or, in men, ejaculation? If multiple problems exist, identifying the primary one (eg, a lack of orgasm leading to lack of desire) can help determine the cause and the appropriate treatment.

If sexual function at any point is significantly different from baseline function, do not assume that the drug

TABLE 2 Treatment options for drug-induced sexual problems

The order listed here does not imply preference. Physician and patient preferences should dictate which option is chosen.

Option	Comment
n Wait for accommodation	Success rate < 10%; may take up to 6 months to occur
n Lower the dose	If efficacy is lost or patient is already on lowest dose, select another treatment
n Drug holidays	Risk of withdrawal symptoms; ineffective w/ long-acting agents; disrupts spontaneity
n Change within the therapeutic class	May retain therapeutic efficacy, but many drugs have similar side effects
n Change to a new therapeutic class	Look for a class with a kinder side effect profile
n Add an additional antidepressant	May be effective, but studies are needed
n Add a pharmacologic antidote	None is currently FDA approved for this purpose

therapy is the primary or only culprit. Many potential causes exist, and more often than not, more than one may be contributing to the problem. Psychotropic and other medications, interpersonal issues, medical illness, substance abuse, and sexual trauma are among the factors that may affect sexual function. Thoroughly assess all potential contributing factors, changes from baseline, and time of onset—this will allow you to develop an effective intervention strategy.

Include the patient. Include the patient in the evaluation and treatment planning. Ignoring patient input is a sure-fire way to promote lack of adherence. Be sensitive to the fact that some patients may prioritize sexual function, whereas others may feel controlling the depression is more important. Do not recommend or initiate a possible solution to a sexual concern without making sure that the patient wants the problem treated and is comfortable with the proposed intervention.

Choosing appropriate therapeutic option

Keep in mind that a healthy sex life is important even to the depressed patient. Although you may think that adequate medical treatment is the priority, your patients

may not agree with you if their sexual function is being disrupted. For enhanced patient adherence, consider all effects of the drug—good and bad. When you ignore adverse effects, treatment may suffer; patients who suspect that a drug is disrupting their sexual function are likely to stop taking it. Discuss side effects with the patient, and select treatment based on your knowledge of the patient, treatment goals, and the patient's desires. Although several treatment options are available, the best option will be the one that you and your patient select together.

Consider side effects profile. The best defense is a good offense: select a drug with a kinder side effect profile and avoid the problem all together. However, this may not be easy to do: although some antidepressants may have fewer sexual effects than others, most will have some impact on sexual function, and all have some side effects, even if not directly on sexual function. In addition, some drugs may not be appropriate because of the need to control concomitant anxiety, lethargy, or sleep problems, among other factors. Physician and patient preferences must also be considered: some medications will be preferred because of a better overall side effect profile, increased safety or efficacy, regardless of potential sexual side effects. It is therefore likely that antidepressants with sexual side effects will be used frequently, and treating the sexual concern may be needed.

Drug accommodation. Waiting to treat a patient's sexual side effect will rarely be an option. Although some patients will accommodate to the drug side effects,^{5,13} the rate of complete remission is below 10%, and it may take up to 6 months to occur.⁵ For patients who are at all distressed by such disruption in sexual function, this “wait and see” approach will not be appropriate and will result in poor adherence.

Lower dose. A more effective option, when dosing allows it, is to titrate down the same drug. Many sexual side effects are dose related, and lowering the dose may resolve the sexual dysfunction while maintaining therapeutic efficacy. However, if therapeutic efficacy is lost, or if the patient is already on the lowest recommended dose, another treatment option should be used at this point.

Drug holidays. If reducing the dose is not an option or is ineffective, a different dosing schedule may be useful. “Drug holiday,” or the discontinuation of a drug for a day or two before sexual activity, has been effective in restoring sexual function in patients using SSRIs, without eliciting a relapse of depression.^{14,15} However, this

approach has numerous drawbacks, including the potential for withdrawal symptoms, lack of efficacy in long-acting agents, and a disruption of sexual spontaneity, as the drug must be discontinued a day or two before sexual activity. In addition, an empirical study documenting the efficacy of this approach is lacking.¹⁶

Change medication. When these options are ineffective or impractical, changing the drug may be an option, but should be approached with considerable caution, especially if the drug has been therapeutically effective. Patients may be resistant to changing a medication, highlighting the need to get patient input before considering this option.

Switch within same class. If possible, when changing medications stay within the same therapeutic class, which will cause the least disruption to the therapy. The pitfall here is that many drugs within the same class have similar sexual effects, although this is not always the case. Among the MAOIs, tranylcypromine and moclobemide appear to have fewer sexual side effects than isocarboxazid and phenelzine. Some newer SSRIs, or drugs with similar chemical activity, may have a lower incident of adverse sexual effects, because of a different mechanism of action or greater selectivity. In addition, some patients may not experience the side effect when switched to a different drug, even if the two are chemically similar and with a similar mechanism of action. Remember, however, that changing to a new agent runs the risk of losing therapeutic efficacy, or causing other undesirable side effects. These risks often outweigh any potential benefit.

Switch classes. If changing drugs within a class does not improve sexual function, switching to another class with fewer adverse sexual effects may be effective. Men experiencing sexual dysfunction with fluoxetine reported significant improvement when switched to bupropion,¹⁷ and most men and women who developed orgasmic disorders when taking sertraline did not experience this problem when switched to nefazodone.¹⁸ Other sexually safe alternatives were discussed earlier. Remember, though, that changing to a new pharmacologic class runs the risk of losing therapeutic efficacy and will likely result in other side effects, some of which may be more aversive than the sexual concern.¹⁶

Drug antidote. Often, changing the dose, drug, or class will not be possible or may even be inadvisable. This is particularly true with treatment-resistant de-

pression, when self-injury is a risk. A relatively recent approach, and one that is showing considerable promise, is adding another drug to manage antidepressant-induced sexual side effects, referred to as “drug antidote.”¹⁶ Empirical support for this approach is just beginning to appear, although most advocates still rely on case reports or anecdotal evidence.¹⁶ Also, none of these treatments has been approved by the Food and Drug Administration. However, as other options may be ineffective or ill advised, this approach may increase in popularity and acceptance.

Examples for this approach include prescribing 2 mg to 4 mg of cyproheptadine (Periactin[®]), to be taken 2 hours before sexual activity, for the treatment of anorgasmia secondary to use of an SSRI,^{15,19} a tricyclic antidepressant, or an MAOI.²⁰ Other options include yohimbine (an alpha-2 antagonist), amantadine (Symmetrel[®]), bupirone (BuSpar[®]), and bethanechol (Duvold[®]), which have been used effectively for this purpose, although yohimbine may increase anxiety or panic symptoms in some patients.^{13,15,21-23} Results from these studies vary; some support the efficacy of these approaches, others show no improvement.^{23,24} More studies using sound methodologies are needed to clarify these inconsistencies and determine safety and efficacy issues.

Sildenafil citrate (Viagra[®]) is clearly an effective treatment for drug-induced erectile dysfunction,¹⁶ as are other treatments for organic erectile dysfunction, such as external vacuum devices, penile injections, and penile suppositories. Sildenafil has also been used in SSRI-induced anorgasmia with some success, although placebo-controlled studies are lacking.²⁵ It remains to be seen whether this will prove an effective treatment for drug-induced sexual desire and orgasmic disorders.

Add a second antidepressant. Other antidepressants, including bupropion, mirtazapine, and nefazodone, appear to work to enhance sexual function when taken with another antidepressant, including the SSRIs, or venlafaxine.²⁶ However, questions regarding efficacy and study methodology remain.

Treatment-refractory sexual dysfunction. When a sexual disorder persists over time, even when using several of these suggestions, it is unlikely that the antidepressant is still the primary cause. Because sexual problems infrequently result from a single cause, if a

Staying within the same therapeutic class will cause the least disruption to the therapy.

sexual problem remains consistent despite alternative approaches, it is time to consider other potential causes, even if this was done initially. Review other drugs as well as organic factors, such as chronic medical conditions (eg, diabetes, hypertension) that may affect sexual function. Investigate the possibility of substance abuse and, if appropriate, recommend lifestyle changes. In some cases, a sexual problem secondary to drug therapy may not resolve when that drug is discontinued, as sufficient anxiety about the sexual problem has developed and can now maintain it. In such cases, deal with this psychosexual problem itself as a primary condition. If you feel uncomfortable or unqualified to do so, referral to a qualified sex therapist is indicated.

By addressing sexual issues early on you increase the likelihood of resolving them as well as the depression.

Conclusion

Antidepressants have the potential to seriously disrupt sexual function and desire. Leaving such disruptions unaddressed is not an option, as it is likely that patients will stop treatment, or they may experience an exacerbation of depression secondary to the sexual dysfunction. By addressing sexual issues early on you increase the likelihood of resolving them as well as the depression. Despite research limitations, we have gained sufficient understanding of which drugs are most likely to affect sexual function, and how best to manage these effects. By considering the treatment options, regularly reviewing potential emerging sexual problems, and with a willingness to modify or supplement treatment as indicated, we can now manage patients with depression and their sexual concerns in the primary care office. ☞

References

1. Kennedy SH, Dickens SE, Eisfeld HS, et al. Sexual dysfunction before antidepressant therapy in major depression. *J Affect Disord* 56:201–08, 1999.
2. Baldwin DS, Hawley CJ, Abed RT, et al. A multicenter double-blind comparison of nefazodone and paroxetine in the treatment of outpatients with moderate-to-severe depression. *J Clin Psychiatry* 57(suppl 2):46–52, 1996.
3. Finger WW, Slagle MA (in press). Pharmacological agents causing male sexual dysfunction. In: Kandeel F, ed. *Pathophysiology and Treatment of Male Sexual and Reproductive Dysfunction*. New York: Marcel Dekker, Inc (in press).
4. www.rxlist.com/top200.htm
5. Montejo AL, Llorca G, Isquierdo JA, et al. Incidence of sexual dysfunction associated with antidepressant agents: A prospective multicenter study of 1022 outpatients. *J Clin Psychiatry* 62(suppl 3):10–21, 2001.
6. Agren H, Aberg-Wistedt A, Akerblad AC. Sertraline versus paroxetine in major depression: a multicenter, double-blind, 24-week comparison. In: *New Research Program and Abstracts of the 151st Annual Meeting of the American Psychi-*

7. Crenshaw TL, Goldberg JP. *Sexual Pharmacology: Drugs that Affect Sexual Function*. New York: Norton, 1996.
8. Sovner R. Treatment of tricyclic antidepressant-induced orgasmic inhibition with cyproheptadine. *J Clin Psychopharmacology* 4:169, 1984.
9. Kennedy SH, Eisfeld BS, Dickens SE, et al. Antidepressant-induced sexual dysfunction during treatment with moclobemide, paroxetine, sertraline, and venlafaxine. *J Clin Psychiatry* 61:276–81, 2000.
10. Rothschild AJ. New directions in the treatment of antidepressant-induced sexual dysfunction. *Clin Ther* 22(Suppl A):A42–A61, 2000.
11. Anon. Priapism with trazodone (Desyrel). *Med Lett Drug Ther* 26:35, 1984.
12. Berigan TR, Harazin JS. Sexual dysfunction associated with mirtazapine: a case report. *J Clin Psychiatry*. 59(6):319–20, 1998.
13. Rosen RC, Lane RM, Menza M. Effects of SSRIs on sexual function: a critical review. *J Clin Psychopharmacol* 19(1):67–85, 1999.
14. Lane RM. A critical review of selective serotonin reuptake inhibitor-related sexual dysfunction: incidence, possible aetiology and implications for management. *J Psychopharmacol Oxf* 11:72–82, 1997.
15. Hirschfeld RMA. Management of sexual side effects of antidepressant therapy. *J Clin Psychiatry* 60(suppl 14):27–30, 1999.
16. Nurnberg HG. Managing treatment-emergent sexual dysfunction associated with serotonergic antidepressants: before and after sildenafil. *J Psychiatr Prac* 7:92–108, 2001.
17. Walker PW, Cole JO, Gardner EA, et al. Improvement in fluoxetine-associated sexual dysfunction in patients switched to bupropion. *J Clin Psychiatry* 54:459–65, 1993.
18. Ferguson JM, Shrivastava RK, Stahl SM, et al. Reemergence of sexual dysfunction in patients with major depressive disorder: Double-blind comparison of nefazodone and sertraline. *J Clin Psychiatry* 62(suppl 3):24–29, 2001.
19. Woodrum ST, Brown CS. Management of SSRI-induced sexual dysfunction. *Ann Pharmacother* 32(11):1209–15, 1998.
20. Monteiro WO, Noshirvani HF, Marks IM, et al. Anorgasmia from clomipramine in obsessive-compulsive disorder. *Br J Psychiatry* 151:107, 1987.
21. Segraves RT. Reversal by bethanechol of imipramine-induced ejaculatory dysfunction. *Am J Psychiatry* 144:1243–44, 1987.
22. Ashton AK, Rosen RC. Bupropion as an antidote for serotonin reuptake inhibitor-induced sexual dysfunction. *J Clin Psychiatry* 59(3):112–15, 1998.
23. Landen M, Eriksson E, Agren H, et al. Effect of buspirone on sexual dysfunction in depressed patients treated with selective serotonin reuptake inhibitors. *J Clin Psychopharmacol* 19:268–71, 1999.
24. Michelson D, Schmidt ME, Johnston R. SSRI-associated sexual dysfunction: new data from prospective trials. Program and abstracts from the 153rd Annual American Psychiatric Association Meeting, May 13–18, 2000; Chicago, IL. Abstract 2.
25. Nurnberg HG, Lauriello J, Hensley PL, et al. Sildenafil for iatrogenic serotonergic antidepressant medication-induced sexual dysfunction in 4 patients. *J Clin Psychiatry* 60(1):33–35, 1999.
26. Zajecka J. Strategies for the treatment of antidepressant-related sexual dysfunction. *J Clin Psychiatry* 62 (suppl 3):35–43, 2001.