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17.6 Integration of medical and psychologic diagnosis and treatment

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In recent years, female sexual dysfunction has gained considerable attention in the medical literature. Both biologic and psychosocial scientists have gained basic understanding of the etiology and clinical treatment of the various female sexual dysfunctions. Scientific studies[1–4] have demonstrated that the prevalence of female sexual dysfunction is much higher than previously believed. They have also shown that both the prevalence of female sexual dysfunctions and the overlap or comorbidity of female sexual dysfunction is higher than those of sexual dysfunction in men. Nevertheless, there are few data on the biologic and psychologic efficacy of the various treatment modalities. Even well-controlled clinical trials have failed to provide a clear picture of the most effective treatment protocols. As a result, health-care clinicians who treat female sexual dysfunction face a variety of obstacles in determining the most effective treatment approach. To further complicate this clinical picture, there have been very few treatment protocols thus far approved by the US Food and Drug Administration. Thus, clinicians have been forced to develop treatment modalities that remain off-label.

A wide range of treatment modalities for female sexual dysfunction have been independently developed and implemented in a variety of clinical settings. Specialists in departments of psychiatry, urology, gynecology, endocrinology, and psychology have found various management paradigms to be effective under particular conditions. In our clinical experience, the most effective treatment for female sexual dysfunction has been a multidisciplinary integration of biologic and psychologic perspectives. Unfortunately, however, there is still a lack of understanding of how these biologic and psychologic treatment modalities can be integrated into the clinical setting.

In this chapter, various models of integrating biologic and psychologic assessment and treatment will be discussed. Furthermore, this chapter will also consider various methods of systemically integrating these biologic and psychologic issues in the clinical setting to achieve optimal patient satisfaction.

Diagnosis

Female sexual dysfunction is a multicausal and multidimensional disorder combining biologic, psychologic, and interpersonal determinants.[5] We emphasize that although the primary diagnosis may be based on either a biologic or psychologic etiology, the clinician must always maintain a holistic perspective, keeping in mind both ends of this spectrum. The possibility of other diagnoses should be repeatedly considered from the initial interview until the end of treatment.

Clinical practice has demonstrated that, despite the presence or absence of organic disease, mood and psychologic issues significantly affect sexual response and can strongly correlate with female sexual dysfunction.[6,7] In a similar manner, organic problems with or without psychologic issues can also affect a woman's sexual response directly or indirectly. In cases where the care provider believes there is a predominantly biologic etiology, psychologic and relational factors can often play a role in maintaining the dysfunction, making the condition difficult to treat. In addition, psychologic issues may emerge as a consequence of the biologic condition. For this reason, considering a diagnosis as strictly biologic or psychologic can be inaccurate and a disservice to the woman and her partner.

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Many specialists tend to regard problems beyond their own field as an indication for "further" evaluation and treatment, but both biologic and psychosocial evaluations should be considered as basic and essential procedures. This comprehensive assessment is highly recommended for all sexual dysfunctions and is especially critical in the initial conceptualization and treatment planning. Without early attention to emotional and relational issues, women may find it difficult to address these concerns later in the treatment process. Once treatment has been initiated, many women and their partners may be reluctant to seek referrals to mental health professionals and to address the less tangible psychologic aspects of the sexual dysfunction.

With this in mind, one effective and ideal model for the treatment of female sexual dysfunction has been to integrate the mental health professional or sex therapist into the medical setting. In this way, both mental health professional and treating physician can participate in the diagnosis collaboratively. Psychosocial issues can be identified at the time of the initial office visit, and relevant psychologic factors can be communicated to the treating physician prior to the full medical evaluation. Ultimately, not only can a comprehensive assessment be made, but the therapeutic strategies can be individually designed to address the biologic components as well as the emotional and relational issues. In this clinical setting, therapeutic strategies can be promptly shared and modified as changes occur during the treatment process.

Psychosocial evaluation

It is strongly recommended that the psychodynamic or psychosocial evaluation be made under the responsibility of a mental health professional. In taking the psychologic history, the following factors should be included in the assessment: developmental history, cultural and religious influences, sexual history, family background, early trauma or abuse, life stresses, past psychiatric treatments, alcohol and substance abuse, and relational factors. In addition, it is extremely important to have a broad understanding of the partner's reaction to the sexual dysfunction and the impact of the dysfunction on the quality of the relationship. This information often provides important insight into the motivation for treatment and the relationship demands being placed on the patient.

In many clinical settings, the presence of a mental health professional may be difficult or impractical. In such cases, the treating physician should always take a detailed history that includes the emotional and relationship components. Although patients may initially be reluctant to discuss such issues, there is often a sense of relief in communicating such factors after many years of distress. For the clinician, it is imperative to be open, supportive, and nonjudgmental throughout the interview and diagnostic process. The use of standard, objective psychologic instruments and questionnaires can also be an adjunct to the treating physician. The Female Sexual Function Inventory,[8] the Brief Index of Sexual Functioning for Women,[9] the Derogatis Interview for Sexual Functioning,[10] and numerous other instruments can be beneficial in understanding the subjective status of the sexual functions. Moreover, standardized psychologic instruments such as the Minnesota Multiphasic Personality Inventory, the Beck Depression Inventory, the Perceived Stress Scale, and others can be used to evaluate psychologic factors that are indirectly related to sexual functions. In spite of their widespread usage, the psychosocial information gathered from these instruments carries the risk of being fragmentary and is often difficult to use by biologically minded physicians who are not familiar with the interpretation of validated questionnaires. Naturally, the use of psychologic questionnaires should never replace the clinical interview itself. Questionnaires are best used when they can supplement and add additional information to the clinical interview. Questionnaires can also provide personal insight into issues of which the patient may not be aware.

In medical settings where the mental health profession is not integrated into the treatment team, referrals should be made to knowledgeable mental health clinicians in the community. In such cases, it is important to identify clinicians who have previously worked in the field of sexual medicine and are knowledgeable, skilled, and comfortable working with sexual material. Having an available mental health clinician as a resource can often be beneficial to the woman and her partner at some point during the treatment process. For many couples, counseling may be beneficial at any time in the treatment process, as new issues often emerge as the treatment proceeds.

Traditionally, marital and relational issues have been neglected not only by biologically minded physicians, but also in the psychologic field. It is not unusual for clinicians to focus on the sexual function of the individual while neglecting the environmental and relational factors. The presence of the partner during the early diagnostic process provides another source of objective and trustworthy information. This can improve the long-term prognosis of the patient. Since the presence of female sexual dysfunction may itself induce conflicts in the relationship, it is critically important to explore and address this aspect of the presenting problem. Health clinicians working in the field of female sexual dysfunction should routinely meet with the partner at the beginning of treatment and periodically throughout the treatment process.

In general, a comprehensive psychosocial evaluation is required either prior to the biologic evaluation or simultaneously.

Biologic evaluation

The major predisposing factors of the biologic etiologies are vascular, urogynecologic, hormonal, neurologic, and medication (see Chapters 6.1–6.5 and 7.1–7.7 of this book). Evaluation of these factors is the core of a good biologic assessment. The danger in evaluating female sexual dysfunction is

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that physicians may neglect psychologic issues while, at the same time, mental health clinicians or sex therapists may neglect the underlying biologic aspects of the dysfunction. In cases where there are clear psychologic concerns and an apparent psychologic etiology, there may also be biologic issues that contribute to the underlying dysfunction. Mental health professionals should be especially careful not to neglect the basic biologic evaluation. This is particularly true if the clinician works in the community rather than an academic institution where the full team may be available. In all cases, good clinical practice demands that a medical evaluation be performed prior to beginning a course of sex therapy. It is not uncommon for various physical problems, underlying medical illness, and medications to be contributing factors.

The specific evaluation procedure could include focused history and physical examination, laboratory tests,[11] and laboratory evaluation[12] (see Chapters 9.2–9.5). At times, the results of various physiologic tests can be inconsistent with the patient's clinical presentation. As Bancroft[13] has indicated, women are more prone to sexual inhibition than men. Furthermore, the laboratory or office setting can be an unnatural and inhibiting environment for many women. Aberrations in the clinical evaluation can be a function of the office setting rather than a true picture of the underlying dysfunction. Subsequently, before the physiologic data are interpreted, individual differences, such as sexual inhibition (e.g., lack of privacy, performance anxiety, fear) and exhibition factors[14,15] (e.g., sexual stimuli, intimacy), should be considered. For example, when evaluating pain or arousal, it may be difficult to determine whether the clinical presentation is a function of the office setting or whether it occurs in the home environment as well. As a result, a comprehensive sexual history is important to gather before the physician begins to interpret the data from any physiologic testing. In cases where the patient is reluctant to provide a complete sexual history, some psychologic testing or consultation with a psychologic specialist may prove beneficial in better understanding the patient.

The importance of a good physical evaluation is twofold. Not only is it critical in uncovering the basic physiology, but also it is helpful for the patient to understand cognitively the physical aspects of the disorder. This benefit of physical examination can be compared to the initial psychologic evaluation, since both assessments must focus on the development of a therapeutic alliance in the clinician–patient relationship (see Chapters 9.5, 12.1, and 12.4).

In all cases, the physician should be aware of the doctor–patient relationship and of the psychologic impact of the examination on the patient. Even the interview and sexual history taking can raise anxiety because of their obvious sexual content and personal nature. When discussing sensitive sexual material, it is not uncommon for patients to develop erotic feelings toward the clinician. This is referred to as an erotic transference. This phenomenon can develop when the patient begins to convey intimate sexual details to the physician. Erotic feelings can often be mistaken as genuine feelings of love and longing for the physician. They can often be accompanied by sexual fantasies. Such feelings may be a function of the patient's current psychologic condition or may represent some unresolved concerns from the patient's childhood. For many patients, a focused genital examination can be extremely sensitive and can act as the source of erotic transference toward the doctor. The presence of such erotic feelings can cause discomfort for the physician and can interfere with providing an effective treatment plan. Ultimately, such erotic feelings from the patient need to be addressed so that they do not intensify. In some cases, it may be important for the physician to remind the patient of the professional relationship. Such discussions are often described as ones that help establish boundaries and set limits.

Erotic feelings toward the treating physician are especially common for women with a psychiatric diagnosis such as histrionic or borderline personality disorder.[16] These patients typically have high attention needs and a tendency to somatization. In addition, patients who are experiencing a manic episode of bipolar mood disorder may easily demonstrate serious erotic transference because of hypersexuality, as these patients often have increased sexual thoughts and urges. In more unstable patients, erotic or paranoid delusion may indicate an underlying psychotic disorder such as schizophrenia. These cases demand that the treating physician work concurrently with a psychiatrist to ensure the patient's emotional stability and safety.

The psychiatrist has advantages over other mental health professionals such as psychologists, family/couple therapists, and sex therapists. Because of their medical training, psychiatrists not only understand the emotional context of the sexual dysfunction, but also have the biologic knowledge relating to neurotransmitters, neuropeptides, and other key functions of the brain. Psychiatrists are also trained in the secondary sexual dysfunctions associated with psychiatric illness (e.g., hyper/hyposexual symptoms of mood disorder) or psychiatric medications. Therefore, psychiatric consultation can be an important component in the overall treatment of female sexual dysfunction, especially in patients with psychiatric disorders or medications.

Multidiagnosis and descriptors

Considering the multidimensional characteristics of female sexual dysfunction with its high comorbidity and multicausality, Basson et al.[17,18] have recommended that the clinician be aware of the need to consider multiple diagnoses for an individual patient (e.g., sexual desire disorder and combined arousal disorder). In addition, as descriptors are integral components of diagnosis(es), it is strongly recommended that the contextual factors be considered. Often, the contextual factors of an individual case are based on the main etiologic considerations of each diagnosis. As Maurice[19] has previously noted in his discussion of contextual factors, this proposed classification system differs

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little from the multiaxial diagnostic system of the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition, text revised (DSM-IV-TR).[20] Utilizing a multidiagnostic classification that includes the contextual descriptors for each diagnosis (e.g., hypoactive sexual desire disorder with androgen deficiency and marital conflict, or Axis I: hypoactive sexual desire disorder/Axis III: androgen deficiency/Axis IV: marital conflicts in the DSM-IV-TR[20]) can reflect the specific diversity of female sexual dysfunction. One advantage of utilizing this diagnostic classification is that it specifies both the underlying medical diagnosis and the psychologic and relationship factors. When these issues are clearly presented in the diagnostic formulation, communication is enhanced among providers, and treatment goals are more clearly articulated. Ultimately, this comprehensive diagnostic formulation improves the overall integration of the biologic/psychologic diagnosis and treatment.

Treatment

The initial diagnosis and development of an individualized management plan are the starting point of the treatment for female sexual dysfunction. Good clinical practice demands that the treatment approach be a shared decision-making process,[21,22] defined as the process by which clinicians and patients agree on a specific course of action based on a common understanding of the treatment goals and pros and cons of the chosen course compared with any available alternatives. In this process, the health-care provider is the expert in diagnosis, treatment alternatives, and prognosis. In contrast, the patient is good at her own history, preferences, and goals. In addition, the patient, treating physician, and other providers can work collaboratively in addressing the biologic, emotional, and relationship components of the dysfunction. The ultimate focus of the treatment is to improve the female sexual function itself, but if the associated problems are not checked or corrected, clinicians may find themselves facing resistance to treatment. In our experience, women will more often follow through with recommendations if they are part of the decision-making process. Successful treatment is also more likely if the partner is involved early in the treatment process. In cases where both partners are involved, marital therapy to improve communication or various sensate focus techniques may help the couple to resume sexual activity as biologic treatment progresses.

In many cases, biologic treatment alone is insufficient. Although psychologic treatment can be the mainstay of management of female sexual dysfunction, it is not reasonable to make partial edits of the traditional sex therapy with sensate focus and to apply it alone to all kinds of female sexual dysfunction as "one size fits all". Therefore, psychologic and biologic management is often combined. However, specialists should also be cautious of excessive blending. It may result in too much pressure on the patient, low cost-effectiveness, and low efficacy. Specialists should always attempt to balance combined therapy with facilitation. To avoid this difficulty, multidisciplinary discussion about individualized management, primary treatments, other treatment alternatives, and the patient's decision should be pursued.

As the treatment progresses, biologic etiologies tend to have linear results and be comparatively predictable due to their distinct relation between cause and effect. On the other hand, psychologic issues can spread like wildfire in all directions or can newly develop at any time. Therefore, continuous re-evaluation is more frequently required throughout the treatment. Commonly, if the problem persists for a long period or if there is no response despite continuous main treatment, there must be a referral in mind in case different causes or other diseases are suspected.

Sexual desire/interest disorder

As the relationship between the patient and her partner must be considered in all cases of female sexual dysfunction, the presence of a male sexual dysfunction should also be evaluated and considered (see Chapter 8.2). Male erectile dysfunction or premature ejaculation may be contributing, causal, or maintaining factors in the woman's lack of sexual interest or orgasmic disorder. In these cases, female sexual dysfunction usually cannot be restored unless the partner's sexual dysfunction is also addressed. In addition, environmental hygiene care (i.e., privacy, etc.) and sex education should be prepared as occasion demands.

Androgen therapy, which is often the treatment in the desire disorder related to androgen insufficiency, has various biologic adverse effects[23,24] (see Chapters 13.1–13.3). In addition to those, however, the psychologically potential adverse risk should also be considered. Testosterone has sometimes been associated with feelings of anger, rage attacks, and aggressive behavior.[25,26] In view of a number of studies[27,28] outlining the antidepressant effects of testosterone, mood fluctuations and related psychologic change are not uncommon and can be expected during androgen therapy.

Especially for women with bipolar disorder, the use of antidepressants and the mood-altering effects of testosterone overlap. In these cases, there is a danger that the combination of the antidepressant and testosterone may trigger manic symptoms of bipolar disorder.[29,30] Therefore, drug holidays, switching, dosage adjustment, or discontinuation of the medications should be determined by considering the triangular relationships among antidepressant, testosterone, and mood. Again, psychiatric consultation should be considered given the severity of the underlying psychiatric disorder. Bupropion can also be used in the treatment of low sexual desire or orgasmic disorder.[31–33] A careful decision about existing antidepressants and secondary mood-related psychologic changes should take place beforehand.

There are more complicated cases of hypoactive sexual desire that require constant consultation and communication between the treating physician and the psychologic specialist. If hypoactive sexual desire is associated with ovarian cancer,

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oophorectomy, and hormone therapy, it is imperative that the clinician work closely with the endocrinologist. In cases of hypoactive sexual desire associated with major depression, bipolar disorder, schizophrenia, and sexual trauma, the treating physician must work in conjunction with the psychiatrist or other mental professional. This strategy can be applicable not only to hypoactive sexual desire, but also to arousal, orgasmic, and pain disorders of female sexual dysfunction (see Chapter 17.3).

Although testosterone level, general mood, and subjective sexual desire may be restored by various treatments, the patient may continue to report that sexual activity and desire are problematic. In these cases, it is recommended that the clinician re-evaluate sexual desire discrepancy with her partner. Referral to a couples therapy specialist or a structured sensate focus exercise by a mental health professional is strongly recommended.

Arousal disorders

It is helpful to distinguish between subjective and genital arousal. In the clinical presentation, it may be difficult to distinguish clearly between these two conditions (see Chapter 11.3). In cases where the lack of arousal may be due to subjective causes, sex therapy and especially sensate focus are suggested. This form of sex therapy is commonly utilized for an extended period of time during the treatment process. In some cases, the addition of vasoactive agents[34] or a clitoral vacuum device[35] can help to reduce the length of treatment while increasing arousal response. In other cases, local estrogen therapy may be recommended for sexual symptoms that result from estrogen-deficient vulvovaginal atrophy.[36] Again, the re-evaluation of secondary psychologic change after these biologic approaches is needed.

Biologically minded treating physicians should keep in mind that sensate focus exercises may help to improve the patient's comfort level and reduce anxiety. The typical approach to these issues often involves the partner as well as the woman. The couples are instructed in nondemanding sensual exercises in which they explore techniques and areas of stimulation that increase arousal. They are further instructed to maintain journals, to communicate with each other regarding their erogenous zones, and perhaps to share their sexual fantasies with each other. In some cases, sex therapy may be supplemented with individual psychotherapy to uncover conflicts regarding childhood experiences, sexual traumas, and familial relationships.

Orgasmic disorder

For women with lifelong generalized orgasmic disorder, directed masturbation with the bridge maneuver is often recommended.[37,38] Couples therapy, individual psychotherapy, or cognitive-behavioral therapy can also be very beneficial (see Chapter 11.4). The success of treatment relies on maximizing stimulation while simultaneously minimizing feelings of inhibition.[38] Sex therapy in these cases can often be very effective, but it can progress slowly and systematically. For therapy to be successful, the patient and her partner must be motivated to complete homework assignments and to follow the instructions of the therapist. If feelings of resentment or rejection are present in the relationship, these may need to be dealt with before the couple can engage in sex therapy exercise and assignments.

As in men's orgasmic mechanism, investigation with antiserotonergic agents and central nervous system stimulants should be utilized with caution. Even today, there is a lack of scientific data on the possible adverse effects of these medications. In addition, Kegel exercise or electromyography biofeedback, which are designed to improve pelvic floor musculature, are often helpful in treating orgasmic disorder, arousal, or sexual pain disorders. However, there is some controversy regarding the effectiveness of these treatments.[39,40] The use of these modalities needs to be determined on a case-by-case basis, depending on the needs of the patient.

Dyspareunia and vaginismus

For women with dyspareunia and vaginismus, a general multidimensional and multidisciplinary approach with specific attention to the following six major areas is recommended (see Chapters 12.1–12.6): mucous membrane, pelvic floor, pain, sexual partner relationship, emotional profile, and genital mutilation/sexual abuse.[41] For these patients, a program in pain management is often critical.

Tricyclic antidepressants, serotonin norepinephrine reuptake inhibitors (e.g., venlafaxine, duloxetine), and anticonvulsants (e.g., gabapentin, carbamazepine) can also be beneficial for pain relief. Classical triyclic antidepressants should be started with a low dosage of 10 mg daily and then gradually increased to 40–60 mg daily. If a far higher dosage is needed, re-evaluation of the initial diagnosis and treatment is recommended. Cognitive-behavioral therapy, electromyography biofeedback, pelvic floor physical therapy, vestibulectomy, or a combination can also be attempted after exploring the severity of the problem, cost-effectiveness, and the concerns of the patient.

In the treatment of women with painful intercourse, the patient's phobic anxiety regarding penetration is an additional factor that must be addressed. Anxiety is often present regardless of the psychologic or biologic etiology of the presenting problem. In these cases, general anxiety or the development of a phobia regarding penetration can intensify the woman's experience of pain. She will subsequently avoid sexual contact or will attempt to have intercourse in spite of the pain she is experiencing. It is not unusual to hear of women who are tearful throughout intercourse as a result of pain, anxiety, guilt, and/or fear. The treatment of this psychologic reaction often requires more than emotional support and reassurance by the physician. Severe phobic reactions or generalized anxiety regarding

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penetration require psychotherapy or a specific cognitive-behavioral intervention by a trained mental health professional.

Of all the female sexual dysfunction diagnoses, vaginismus is especially well suited for a comprehensive psychologic approach. In the treatment, the patient is encouraged to explore her genital area and to develop an increased level of comfort with her sexual organs and her sexuality in general. While the central focus of the treatment is graduated vaginal penetration, it does not mean vaginal penetration is the final goal of treatment. At the same time, attention needs to be focused, as required, on underlying or newly developed issues in the relationship of the couple if intercourse is possible.

Re-evaluation during the treatment

In view of the comprehensive assessment and continuing changes in the patient, the treating physician should always keep in mind the possibility of additional diagnoses and the need for changes in the treatment plan. It is not uncommon for circumstances, symptoms, or sexual responses to change during the course of treatment. Obviously, any significant change will require a re-evaluation of the treatment approach. For example, if the patient is being treated primarily for psychologic problems, additional biologic factors may emerge and change the patient's medical condition. These include newly developed medical illness, pregnancy and delivery, or menopause. In such cases, a biologic re-evaluation will be needed as soon as possible. On the other hand, if the woman is receiving primarily biologic treatment, psychologic issues may develop that have great impact on the patient. Such changes include a newly developed psychiatric and medical illness and major life stresses (e.g., divorce, death of an important family member, remarriage, childbirth, sexual abuse, infidelity of partner). In a similar manner, psychologic re-evaluation will be needed. It is also important to remember that as a specific sexual dysfunction is treated and sexual activities are more frequently attempted, new sexual problems with the patient or her partner may emerge.

Conclusion

In summary, it has been our experience that the integration of both biologic and psychologic aspects is essential in the treatment of a woman with female sexual dysfunction. A concise outline of this integrated approach is shown in Fig. 17.6.1. The figure provides a schematic overview of an integrated approach in which both the biologic assessment and psychologic evaluation are used in determining the initial diagnosis of the patient. The figure also demonstrates how the treatment approach can

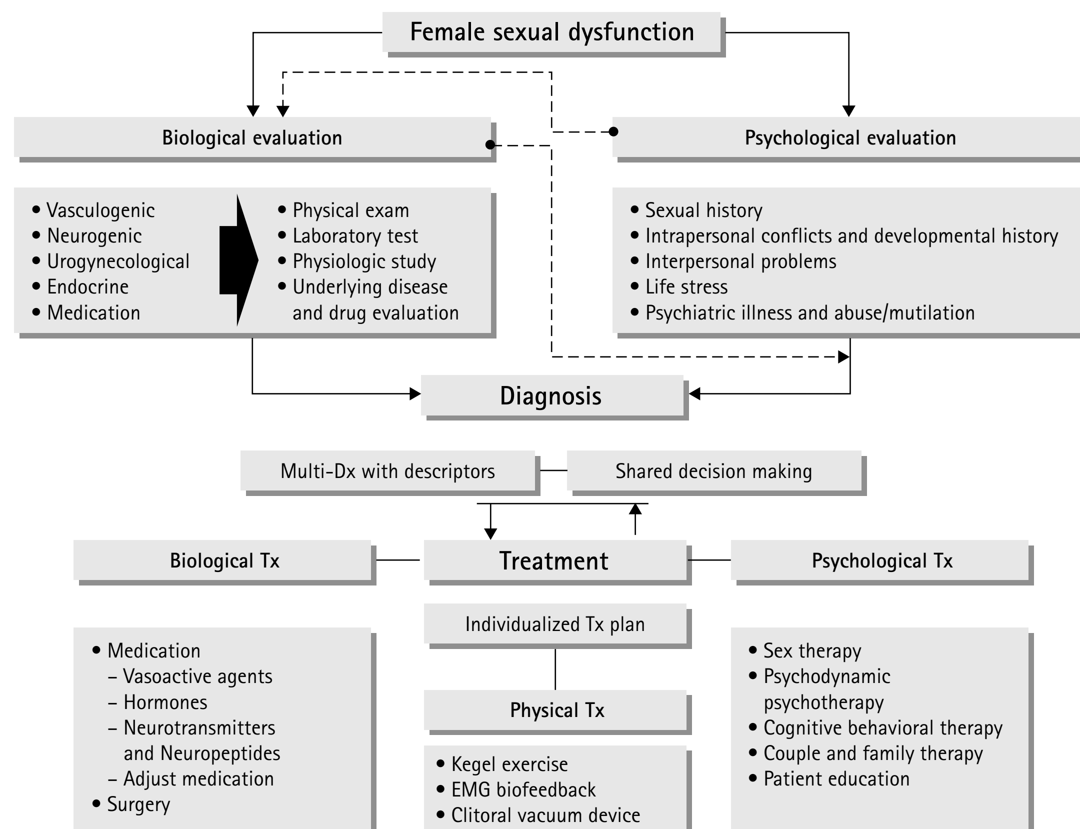

Figure 17.6.1. Integrated algorithm of psychologic/biologic diagnosis and treatment for female sexual dysfunction. Dx: diagnosis; Tx: treatment.

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comprise biologic, physical, and psychologic components. Most importantly, this model focuses on the development of an individualized treatment program based on the input from an interdisciplinary team.

For women who have difficult and complicated forms of female sexual dysfunction, it is important to have specialists who have an understanding of both the biologic and psychologic factors. However, in our current situation, there are many places to reach beyond each clinician's individual capacity. An immediate way to overcome such a barrier is to understand the importance of the tightly knit referral system and to establish a method to address all aspects of the presenting problem.

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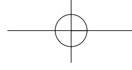

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