Treatment of decreased sexual desire in women

By Brooke M. Faught, DNP, WHNP-BC, NCMP, IF

Faculty:
Brooke M. Faught, DNP, WHNP-BC, NCMP, IF, is a women's health nurse practitioner and Clinical Director of the Women's Institute for Sexual Health (WISH), A Division of Urology Associates, in Nashville, Tennessee.

Intended audience: This continuing education (CE) activity has been designed to meet the educational needs of nurse practitioners who provide care for women of any age.

CE approval period: Now through March 31, 2020

Estimated time to complete this activity: 1 hour

CE approval hours: 1.0 contact hours, including 1.0 contact hours of pharmacology credit (NCC code 1)

Goal statement: To identify decreased sexual desire (DSD)/hypoactive sexual desire disorder (HSDD) in female patients, to be familiar with a broad variety of treatments, and to be able to choose a therapeutic approach that is best suited to each individual woman.

Needs assessment: This activity for *Women's Healthcare* is based on a CE presentation by the author at the NPWH annual conference held in Seattle, Washington, in October 2017. In this article, the author provides background information on DSD and HSDD, discusses the assessment of a woman in whom DSD/HSDD is identified, and focuses on a variety of non-medicinal, medicinal, and alternative treatments for these disorders.

Educational objectives: At the conclusion of this educational activity, participants should be able to:

1. Understand the prevalence of DSD/HSDD and the causes of female sexual dysfunction.
2. Perform an appropriate and thorough assessment of women in whom DSD/HSDD is identified.
3. Be familiar with a variety of treatment options—non-medicinal, medicinal, and alternative—and choose the one(s) that is/are most suitable for each individual woman.

Accreditation statement: This activity has been evaluated and approved by the Continuing Education Approval Program of the National Association of Nurse Practitioners in Women's Health (NPWH), and has been approved for 1.0 contact hours, including 1.0 contact hours of pharmacology credit.

Faculty disclosures: NPWH policy requires all faculty to disclose any affiliation or relationship with a commercial interest that may cause a potential, real, or apparent conflict of interest with the content of a CE program. NPWH does not imply that the affiliation or relationship will affect the content of the CE program. Disclosure provides participants with information that may be important to their evaluation of an activity. Faculty are also asked to identify any unlabeled/unapproved uses of drugs or devices made in their presentation.
Brooke Faught, DNP, WHNP-BC, NCMP, IF, disclosed that she has received consulting fees from Duchesnay, AMAG, Lupin, and Therapeutics MD. Dr. Faught has also received promotional fees from Duchesnay and AMAG and has done contracted research for IPSEN Innovations.

Disclosure of unlabeled use: NPWH policy requires authors to disclose to participants when they are presenting information about unlabeled use of a commercial product or device or an investigational use of a drug or device not yet approved for any use.

Disclaimer: Participating faculty members determine the editorial content of the CE activity; this content does not necessarily represent the views of NPWH. This content has undergone a blinded peer review process for validation of clinical content. Although every effort has been made to ensure that the information is accurate, clinicians are responsible for evaluating this information in relation to generally accepted standards in their own communities and integrating the information in this activity with that of established recommendations of other authorities, national guidelines, FDA-approved package inserts, and individual patient characteristics.

To participate in this CE program, click *here*[A].

Successful completion of the activity: Successful completion of this activity, J-19-01, requires participants to:

1. Log on to npwh.org/courses/home/details/1160 and "Sign In" at the top right-hand corner of the page if you have any NPWH account. You must be signed in to receive credit for this course. If you do not remember your username or password, please follow the "Forgot Password" link and instructions on the sign-in page. If you do not have an account, please click on "Create an Account."*
2. Read the learning objectives, disclosures, and disclaimers on the next page.
3. Study the material in the learning activity during the approval period (now through March 31, 2020).
4. Complete the post-test and evaluation. You must earn a score of 70% or better on the post-test to receive CE credit.
5. Print out the CE certificate if successfully completed.

*If you are an NPWH member, were once a member, or have taken CE activities with NPWH in the past, you have a username and password in our system. Please *do not* create a new account. Creation of multiple accounts could result in loss of CE credits as well as other NPWH services. If you do not remember your username or password, please either click on the "Forgot Username" or "Forgot Password" link above or call the NPWH office at (202) 543-9693, ext. 1.

Commercial support: The content for this article was supported by an educational grant from Valeant Pharmaceuticals.

Before reading the article, click *here*[A] to take the pretest.

About a third of women in the United States experience decreased sexual desire (DSD), a symptom that may be part of a more complex diagnosis. The author discusses DSD with respect to background information, screening, and diagnosis, and then focuses on treatment of this common, oftentimes perplexing, problem.

KEY WORDS: **decreased sexual desire, DSD, female sexual dysfunction, hypoactive sexual desire disorder, HSDD, female sexual interest/arousal disorder**

Decreased sexual desire (DSD), also known as low sex drive or low libido, may be a symptom of a diagnosable female sexual dysfunction (FSD). When DSD in a woman is severe, resulting in a complete or substantial lack of sexual interest/arousal, an absence of sexual/erotic thoughts, a disinclination to initiate sexual encounters, and an absence of pleasure during sex—and has persisted for at least 6 months, resulting in distress, with no evidence of a physical, biological, or substance-induced origin—then this FSD meets criteria for the *Diagnostic and Statistical Manual for Mental Disorders, 5th Edition (DSM-5)*, diagnosis of *female sexual interest/arousal disorder* (FSIAD).[1] In this latest edition of the *DSM*, the American Psychiatric Association merged the more familiar diagnoses of hypoactive sexual desire disorder (HSDD) and female sexual arousal disorder into one new diagnosis: FSIAD.[2]*

In this article, *decreased sexual desire* or its abbreviation *DSD* is used as an umbrella term to cover all of the clinical and lay terms for the symptom, and the term *hypoactive sexual desire disorder* or its abbreviation *HSDD* is used when specifically referring to the *DSM* diagnosis. FSDs such as female orgasmic disorder and genitopelvic pain/penetration disorder, the latter of which itself is a *DSM-5* amalgam of dyspareunia and vaginismus, are beyond the scope of this paper.

*Sexual medicine providers remain divided on the acceptance of this new *DSM-5* terminology because many of them appreciate the unique attributes associated with HSDD and female sexual arousal disorder. In addition, most recent studies and publications utilize the *DSM-IV-TR* terminology of HSDD, including the recently published HSDD Process of Care.[3]

Although HSDD has likely plagued millions of women over the course of human history, it was not discussed in medical literature in the United States until 1974,[4] and it was first included in the *DSM*—the *DSM-III-TR* to be exact—in 1987.[5] Likewise, the topic of DSD in women did not receive much attention in the media until the past few decades. It was not until 2015 that the first prescription medication was approved by the FDA to treat HSDD in premenopausal women. And, now, in the spring of 2019, another medication is nearing FDA approval for this same indication in the same population. No medication has yet been approved to treat HSDD in postmenopausal women despite published evidence supporting the efficacy of some compounds.

This article covers the prevalence of DSD—both as a symptom and as part of a more complex psychiatric diagnosis, HSDD—as well as its underlying causes, and the assessment and treatment of women who present with this problem. Much of the article is devoted to a wide variety of non-medicinal, medicinal, and alternative treatments that healthcare providers (HCPs) can offer to women who have DSD or HSDD.

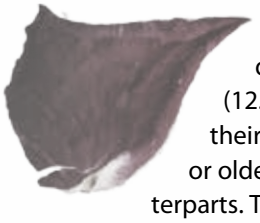
Prevalence

In a landmark study reported almost 20 years ago, Laumann et al.[6] found that 43% of 1,486 U.S. women aged 18-59 years experienced some type

Before an HCP begins a physical assessment and possibly orders laboratory tests, with the aim of identifying the cause of a woman's DSD, it is helpful to consider aspects of her daily life that may be contributing to her problem.

of sexual dysfunction. The most common FSD was a lack of interest in sex, reported by about one-third of respondents overall. FSDs such as anorgasmia, dyspareunia, lack of pleasure during sex, anxiety about performance, and difficulty lubricating affected smaller proportions of the sample.

More recently, a cross-sectional study of more than 1,900 U.S. women aged 30-70 years and in stable relationships who were interviewed by telephone showed that the overall prevalence of DSD was 36.2%.[7] The overall prevalence of HSDD, characterized by *distress* about one's DSD, was 8.3%. A survey of more than 31,000 U.S. women revealed that 38.7% experienced DSD.[8] Age stratification revealed a sharp increase in the prevalence of DSD by age group (22.2% among women aged 18-44, 38.9% among those aged 45-64, and 74.8% among those 65 or older), whereas *distress* about DSD was greater among middle-aged women (12.3%) than among their younger (8.9%) or older (7.4%) counterparts. The consensus among experts is that HSDD affects about 10% of women.[9]



Female sexual response

Why do about a third of U.S. women, at least according to these studies, experience DSD? In order to understand the causes of DSD, HCPs must be familiar with two models of thought about female sexual response. According to the biopsychosocial model, female sexual response is affected by multiple etiologic factors, including[10,11]:

- Biological factors such as physical health, neurobiologic status, and endocrine functional status;
- Psychological factors such as body image, performance anxiety, and mood;
- Sociocultural factors such as upbringing, educational background, and cultural norms; and
- Interpersonal factors such as quality of current and past relationships, intervals of abstinence, life stressors, and economic status.

According to the Dual Control Model, sexual response involves an interaction between excitatory factors and inhibitory factors.[12] Individuals vary in their propensity for both sexual excitation and sexual inhibition. For most people, these propensities are adaptive and non-problematic. However, individuals with an unusually high tendency for excitation or a low propensity for inhibition are more likely to engage in high-risk or otherwise troublesome sexual behavior. Conversely, individuals with a low propensity for sexual excitation or a high propensity for sexual inhibition are more likely to experience an impairment of sexual response (i.e., sexual dysfunction). The causes of these propensities are themselves multifactorial. In terms of neurobiologic factors that affect female sexual response, sex steroids, dopamine, oxytocin, melanocortin, and norepinephrine are excitatory, whereas serotonin, endogenous opioids, endocannabinoids, and prolactin are inhibitory.[9]

Causes of female sexual dysfunction

The aforementioned models are thought provoking and certainly have applications in the real world. For example, subnormal sex steroid levels may be the main etiologic factor in a postmenopausal woman presenting with DSD.[3] But before an HCP begins a physical assessment and possibly orders laboratory tests, with the aim of identifying the cause of a woman's DSD, it is helpful to consider aspects of her daily life that may be contributing to her problem. For example, FSD

The first step in treating DSD is education and revision of any identified modifiable biopsychosocial factors such as underlying health conditions, medications, and relationship discord.

may be related to a physical condition such as chronic pain, thyroid dysfunction, or chronic fatigue; a mental illness such as depression or anxiety; her life-stage status (e.g., pregnancy, infertility, menopause); smoking, excessive alcohol consumption, or illicit drug use; poor body image; or life stressors. In addition, many women are simply naïve about sexual physiology and sexual response.

For many medications, DSD is a common side effect. Typical offenders include psychotropic agents such as selective serotonin reuptake inhibitors (SSRIs), serotonin/norepinephrine reuptake inhibitors, tricyclic antidepressants, and benzodiazepines; antiepileptic agents; cardiovascular agents such as beta blockers, diuretics, and lipid-lowering agents; hormonal agents such as oral contraceptives, fertility drugs, estrogens, and gonadotropin-releasing hormone agonists; cancer treatments; and histamine-2 receptor blockers.[13] SSRIs are particularly well-known culprits in terms of their adverse effect on sexual function in both men and women.[14]

Assessment

The recently published HSDD Process of Care offers an easy-to-follow **algorithm**[B] (via a link to the author's June 2018 column on this topic) for facilitating the proper identification, diagnosis, and treatment of DSD and HSDD in pre- and postmenopausal women.[3,15] The **Decreased Sexual Desire Screener**[C] is a validated, diagnostic tool that allows HCPs to quickly and efficiently diagnose generalized, acquired HSDD. After DSD is identified in a given woman, HCPs should take a thorough history to determine whether any of the aforementioned aspects of her daily life are causing or exacerbating her DSD.[3] Other questionnaires that can help assess DSD are the **Female Sexual Function Index (FSFI)**[D] and the **Female Sexual Distress Scale-Revised (FSDS-R)**[E].

The physical examination should include evaluation of the patient's vital signs; general presentation; gait/posture; skin, including mucosal surfaces; and neurologic and musculoskeletal status in order to identify problems not revealed during history taking that may play a role in DSD. With regard to the vulvovaginal exam in particular, HCPs should note the woman's skin/tissue integrity, neurologic status, vaginal/pelvic muscle strength and tone, and urogenital health. HCPs may consider blood testing, as indicated, for levels of estradiol, follicle-stimulating hormone, luteinizing hormone, testosterone, dihydrotestosterone, sex hormone-binding globulin (SHBG), prolactin, and thyroid hormones.[3]

Treatment options

The first step in treating DSD is education and revision of any identified modifiable biopsychosocial factors such as underlying health conditions, medications, and relationship discord.[3] The intervention may be as simple as stopping an SSRI and switching to another antidepressant or educating the woman about female sexual response. For appropriate candidates, the next step is to initiate counseling or psychotherapy to modify thoughts, beliefs, behaviors, emotions, and relationship communication/behaviors that may be interfering with sexual desire.[9] In many cases, especially when DSD is chronic and/or distressing, another non-medicinal approach and/or a medicinal approach may be advisable.

Non-medicinal interventions

Some women with DSD can experience improvement in their sex drive by participating in talk therapy or by using devices marketed as sexual aids or toys. However, over-the-counter products marketed as sexual performance enhancers should be approached with caution. For instance, many arousal creams and lotions contain caustic ingredients that can irritate sensitive vulvovaginal tissue.

Counseling or psychotherapy

Office-based counseling using the PLISSIT model (Permission, Limited Information, Specific Suggestions, and Intensive Therapy), a stepped approach specifically for general HCPs caring for women with sexual

Some women may be more interested in trying a sex aid if their HCP normalizes its use by describing it as *physical therapy for the vagina*.

concerns, may be helpful.[16] If psychotherapy is indicated, the woman can be referred to a mental health specialist or sex therapist.

Devices

Clitoral stimulators, vibrating pumps, and similar devices marketed as sexual aids or toys can enhance sexual arousal in women. These products are available at websites such as buywomanizer.com, pureromance.com, and goodvibes.com/s/. Although sexual arousal typically follows sexual desire, some women who use these products to achieve sexual arousal find that their sex drive increases as a side benefit.

Not all women are receptive to the idea of using devices to enhance their sex drive. HCPs need to use their judgment to select appropriate candidates. At the same time, some women who seem reticent at first may be more interested in trying a product if their HCP normalizes the use of sexual aids and toys by describing them as *physical therapy for the vagina*.

Medicinal interventions

These approaches include one FDA-approved medication for HSDD (flibanserin), one drug nearing FDA approval for HSDD (bremelanotide [BMT]), hormonal agents, and various pharmaceuticals used off label to treat DSD and HSDD.

Flibanserin

Flibanserin is the first and only medication approved by the FDA to treat HSDD in premenopausal women. Flibanserin is dosed at 100 mg once daily at bedtime. This agent is a full agonist at postsynaptic serotonin 5HT1A receptors and an antagonist at postsynaptic 5HT2A receptors,[17] although its exact mechanism of action in treating HSDD is unknown. Its safety and efficacy, as evidenced by an improvement in desire, a reduction in distress, and the experience of more satisfying sexual events, was demonstrated in three pivotal placebo-controlled trials.[18-20]

In these three trials, common side effects of flibanserin were dizziness, somnolence, nausea, and fatigue. The package insert for flibanserin warns against ingestion of alcoholic beverages, which may increase the risk for severe hypotension and syncope.[21] This warning was based on results of a phase I study of 25 subjects—23 men and 2 women—in whom the incidence of hypotension and syncope increased when flibanserin was co-administered with ethanol.[22] However, a postmarketing, randomized, double-blind, placebo-controlled, single-dose, crossover study conducted on 96 premenopausal women showed that mild/moderate consumption of alcohol did not affect the adverse event profile of flibanserin with respect to dizziness, hypotension, or somnolence, and that no instances of syncope were observed.[23] The FDA may consider removing the boxed warning if results of additional postmarketing studies support those reported by Sicard et al.[23]

Bremelanotide

In June 2018, the FDA accepted a New Drug Application for BMT, a peptide melanocortin receptor agonist, for the treatment of HSDD, with a Prescription Drug User Fee Act date set for March 23, 2019. Unlike flibanserin, which is taken orally, on a daily basis at bedtime, BMT is administered subcutaneously and is used only as needed. BMT 1.75 mg is administered into the anterior thigh or abdomen via a disposable auto-injector.

Two 2015 reviews of agents undergoing development and testing indicated that BMT showed promise.[24,25] A 2016 phase IIB trial demonstrated that BMT doses of 1.25 mg and 1.75 mg, but not 0.75 mg or placebo, were safe, effective, and well tolerated in increasing the number of sexually satisfying events per month, the main outcome measure.[26]

The RECONNECT trial, whose 52-week open-label treatment phase is ongoing, included a 24-week, randomized, double-blind, placebo-controlled treatment phase evaluating the safety and efficacy of BMT in 1,247 premenopausal women who had HSDD for at least 6 months.[27] In this 24-week segment of the trial, BMT recipients, compared with placebo recipients, experienced statistically significant and clinically meaningful improvement

as gauged by FSFI desire domain scores and the FSDS desire/arousal/orgasm tool. Scores for item 13 of the FSDS-R showed a significant reduction in DSD-related distress for women using BMT versus those using placebo. The most frequent BMT-related treatment emergent adverse events (TEAEs) were mild/moderate nausea, facial flushing, and headache. TEAEs led to treatment discontinuation or interruption in approximately 18% of BMT users versus 2% of placebo users.

Testosterone

Randomized, double-blind, placebo-controlled studies have demonstrated the efficacy of transdermal testosterone (T), alone or with estrogen or estrogen/progestogen therapy, in relieving HSDD symptoms in menopausal women.[28] Although supported by evidence, T is used *off label* for DSD. An Endocrine Society Practice Guideline suggests a 3- to 6-month trial of T in postmenopausal women who request this therapy and in whom it is not contraindicated.[3,29] T should be prescribed in a non-oral formulation such as a transdermal patch, gel, or cream—either an FDA-approved product for men or a product prepared by a compounding pharmacy—*at a dosage that is about one-tenth of that used in men.*

Healthcare providers who prescribe T *off label* for a woman with DSD should measure her T levels at baseline, after 3-6 weeks of treatment, and then every 6 months thereafter to monitor for overuse and signs of androgen excess. At all these checkpoints, a woman's bioavailable T level should be determined via a mathematical formula (total T x 3.47/SHBG) or with use of an online calculator available at issam.ch/freetesto.htm. The goal for calculated free T in women is 0.6-0.8 ng/dL.[30]

Dehydroepiandrosterone (DHEA)

A systematic review evaluating the effect of DHEA on aspects of sexual function showed that treatment with this endogenous steroid hormone improved sexual interest, lubrication, pain, arousal, orgasm, and sexual frequency.[31] Like T, DHEA is used *off label* to treat HSDD.

Psychotropics

Anecdotal evidence suggests that a psychostimulant such as dextroamphetamine/amphetamine or methylphenidate may help treat HSDD in select cases, particularly if a woman has co-existing attention deficit disorder that may or may not have been diagnosed.[32] A short course of a short-acting psychostimulant, used *off label* in this fashion, may help a woman who has difficulty "shutting down" and "focusing" to enjoy sex.

Buspirone, a serotonin 1A partial agonist, is approved as an anxiolytic for the treatment of generalized anxiety disorder and for short-term relief of anxiety symptoms, and it is used *off label* to treat HSDD.[24] Bupropion, a norepinephrine-dopamine reuptake inhibitor, is approved for the treatment of depression and for smoking cessation, but it is used *off label* to treat HSDD.[33]

Other medicinal options

If none of the aforementioned treatments are effective in a given woman, other medicinal options are available. Depending on her needs, preferences, and health status, she can try compounded oxytocin troches/lozenges (10-50 IU) or nasal spray (100 IU/mL; 1 spray into nostril at time of coitus), a phosphodiesterase type 5 inhibitor such as sildenafil, or a topical arousal cream. These creams, used to enhance clitoral stimulation and sexual arousal, contain active ingredients such as aminophylline, L-arginine, sildenafil, nitroglycerin, or phentolamine. Zestra cream includes borage oil, evening primrose oil, angelica root extract, coleus root extract, and cocoa seed powder. Oral sildenafil and the cream formulations are used mainly to enhance sexual arousal, as opposed to sexual desire—but, as with the aforementioned sexual devices, increased sexual arousal may lead to increased sexual desire.

Alternative therapy

A woman who wants to avoid using conventional medications may find that an alternative remedy improves her sexual function. A double-blind, placebo-controlled study was conducted to determine the effect of a dietary supplement, ArginMax, which contains L-arginine (shown to enhance blood flow and nerve conduction in the genitals), other herbs, vitamins, and minerals on sexual function in women.[34] Active treatment, compared with placebo,

Testosterone should be prescribed as a transdermal patch, gel, or cream *at a dosage that is about one-tenth of that used in men.*

had significantly beneficial effects on level of sexual desire, satisfaction with overall sex life, and frequency of sexual intercourse in premenopausal women; on frequency of intercourse, satisfaction with one's sexual relationship, and vaginal dryness in perimenopausal women; and on sexual desire in postmenopausal women.

Conclusion

The causes of DSD and HSDD in women are complex and multifactorial; as such, the approach to treatment is often multifaceted. After a physical exam and lab tests rule in or out other treatable causes (and those causes are addressed as indicated), HCPs can try non-medicinal, medicinal, or alternative approaches that are individually tailored to a woman's needs and preferences.

As of this writing, only one medication, flibanserin, is FDA approved to treat HSDD in premenopausal women, although BMT may soon be granted this same approval. Testosterone is used off label to treat HSDD in postmenopausal women. Other medications and herbal remedies have been used safely and effectively for this indication in women of any age. Women can avail themselves of a course of psychotherapy or sex therapy to shed light on the cause of their DSD and to learn strategies for enhancing their sex drive. They can use devices that increase sexual arousal and that have the side benefit of increasing sexual desire. DSD is a common, often distressing problem, but it can be improved, if not fully overcome, with a wide variety of treatment options.

References

1. American Psychiatric Association. DSM-5: *Diagnostic and Statistical Manual for Mental Disorders, 5th Edition*. American Psychiatric Press, USA; 2013.
2. IsHak WW, Tobia G. DSM-5 Changes in Diagnostic Criteria of Sexual Dysfunctions. *Reprod Sys Sexual Disorders*. 2013;2:122.
3. Clayton AH, Goldstein I, Kim NN, et al. The International Society for the Study of Women's Sexual Health process of care for management of hypoactive sexual desire disorder in women. *Mayo Clin Proc*. 2018;93(4):467-487.
4. Kaplan HS. *The New Sex Therapy*. New York, NY: Brunner/Mazel; 1974.
5. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Text Revision*. Washington, DC: American Psychiatric Press; 1987.
6. Laumann E, Paik A, Rosen R. Sexual dysfunction in the United States: prevalence and predictors. *JAMA*. 1999;281:537-544.
7. West SL, D'Aloisio AA, Agans RP, et al. Prevalence of low sexual desire and hypoactive sexual desire disorder in a nationally representative sample of US women. *Arch Intern Med*. 2008;168(13):1441-1449.
8. Shifren JL, Monz BU, Russo PA, et al. Sexual problems and distress in United States women: prevalence and correlates. *Obstet Gynecol*. 2008;112(5):970-978.
9. Goldstein I, Kim NN, Clayton AH, et al. Hypoactive sexual desire disorder: International Society for the Study of Women's Sexual Health (ISSWHS) Expert Consensus Panel Review. *Mayo Clin Proc*. 2017;92(1):114-128.
10. Rosen RC, Barsky JL. Normal sexual response in women. *Obstet Gynecol Clin North Am*. 2006;33(4):515-526.
11. Althof SE, Leiblum SR, Chevret-Measson M, et al. Psychological and interpersonal dimensions of sexual function and dysfunction. *J Sex Med*. 2005;2(6):793-800.
12. Bancroft J, Graham CA, Janssen E, Sanders SA. The dual control model: current status and future directions. *J Sex Res*. 2009;46(2-3):121-142.
13. Kingsberg SA, Janata JW. Female sexual disorders: assessment, diagnosis, and treatment. *Urol Clin North Am*. 2007;34(4):497-506.
14. Rappek NAM, Sidi H, Kumar J, et al. Serotonin selective reuptake inhibitors (SSRIs) and female sexual dysfunction (FSD): hypothesis on its association and options of treatment. *Curr Drug Targets*. 2018;19(12):1352-1358.
15. Faught BM. Implementation of the HSDD process of care into clinical practice. *Womens Healthcare*. 2018;6(2):61-64.
16. Annon JS. The PLISSIT model: a proposed conceptual scheme for the behavioral treatment of sexual problems. *J Sex Educ Ther*. 1976;2(1):1-15.
17. Stahl SM. Mechanism of action of flibanserin, a multifunctional serotonin agonist and antagonist (MSAA), in hypoactive sexual desire disorder. *CNS Spectr*. 2015;20(1):1-6.
18. DeRogatis LR, Komer L, Katz M, et al; VIOLET trial investigators. Treatment of hypoactive sexual desire disorder in premenopausal women: efficacy of flibanserin in the VIOLET study. *J Sex Med*. 2012;9(4):1074-1085.
19. Thorp J, Simon J, Dattani D, et al; DAISY trial investigators. Treatment of hypoactive sexual desire disorder in premenopausal women: efficacy of flibanserin in the DAISY study. *J Sex Med*. 2012;9(3):793-804.
20. Katz M, DeRogatis LR, Ackerman R, et al. Efficacy of flibanserin in women with hypoactive sexual desire disorder: results from the BEGONIA trial. *J Sex Med*. 2013;10(7):1807-1815.
21. Addyi prescribing information. Raleigh, NC: Sprout Pharmaceuticals; 2018. addyi.com/assets/pdf/Addyi_full_prescribing_info.pdf
22. Stevens DM, Weems JM, Brown L, et al. The pharmacodynamic effects of combined administration of flibanserin and alcohol. *J Clin Pharm Ther*. 2017;42(5):598-606.
23. Sicard E, Raimondo D, Vittitow J, et al. Effect of alcohol adminis-

(continued on page 16)

11. National Institute on Aging. Dementia Resources for Health Professionals: Assessing Cognitive Impairment in Older Patients. 2014. nia.nih.gov/health/assessing-cognitive-impairment-older-patients
12. Gerontological Society of America Workgroup on Cognitive Impairment Detection and Earlier Diagnosis. KAER Toolkit: 4-Step Process to Detecting Cognitive Impairment and Earlier Diagnosis of Dementia. Approaches and Tools for Primary Care Providers. 2015. geron.org/programs-services/alliances-and-multi-stakeholder-collaborations/cognitive-impairment-detection-and-earlier-diagnosis
13. Ulep MG, Saraon SK, McLea SM. Alzheimer disease. *J Nurse Pract.* 2018;14(3):129-135.
14. Slyer, J, Archibald E, Moyo F, Truglio-Londrigan M. Advance care planning and anticipatory decision making in patients with Alzheimer disease. *Nurse Pract.* 2018;43(6):23-31.
15. AARP, National Alliance for Caregiving. Caregiving in the U.S. 2015 Report. caregiving.org/wp-content/uploads/2015/05/2015_CaregivingintheUS_Final-Report-June-4_WEB.pdf
16. Fulmer T, Li N. Age-friendly health systems for older adults with dementia. *J Nurse Pract.* 2018;14(3):160-165.
17. Family Caregiver Alliance. Statement on the Passage of the RAISE Family Caregivers Act. 2018. caregiver.org/statement-passage-raise-family-caregivers-act
18. National Academies of Sciences, Engineering, Medicine. *Families Caring for an Aging America.* Washington, DC: National Academies Press; 2016. nationalacademies.org/caregiving
19. Zwicker D. *Try This:® Best Practices in Nursing Care to Older Adults. Preparedness for Caregiving Scale.* New York, NY: The Hartford Institute for Geriatric Nursing, New York University Rory Meyers College of Nursing; 2018. consultgeri.org/try-this/general-assessment/issue-28.pdf
20. Onega LL. *Try This:®Best Practices in Nursing Care to Older Adults.The Modified Caregiver Strain Index (MCSI).* New York, NY: The Hartford Institute for Geriatric Nursing, New York University Rory Meyers College of Nursing; 2018. consultgeri.org/try-this/general-assessment/issue-14.pdf

Approved by the NPWH Board of Directors: December 2018

(continued from page 12)

tered with flibanserin on dizziness, syncope, and hypotension in healthy, premenopausal women. *J Sex Med.* 2017;14(5 suppl 4):e331.
24. Kingsberg SA, Clayton AH, Pfaus JG. The female sexual response: current models, neurobiological underpinnings and agents currently approved or under investigation for the treatment of hypoactive sexual desire disorder. *CNS Drugs.* 2015;29(11):915-933.
25. Belkin ZR, Krapf JM, Goldstein AT. Drugs in early clinical development for the treatment of female sexual dysfunction. *Exp Opin Investig Drugs.* 2015;24(2):159-167.
26. Clayton AH, Althof SE, Kingsberg S, et al. Bremelanotide for female sexual dysfunctions in premenopausal women: a randomized, placebo-controlled, dose-finding trial. *Womens Health (Lond).* 2016;12(3):325-337.
27. Faught BM, Johnson K, Pragalos A, et al. Efficacy of the investigational drug bremelanotide for hypoactive sexual desire disorder: results from the RECONNECT studies. Presented at: Annual American Association of Nurse Practitioners National Conference; June 2017; Philadelphia, PA.
28. Davis SR, Braunstein GD. Efficacy and safety of testosterone in the management of hypoactive sexual desire disorder in postmenopausal women. *J Sex Med.* 2012;9(4):1134-1148.
29. Wierman ME, Arlt W, Basson R, et al. Androgen therapy in women: a reappraisal: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab.* 2014;99(10):3489-3510.
30. Goldstein I, Clayton AH, Goldstein AT, et al. *Textbook of Female Sexual Function and Dysfunction.* West Sussex, UK: John Wiley & Sons Ltd; 2018:155.
31. Peixoto C, Carrilho CG, Barros JA, et al. The effects of dehydroepiandrosterone on sexual function: a systematic review. *Climacteric.* 2017;20(2):129-137.
32. Pakurek M. ADHD as a possible cause for sexual dysfunction in adult females. *Clin Psychiatry.* 2017;3:1-3.
33. Segraves RT, Clayton T, Croft A, Wolf J. Bupropion sustained release for the treatment of hypoactive sexual desire disorder in premenopausal women. *J Clin Psychopharmacol.* 2004;24(3):339-342.
34. Ito TY, Polan ML, Whipple B, Trant AS. The enhancement of female sexual function with ArginMax, a nutritional supplement, among women differing in menopausal status. *J Sex Marital Ther.* 2006;32(5):369-378.

Web resources

A. npwh.org/courses/home/details/1160
B. npwomenshealthcare.com/wp-content/uploads/2018/06/WHNP0618_Sex-Health_HSDDProcess.pdf
C. obgynalliance.com/files/fsd/DSDS_Pocketcard.pdf
D. thecalculator.co/health/Female-Sexual-Function-Index-(FSFI)-Questionnaire-Calculator-949.html
E. obgynalliance.com/files/fsd/FSDS-R_Pocketcard.pdf