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Review

Psychological and interpersonal dimensions of sexual function and dysfunction: recommendations from the fifth international consultation on sexual medicine (ICSM 2024)

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Abstract

Introduction: Sexual health concerns are common and significantly impact quality of life, but many people do not seek treatment due to embarrassment and other barriers. A biopsychosocial model of assessment and treatment acknowledges the biological, psychological, and social contributors to sexual difficulties and suggests that all these domains should be evaluated.

Objectives: This paper provides an overview of the major psychological factors contributing to sexual difficulties and offer an evidence-based approach for primary care clinicians to assess and treat these issues.

Methods: A comprehensive literature review was undertaken focusing on articles published since the last consultation in 2016. The study findings were synthesized, critiqued, authors assigned a Grading of Recommendation as Weak or Strong following a year-long process of discussions among the committee. When a particular well-established psychological practice was not evaluated in the literature, we assigned an expert opinion recommendation.

Results: Since the 2015 ICSM, there have been a number of high-quality trials of psychological treatments addressing sexual dysfunctions, as well as meta-analyses and systematic reviews. In some domains, there is strong evidence of psychological treatment, and primary care providers should be aware of such approaches and refer when appropriate.

Conclusions: This paper offers a practical guide for primary care clinicians to understand the psychological factors underlying sexual dysfunction and outlining what approaches may be appropriate for this clinician, and when the patient should be referred to a specialist. We emphasize an evidence-based approach to managing sexual dysfunctions in primary care, allowing for timely interventions. A comprehensive evaluation of biopsychosocial factors is recommended to personalize psychological interventions to overall context, including chronic diseases, mental health issues, and relationship conflicts. The initial assessment is key to developing an individualized intervention plan, which may include psychoeducation, referral for cognitive-behavioral therapy, mindfulness, or couple therapy, and consideration of medical or digital health interventions.

Keywords: psychological treatment; interpersonal factors; cognitive behavioral therapy; psychoeducation; mindfulness-based therapy; couples therapy; sensate focus; sex therapy.

Sexual health concerns are common, distressing, and impact many aspects of an individual's quality of life and health.[1] Only a fraction of individuals with sexual health concerns seek treatment for these issues due to embarrassment and other barriers,[2] and even when they do, primary care physicians may experience their own barriers in implementing evidence-based management due to lack of training, among other factors.[3] A biopsychosocial model to assessment and treatment of sexual concerns recognizes that there are biological, psychological, and social contributors to an individual person's sexual difficulties, and as such, each of these domains should be assessed as part of a comprehensive assessment. The goal of this paper is to provide an overview of the major psychological factors contributing to sexual difficulties and present an evidence-based approach to assessment and treatment that can be implemented by the primary care clinician, as well as information on when that provider should refer to a specialist.

A comprehensive literature review was undertaken by each of the authors from June 2023–March 2024 focusing on articles published since the last consultation in 2016 where possible. We used a combination of psychological (eg, PsychInfo), medical (eg, PubMed, Medline), and Google Scholar for searches using a variety of search terms that combined sexual function, sexual dysfunction, sexual response, with psychological and/or interpersonal key words. Retrieved articles were then read, stored in a shared folder on Mendeley so that

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all committee members had access. Individual papers were critiqued for methodology, and a modified Delphi method was used for making recommendations. Committee meetings took place monthly for one year, and regular email correspondence by the chairs (LB and SA) addressed questions and clarifications. Key details are included in this consensus paper along with a Grading of Recommendations (Table 1) to aid clinical decision making. For best practice recommendations where there had not been peer-reviewed literature, we labelled these as expert opinion.

Definition of sexual dysfunction

In generally used diagnostic nosology, "sexual dysfunctions" include two conceptually distinct components: Impaired sexual function (ie, problems in the areas of sexual desire, arousal, orgasm, and/or pain) and clinically significant subjective distress (eg, sadness or worry regarding the impaired sexual function and its consequences). Additionally, formally diagnosed sexual dysfunctions cannot be fully attributable to another medical or mental health condition (eg, hypothyroidism, alcohol abuse, depression) and must be present for a minimum amount of time (typically 6 months). While formal sexual dysfunction is quite common, sexual concerns/problems/difficulties that do not meet all of these criteria are even more widespread. The current paper will use "dysfunction" when referring to formal diagnoses and alternative terms such as "sexual concern" for difficulties that, for example, may be transient or attributable to another medical concern.

Sexual function and dysfunction are dependent on interpersonal and psychological factors as well as, even as much as, the biological and social factors.[4] Interpersonal factors are those related to the experiences and interactions between the patient and their close relationships throughout life, while psychological factors are those elements related to the individual's cognitive processes, personality, and mental health. A list of the major elements of the interpersonal and psychological factors that should be assessed by the primary care clinician are listed in Table 2. The primary care physician is not expected to have expertise for an in-depth assessment of these domains; as such, we recommend that one or a few questions on each of these factors may be appropriate for the non-expert primary care clinician.

Regarding interpersonal factors, research has consistently illustrated the interdependence of sexual function between partners. When one partner experiences dysfunction, it can contribute to sexual problems and/or decreased sexual satisfaction in the other(s).[4] These bidirectional influences are so entwined it can often be challenging to assess if the problems in the relationship are caused by the sexual issue or if they are causing it. Given this interdependence, it can be important for both (or more) partners to be assessed for sexual function, and when this is not possible for the primary care clinician, this recommendation can be made and referral to an expert provided. Regarding psychological contributors, these have been shown to have profound effects on sexual function. Cognitive distraction contributes to multiple sexual difficulties. All psychological disorders, and perhaps particularly a history of sexual trauma and/or PTSD not only increase the risk of sexual dysfunction on their own,[4] but there is additional risk for dysfunction when medications are used to treat those psychological problems. While the research is relatively limited, of those with psychological issues with or without treatment with medication, at least 67% and up to 90% of those with depression, 80% of those with anxiety, and 30%–66% of those with schizophrenia are negatively impacted by sexual dysfunction.[5] Furthermore, stress, medications, and/or substance use can have direct impacts on sexual functioning as well.

The interpersonal and psychological factors may be part of the predisposing, precipitating, maintaining, and/or contextual factors of multiple sexual dysfunctions.[6] These factors can also influence the course, severity, and other outcomes of sexual problems regardless of the etiology of those problems. For example, in a patient with depression who is receiving antidepressants and who experiences low desire and inability to orgasm, simply modifying the medication to improve sexual function may not be sufficient if the patient's partner has internalized the patient's issue as lack of desire and/or rejection, and the couple do not have adequate communication skills to counter the harmful narrative.

When possible, we recommend that both interpersonal and psychological factors be assessed by the primary care clinician in order to fully assess the presenting sexual concerns. This assessment will then guide the clinician to identify what is within their expertise, and when a referral is necessary, as well as allowing them to choose an evidence-based treatment that addresses the relevant components of the presenting issues. This is especially necessary as these factors can not only contribute to the presenting description of the problem but may also influence or modify the outcome of treatment. For example, research suggests that in women with low relationship satisfaction, sexual distress may not be fully relieved by treatment that is aimed primarily at improving sexual function.[7] Conversely, women who rate the level of relational emotional intimacy as high or those who are satisfied with the quality of their intimate relationship[8] are less likely to have problems with sexual desire and arousal.[9] And expert opinion supports individuals with a history of trauma, especially sexual trauma, require trauma focused treatment prior to or in conjunction with treatment for sexual dysfunction to achieve optimal outcomes.

This paper provides an updated evidence-based review of multimodal psychological approaches that incorporate treatment to address the interpersonal and psychological aspects of sexual dysfunction, and the impact of treatment on multiple domains of sexual function. Of note, we will refer to the diagnosis, whether it was based on the Diagnostic and Statistical Manual of Mental Disorders or the International Classification of Diseases, from the original studies reviewed.

The flowchart in Figure 1 outlines a structured approach to assessment and treatment of sexual dysfunction, starting with the patient's initial complaint, and leading through a series of assessment domains to inform treatment options. It begins with a general assessment of the sexual problem, followed by a biopsychosocial assessment to explore both psychological (personal and interpersonal) and physical aspects. Based on whether a physical complaint is present, the flowchart directs the clinician to either physical examination and treatment or on integrating findings into psychological and interpersonal treatments. Treatment strategies are then selected based on whether there are individual and/or interpersonal issues at play. This flowchart emphasizes a comprehensive and integrative approach to managing sexual dysfunction.

Table 1. Overall recommendations.

Recommendation	Grade
Clinicians should use the ex-PLISSIT model as an assessment protocol regardless of the suspected etiology of the sexual difficulties/concerns.	Strong
Clinicians should use the ex-PLISSIT model to plan and evaluate interventions regardless of the suspected etiology of the sexual difficulties/concerns.	Strong
Clinicians should address the role of sexual beliefs and socialization toward sexuality issues before applying exposure techniques to sexual stimuli to improve sexual arousal	Strong
Clinicians should assess individuals' interpretations regarding sexual performance demands	Strong
Clinicians may shape attention-focus strategies considering cognitive attention (keeping sexual stimuli in mind), not just visual attention (looking at sexual stimuli)	Weak
Clinicians may use therapist-aid exposure techniques in the context of vaginismus and genital pain, where fear-avoidance psychological mechanisms are involved	Strong
Clinicians should advise women to refrain from painful penetration to bypass the link between pain and sex in the context of dyspareunia	Strong
Clinicians may implement extinction and counterconditioning techniques to improve sexual arousal and positive emotions in the context of dyspareunia	Strong
Clinicians may manage sympathetic activation and implement strategies to desensitize overwhelming sexual stimuli when high neuroticism is involved	Weak
Clinicians should address intimacy and emotional closeness in the relationship when treating FSD and when there are issues of sexual attraction	Strong
Clinicians should encourage patients to use "approach goals" such as having sex for intimacy purposes rather than for "avoidance goals" such as having sex to avoid partners' disappointment	Weak
Clinicians should build a positive frame in the context of "sexual discussions" between the partners	Strong
Clinicians should identify patient and partner communication styles when treating genital pain	Strong
Clinicians may consider the possibility of disgust mechanisms being involved in affect-driven sexual difficulties (eg, disgust resulting from body fluids or moral judgments)	Strong
Consider using the Arizona sexual experience scale in assessment	Strong
Consider using the Sexual Function Questionnaire in assessment	Strong
Consider using the International Index of Erectile Function in assessment	Strong
Consider using the Female Sexual Function Index in assessment	Strong
Consider using the Decreased Sexual Desire Screener in assessment	Weak
Consider using the Sexual Desire Inventory in assessment	Strong
Consider using the Orgasmic Rating Scale in assessment	Strong
Consider using the Female Orgasmic Scale in assessment	Weak
Consider using the Intravaginal Ejaculation Latency Time in assessment	Strong
Consider using a measure of sexual satisfaction such as the GMSEX or NSSS-S	Strong
Consider using the Multidimensional Vaginal Penetration Disorder Questionnaire in assessment	Weak
Clinicians should use validated assessment scales	Strong
Clinicians should use validated self-report questionnaires for patients presenting with sexual difficulties allowing them to save time and guiding their treatment recommendations	Strong
Clinicians should start their assessment with general assessment scales to better understand the overall complaint.	Strong
Clinicians may use a specific assessment scale once the diagnosis is suspected.	Strong
Clinicians should use psycho-education for patients with sexual dysfunction as it is proven to have valuable benefits for the patients.	Strong
Clinicians may provide different options for patients to obtain psychoeducation, in paper or digital forms and in individual or group settings for patients with sexual concerns and issues.	Strong
Clinicians should consider specific disorder psychoeducation for patients with specific disorder.	Strong
Clinicians may use psychoeducation, in person or online, to improve MSF, FSF, and sexual satisfaction.	Weak
Clinicians may use psychoeducation incorporating mindfulness, in person with online support, to improve MSF (desire and intercourse satisfaction) and FSD (desire, arousal, lubrication, orgasm, and pain) in gynecological, colon, or rectal cancer patients.	Weak
Clinicians may use psychoeducation incorporating education +/- therapeutic counseling, in person +/- written material, and/or as part of rehabilitation, to decrease presence of SD in CVD patients	Strong
Clinicians should consider psychoeducation, in person vs written material, to improve SF after a stroke.	Weak
Clinicians may use psychoeducation interventions for SD in patients with Multiple Sclerosis	Strong
Clinicians should consider psychoeducation treatments for PE and DE	Weak
Clinicians may target lifestyle interventions to improve EF in Diabetes Mellitus Type II patients	Weak
Clinicians should use psychoeducation with physical and pelvic floor exercise to improve EF in Cardiovascular Disease patients.	Strong
Clinicians may use psychoeducation (particularly when it incorporates education on sexual function and/or therapeutic techniques) in group or individual settings, and/or with online elements to improve female SF	Strong
Clinicians may use psychoeducation groups with mindfulness component to improve female SF and desire in pre-menopausal women	Strong
Clinicians may use psychoeducation, in-person or through videos, to improve SF in pregnant women.	Weak
Clinicians may use psychoeducation, in-person to improve SD in pregnant women.	
Clinicians may use psychoeducation, in-person to prevent some postpartum SD	Weak
Clinicians may use psychoeducation, in person, in groups, led by trained professionals or by peers to improve FSD and FSD beliefs in post-menopausal women.	Strong
Clinicians may use psychoeducation incorporating education with CBT and/or mindfulness in person or online, to improve low desire and sexual distress	Weak

(continued)

Table 1. Continued.

Recommendation	Grade
Clinicians may use psychoeducation incorporating education, CBT, Dialectical Behavior Therapy, and/or mindfulness, to improve distress, and QoL, and decrease depression and anxiety in those with PGAD	Weak
Clinicians may use psychoeducation incorporating education, relaxation, sensate focus, and gradual dilator exposure to improve fear, dyadic coping, and increase penetrative and non-penetrative sexual activity in those with vaginismus	Strong
Clinicians may use psychoeducation incorporating education, and/or behavioral exercises, counseling, or therapy, in person or online to improve SF and/or decrease SD in female cancer patients	Strong
Clinicians may use psychoeducation to improve SF in females with rheumatoid arthritis	Weak
Clinicians may use CBT for PE when patients are not willing to use combined interventions; when there are good interpersonal skills and stable relationships; when there is presence of negative cognitive factors (eg, excessive focus on performance); when pharmacological approaches proved ineffective or had adverse effects; or when there is comorbidity with other sexual problems.	Strong
Clinicians should NOT consider using CBT for PE when: there is severe body dissatisfaction, namely with penis size or format; there exists conflict with a partner; there is no compliance with the behavioral program, for example, when pharmacological intervention is preferred.	Strong
Clinicians should refer to CBT in general if the patient has rejected medical interventions, has mental health problems, negative affect, persistent negative thoughts about performance, engages in avoidance behaviors, and a cooperative partner is present	Strong
Clinicians may refer to iCBT if there are good levels of digital literacy, shame about ED, or there are barriers to face-to-face interventions (eg, financial costs)	Weak
Clinicians should NOT refer to CBT if the patient has relationship conflicts (see couple's interventions section) or discomfort with one's body (see sensate focus section).	Strong
Clinicians may NOT refer to CBT if an uncooperative partner or if there is a high risk for non-compliance with homework	Weak
Clinicians may refer to CBT when patients present negative past experiences, detrimental cognitive processes, and discomfort with their bodies.	Strong
Clinicians should consider directed masturbation if there is no partner available and/or motivation to explore one's own bodily sensations	Weak
Clinicians should recommend mindfulness for women presenting with difficulties related to sexual desire or arousal, in either group or individual format.	Strong
Clinicians may recommend mindfulness for individuals presenting with sexual pain due to provoked vestibulodynia	Strong
Clinicians may recommend mindfulness for men presenting with difficulties related to sexual satisfaction, related or unrelated to prostate cancer, in either group or couples-based formats.	Weak
Clinicians should recommend individual or couples-based CBT for individuals with PVD.	Strong
Clinicians may use EFT or IBCT for couples presenting with diverse sexual concerns, especially when comorbid with relational distress.	Weak
Clinicians may use couples-based approaches for couples presenting with sexual concerns secondary to cancer.	Weak
Clinicians should recommend digital health interventions for patients with high levels of shame related to face-to-face appointments, those who prefer to self-manage their symptoms, those who have self-disclosure difficulties related to sexual topic, those with scheduling challenges, and those who face financial barriers	Strong
Clinicians should not consider digital health interventions for patients with low digital literacy	Weak
Clinicians should use combined therapy (CBT + PDE5 Inhibitors prescribed by a physician) for patients presenting with ED and significant anxiety or interpersonal issues.	Strong
Clinicians may use combined interventions (medical treatment + psychological treatment) for patients presenting with ED of predominant organic origins as they are more effective than mono-treatment	Weak
Clinicians should consider combined interventions for patients presenting with ED of predominant organic origins as they may offer longer-lasting benefits, potentially due to psychotherapy equipping patients with coping skills and enhancing medication adherence.	Weak
Clinicians may use combined interventions for patients with PE when anxiety or relationship issues are present. Combining pharmacotherapy with behavioral techniques or psychotherapy can yield better outcomes.	Weak
Clinicians might consider combined interventions for women with FSD who are already using a pharmacological approach.	Weak
Clinicians should consider collaborative care when implementing combined interventions. Coordination between healthcare providers—such as physicians, psychologists, and sexual health specialists—is essential to optimize treatment efficacy and ensure comprehensive care for the patient's sexual and psychological well-being.	Weak

Note: Ex-PLISSIT = Extended Model Permission, Limited Information, Specific Suggestions, and Intensive Therapy; GMSEX = Global Measure of Sexual Satisfaction; NSSS-S = New Sexual Satisfaction Scale—Short Form; MSF = male sexual function; FSF = female sexual function; SD = sexual dysfunction; CVD = cardiovascular disease; PE = premature ejaculation; DE = delayed ejaculation; FSD = female sexual dysfunction; PGAD = persistent genital arousal disorder; CBT = cognitive behavioral therapy; iCBT = internet-delivered CBT; PVD = provoked vestibulodynia; QoL = Quality of life; RA = Rheumatoid Arthritis; PDE5 = Phosphodiesterase-5

Given that primary care physicians are the most likely first point of contact for individuals with sexual concerns, appropriate knowledge of how to assess, basic interventions, and when to refer for more intensive therapies, as outlined in the flow chart, is vital to supporting patient's sexual health. For this reason, we recommend ensuring comprehensive sexual medicine education, including the assessment of and basic interventions for the psychological and interpersonal factors of sexual difficulties and dysfunctions, for all physicians and additional clinical training in this area for all internal medicine physicians.

Overview of psychological and interpersonal assessment

Role of interview

Sexual concerns might not be raised by individuals due to discomfort. Research supports patients prefer that their clinician raises the issue first. Professionals working in the field should be able to assess sexual concerns and confidently guide sexuality-related discussions.[10] The goal of the clinical interview is to establish the nature and type of sexual concerns, to assess potential contributing biological/medical, psychological, interpersonal, and sociocultural factors, to explore

Table 2. Overview of key elements of interpersonal and psychological aspects of sexual health.

Interpersonal Factors	**Developmental** • Attachment styles arising from early life experiences • Childhood experiences related to sexuality and intimacy • Childhood abuse (sexual and non-sexual) • History of initial and early sexual experiences: (including context, and associated beliefs and emotions) • Experiences with initial and early sexual partners • Childhood experiences leading to resiliency **Current relationship** • Dyadic factors and quality of overall relationship • Communication patterns, sexual and non-sexual • Sexual scripts • Partner's sexual focus (what is important to the partner sexually) and partner's own sexual health • Interdependence of sexual function • Intervals of reduced or absent sexual activity • Partner's health
Psychological Factors	**Processing** • Attribution style • Schemas/Core Beliefs, sexual and non-sexual • Efficacy expectations • Cognitive distraction/attentional focus • State anxiety and mood **Personality** • Personality features • Typical methods of coping **Mental Health** • Acute and chronic stressors • Body image • Mood disorders • Anxiety disorders • Psychotic disorders • History of trauma or abuse • Post-traumatic stress disorder (PTSD) • Substance use disorders, medication, and recreational drug and alcohol use

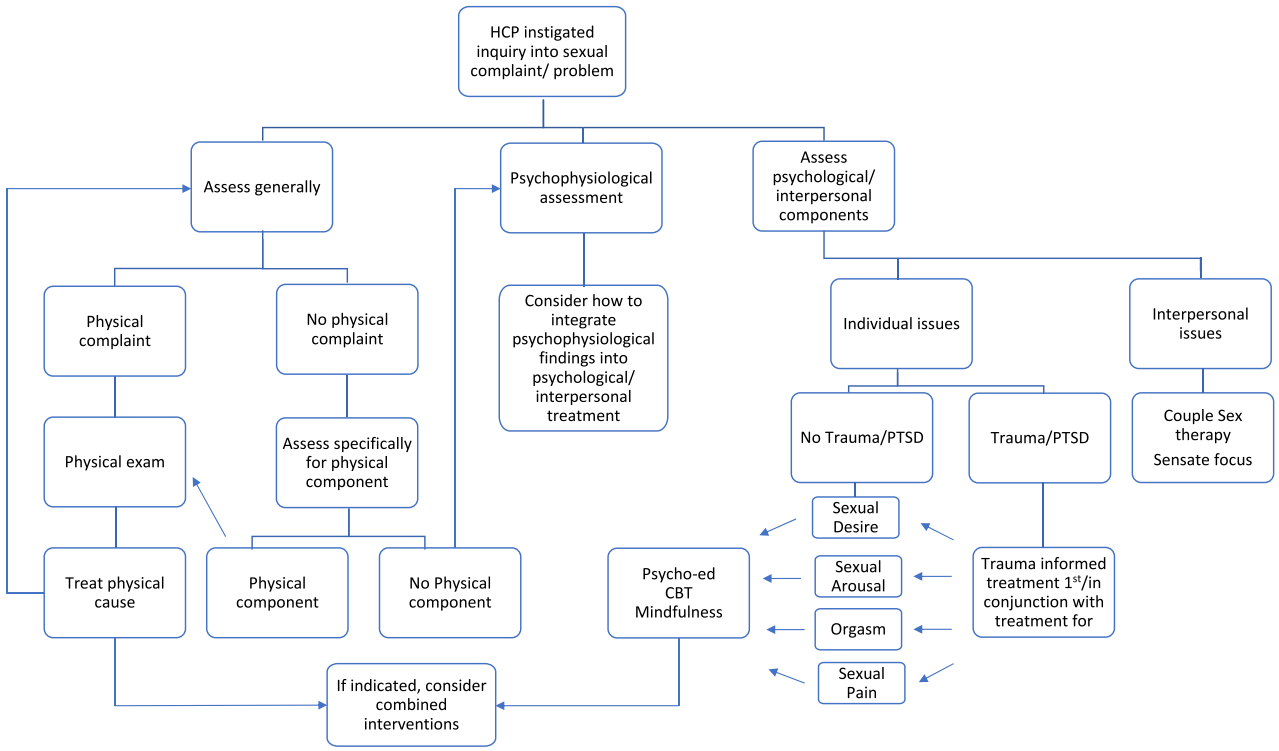

Figure 1. Comprehensive approach to sexual dysfunction: assessment and treatment flowchart. *note:* CBT = cognitive behavioral therapy.

Table 3. Description of the ex-PLISSIT model stages.

Stage	Objectives of the stage	Examples of implementation	Helpful tips
Permission	Clearly encouraging and permitting discussions about sexual issues. Clarify that permission is constant throughout the process and includes actions taken by the clinician aimed at normalizing sexual concerns and giving patients permission to discuss sexuality-related problems and concerns, as well as the permission to decline talking about such issues. Avoid being intrusive and respect the patient's inability to discuss. Professionals should be able to recognize signs of reluctance. In case of reluctance or avoidance to discuss sexual concerns, the clinician might suggest to the patient that they defer the discussion to a future appointment. Review and reflect.	Would you like to talk about this (*sexual concern*)? People with *(mention condition)* often have concerns or questions about how this will affect their sex life. Is there anything you'd like to ask me? How has your *(mention condition)* affected the way you feel about yourself? Has it affected the way you feel about yourself as a man/woman? How is your relationship with your partner? Has your condition affected your relationship in any way? Would you like to talk about this?	Equip your *waiting room* with: • Information leaflet about sexual health/sexual disorders; • Wall poster with sexual medicine service you provide; • Practice newsletters; • Wall poster diagrams describing different kinds of sexual difficulties. In *clinic room:* • Ensure confidentiality; • Be non-judgmental (eg, adopt inclusive language, respect the values, beliefs, and behaviors of the individual); • Ensure a safe environment. • Have at least one book on your shelf about sexual health.
Limited information	Reiterate permission. Correct misconceptions, debunk myths. Provide accurate information concisely. The information given is required to be inclusive and evidence-based and not based on the professional's personal assumptions. Clinicians should address the individual's current level of information about the topic, normalize their concerns, and provide information they did not know. Review and reflect.	Use open-ended questions to assess the individual's current level of information: What do you know about possible causes of *(sexual concern)*? Convey to the patient the biopsychosocial nature of sexual concerns and that often there is an interplay of biological, psychological, and social contributors.	Provide information that is related to the patient concern via: • Informative leaflets; • Websites; • Include patients in the mailing list of advocacy groups; • Attending counseling and educational seminars (if available).
Specific suggestions	Reiterate permission. Professionals address an individual's specific problem by providing therapeutic approaches following a problem-solving approach. These specific suggestions require a higher level of professional knowledge about possible sexual and non-sexual causes underlying the patient's concern, possible side effects of medications used, and the recent evidence-based therapeutic approaches. Primary care clinicians may feel more comfortable referring to a sexual health expert for these suggestions. Review and reflect.	When discussing how a partner's *(sexual concern)* may impact their sexual life and cause sexual dissatisfaction, clinicians can provide and discuss possible solutions to improve sexual satisfaction using problem-solving skills. Suggesting treatment modalities with explanation of benefits and side effects, and where possible, reference the available literature.	Specific suggestions are given and discussed in a manner that suits the patient, meaning they need to be tailored to the individual's characteristics (eg, cultural background, socio economic and educational level, sexual orientation, and practices). For example: • Partner with joint pain—suggesting using different sexual position; • Partner with vaginal dryness—have a discussion on the roles of lubricants and moisturizers, explaining the difference between these and offering specific suggestions on when, where, and how to use; • Providing different treatment options for premature ejaculation with clear explanation of effects and side effects.
Intensive Therapy	Reiterate permission. Intensive therapy is the most advanced stage, and it requires special training and experience. While many clinicians working in primary care have expertise in some aspects of sexual health, not all professionals have the necessary training to offer advanced therapy. It is important for clinicians to identify services and other professionals where patients can be referred to. Have a referral list handy and attempt to be able to make specific recommendations on providers. Review and reflect.	Cases with multifactorial causes (out of your area of expertise). Conditions that require surgery and/or extensive psychotherapy. Severe cases that are not responding to treatment.	Referral list for reputable expert professionals and services in the area of need, keeping in mind that many providers are now also offering remote care.

(continued)

Table 3. Continued.

Stage	Objectives of the stage	Examples of implementation	Helpful tips
Review & reflect	Review includes seeking feedback from patients either at the end of a consultation or during future visits. Reflection ensures that professionals consider how their own attitudes, feelings, and assumptions may affect patients. Note that reflection and review is included throughout each stage of the process.	Example questions to ask patients when reviewing a consultation: • Are there any other thoughts you have concerning our discussion? • When we last spoke, you mentioned... and we discussed... How has this been since then? • What have we not covered fully? • What do you feel/think about that? • What might your partner feel about that? Professionals should reflect on questions such as: • How do I feel when discussing sexual topics with my patients? Do I feel awkward or embarrassed? • When did any patient last express concerns of a psychosexual nature?	During the review process, the clinician allows patients to further discuss their concerns if they choose to, ensuring additional permission-giving opportunities. Reflection can be done alone or with peers through clinical supervision and might underscore the necessity for further sexuality education and training.

Table 4. General sexual dysfunction validated measures.

Scale	No of items	Time frame	Gender	Rater	Domain evaluated	Comment
Arizona sexual experience scale (ASEX)	5	1 week	Both	Self or clinician	Arousal Vaginal lubrication Penile erection Ability to reach orgasm Satisfaction Sex drive	Total score 5-30. Scores more than 19 indicative of SD. For individual domains, 4-5 are indicative of SD in that domain
Sexual function questionnaire (SFQ)	30	1 month	Both	Clinician	Assess sexual function in severe mental illness Arousal/orgasm/ejaculation/sexual drive	
The Changes in Sexual Functioning Questionnaire (CSFQ):	36		Both	clinician	measure illness- and medication-related changes in sexual functioning	
International Index of erectile dysfunction (IIEF)	15	4 weeks	Male	Clinician	Erectile functioning Orgasmic functioning Sexual desire Satisfaction with sexual intercourse. Overall satisfaction for sexual act.	
Female Sexual Function Index (FSFI)	19		Female	Self-report	Desire (2 items) Arousal (4 items) Lubrication (4 items) Orgasm (3 items) Satisfaction (3 items) Pain (3 items)	

the amount of information the individual has regarding their sexual difficulties, and to determine the level of intervention needed to target such difficulties.

The interview should take place in an environment that prioritizes privacy, safety, and respect, whether in person or remote. The clinician must ensure confidentiality, be non-judgmental, and respect the values, beliefs, and behaviors of the patient,[10] even when they do not align with the clinician's own values. Primary care clinicians might have limited time (eg, 10 min) for an assessment. While it's possible to conduct an interview in that timeframe, further follow-up sessions might be necessary to collect all relevant information.

One useful model to guide the assessment of sexual concerns, and to determine when referral to an expert is needed, is the ex-PLISSIT model.[11,12] The ex-PLISSIT model is built upon the PLISSIT model, originally developed by Annon[11] which has been widely used over the past 50 years by health care practitioners to guide assessment and treatment. Specifically, the ex-PLISSIT model proposes that permission is reiterated at each stage of the process to allow for the patient to reflect and review.[12] In Figure 2, we provide a description of the ex-PLISSIT model, and in Table 3 we provide examples of how a primary care clinician might implement this, along with helpful tips. The acronym PLISSIT considers four levels of intervention.

Table 5. Specific sexual dysfunction measures.

Domain of sexual function	Scale	No of items	Time frame	Gender	Rater	Domains evaluated	Comments
Female Desire	Decreased Sexual Desire Screener (DSDS)			Female	Clinician		
	Sexual Desire Inventory (SDI)	14	1 month		Self-rated		5 min to conduct
Male Arousal	International Index for Erectile Function -Erectile function domain (IIFE-EF)	First 5 questions	4 weeks	Men	Self-rated	ED	5 min to conduct Maximum score is 30. Severe ED (1-10) score
	International Index for Erectile Function -Erectile function domain (EHS)	1	—	Men	Self-rated	ED	5 point Likert scale (0 penis not hard) & (5 penis completely hard and rigid)
Orgasm	Orgasmic Rating Scale (ORS)	40		Both	Self-report adjective rating scale	Quantify psychological experience of orgasm	5-10 min to conduct to rate the 40 adjectives.
	Female Orgasmic Scale	7		Female		Consistency of orgasm in partnered sex	2-5 min to conduct
Ejaculation	Intravaginal Ejaculation Latency Time (IELT)	1	Last encounter	Male	Self-rating	Ejaculatory dysfunction	1 min to conduct gives exact time to ejaculate
Sexual satisfaction	Global Measure of Sexual Satisfaction (GMSEX)	5	5 min	Both	Self-rating	Overall personal sexual satisfaction	7-point items that are tallied to a total score.
	New Sexual Satisfaction Scale – Short Form (NSSS-S)	12	5 min	Both	Self-rating	Has items tapping individual and interpersonal sexual satisfaction	5-point items that are tallied to produce a total score, and useful for all sexual orientations, relationship status, and genders.
Sexual Pain	Multidimensional Vaginal Penetration Disorder Questionnaire (MVPDQ)	72		Female	Self-report		20 visual fear/contraction 10 point self-report items and a diagram of genito-pelvic area

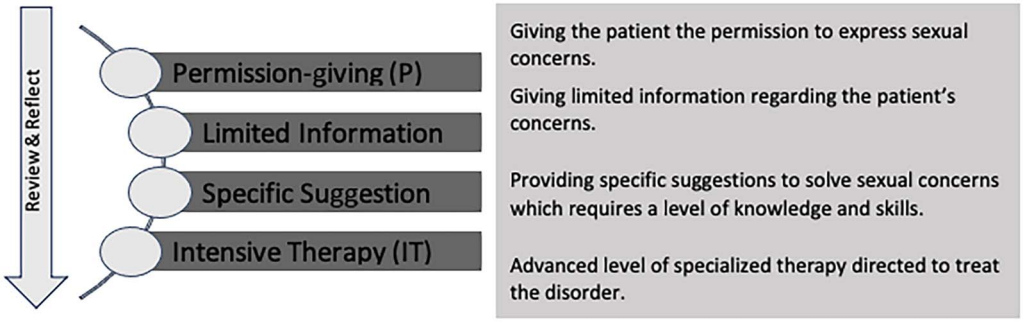

Figure 2. Stages of the ex-PLISSIT model. This model is an extension of the original PLISSIT model.[11]

The ex-PLISSIT model has been used with a wide variety of populations and across diverse health contexts (eg, infertility, pregnancy, postpartum, multiple sclerosis, breast cancer, gynecological cancer, diabetes, and hysterectomy patients) and has been shown to effectively improve sexual well-being outcomes for women and men (greater sexual function, sexual satisfaction, and quality of sexual life, lower sexual distress) when compared to routine assessments without psychosexual counseling.[13-24] The effectiveness of this approach has been further supported by recent systematic reviews and meta-analyses.[25-27]

Scientific laboratory evidence identifying psychological and interpersonal variables

Empirical investigations into sexual response conducted in scientific laboratory settings are characterized by applying well-controlled scientific designs, capturing objective, and subjective aspects of sexual response. Although laboratory-based studies addressing sexual response lack, to some degree, ecological validity, they are known for revealing potential etiological factors for sexual dysfunction and informing clinical practice.[28]

Evidence in the field of perception revealed that sexual dysfunction was associated with negative unconscious tendencies towards sex in women.[29] Similarly, sexual distress was predicted by unconscious expectations of sexual failure in men,[30] stressing the role of sexual performance anxiety in men's sexual difficulties. Regarding conscious appraisals, dysfunctional sexual beliefs in women (eg, sexual conservatism, sexual desire, and pleasure as a sin) predict unpleasant appraisals of sexual stimuli, which emphasizes the role of sexual beliefs as important clinical targets when exposure techniques need to be applied.[31]

Regarding anxiety-related factors, laboratory studies on vaginismus and genital pain have been critical to understanding fear-avoidance psychological mechanisms underpinning these disorders. Women with lifelong vaginismus show increased fear when exposed to sexual stimuli and less positive affect than healthy controls; findings reveal that therapist-aided exposure treatment helped reduce fear response and increased positive affect.[32] Sexual fear in women with dyspareunia (ie, painful sex) may result from poor discrimination between pain/anxiety and safe conditions.[33] It was suggested that women with dyspareunia and their partners should be advised to refrain from painful penetration to bypass the link between pain and sex and implement extinction and counterconditioning techniques to improve sexual arousal and positive emotions.[33] Likewise, the role of cognitive interpretations in the appraisal of vaginal sensations and pain is well established.[34] Also, women's experience of sexual arousal after facing sexual performance failure revealed that the propensity to be concerned about sexual function predicted worse outcomes in sexual arousal. Such propensity, rooted in a cognitive appraisal of sexual demand, is pointed out as an important clinical target.[35] Neuroticism, a personality trait that overlaps with anxiety, impacts the appraisal of sexual stimuli through individuals' propensity for sexual inhibition, suggesting that sexual stimuli are appraised as a threat condition.[36] Given such threat perception, individuals with high neuroticism and sexual difficulties may benefit from strategies to reduce hyperarousal and sympathetic activation, and strategies to desensitize overwhelming sexual stimuli.[36] Even though examining anxiety has been crucial for the understanding of (mal) adaptive processes in sexual functioning, the mechanisms of action are not entirely understood. Anxiety-related factors may not only inhibit but also facilitate or have no effect on sexual response.[37] Therefore, clinicians must understand the source and functional role of anxiety and be cautious when implementing anxiety-focused interventions for sexual dysfunction.[37]

Lab-based studies also reveal that poor attention to sexual cues also contributes to sexual difficulties,[38] including lower levels of visual attention toward sexual cues as compared with healthy controls, and visual attention is associated with higher levels of sexual arousal.[39] Cognitive models of sexual response (eg, Barlow model[40]) focus on the detrimental role that attentional focus may have on sexual response. The relationship between attention and sexual response may not be straightforward. More recently, sexual stimuli were shown to capture more cognitive attention (ie, sexual stimuli are "kept" in mind and elaborated from there), instead of visual attention (ie, we "simply" look and are attracted to them).[41] These findings may help to shape instructions provided by clinicians when recommending skills that focus on enhancing attention.

Relational factors have also been investigated in a controlled laboratory research setting and research shows positive effects of partners' intimacy and relationship satisfaction among women with genital pain.[42,43] Also, the induction of emotional and sexual intimacy resulted in higher positive affect, attraction, and intimacy in a general sample and individuals with a history of childhood maltreatment.[44] Similarly, the induction of emotional closeness expectations, as opposed

to orgasm expectations, had the most substantial effect on men's and women's sexual desire.[45] Others have shown that manipulating "approach sexual goals" (eg, having sex to achieve something positive), as compared with "avoidance goals" (eg, having sex to avoid something negative), was related to higher sexual satisfaction and sexual desire.[46] In fact, experimental studies found that a brief psychoeducational intervention can elicit approach motivation, resulting in improved sexual and relationship satisfaction and sexual desire.[46] Additionally, women reported higher subjective sexual arousal than men when told to imagine their intimate partner while watching a sexually explicit clip. This finding suggests that combining an "intimate meaning" with a sexual/non-relational context may shape the intensity of women's sexual arousal.[47]

Findings on communication patterns revealed that a positive approach (eg, display of affection and validation) during a "sexual discussion" was associated with increased relationship satisfaction in men and women, as compared with a negative approach (eg, display of contempt).[48] While these may be outside the scope of a primary care clinician's expertise, the primary care doctor can stress the importance of open and clear communication about sexual health issues among those seeking care. When possible, recommendations about a partner's responses to facilitate management is important given evidence that partners of women with vulvodynia may be more invalidating than partners of women with no pain, with subsequent effects on women's sexual assertiveness.[49] Communication skills should be addressed by the treating clinician, particularly in such a sensitive area where women need to report their levels of pain and discomfort openly.

In general, sexual stimuli (visual stimuli, erotica, or fantasy) are often regarded as therapeutic tools to improve sexual arousal or desire. However, such stimuli can also induce disgust for some.[50-52] Therefore, any discussion of using sexual stimuli as a tool requires some caution and an understanding of potential negative reactions.

Role of validated measures and psychophysiological testing

Assessment of sexual dysfunction by scales and self-report surveys should not replace taking a history from the patient, nor is there any validated diagnostic measure available for sexual dysfunction. That said, assessment scales given after a proper history taking may point to additional information helpful in establishing a diagnosis. In routine clinical settings the use of standardized rating scales helps in identifying symptoms, assessing severity, and providing evidence to utilize in medico-legal settings or in evaluating treatment efficacy. Self-report scales can spare patients the embarrassment of taking the initiative to discuss the problem, as well as pave the way for the clinician to ask further details. Assessment scales are available for evaluating sexual dysfunction within a general scope or for specific types of sexual dysfunction, and they can be either self-reported or administered by clinicians. As sexual dysfunction negatively impacts a couple's sexual satisfaction and quality of life, there are also more recent validated scales designed to assess these two domains.[53] We provide recommendations on validated measures for both general (Table 4) and specific (Table 5) sexual dysfunctions.

Overview of major psychological treatments

There are numerous psychological interventions utilized for the treatment of psycho-sexual problems, and for most of these, the primary care clinician will need to refer to an expert. The most commonly used and studied include psychoeducation, sensate focus, cognitive behavioral therapy (CBT), mindfulness, and couple's therapy/therapy inclusive of partner (s). While these approaches differ in a number of ways, they overlap significantly in terms of treatment components and likely mechanisms of action.[54]This overlap is important because it means that these approaches can be effectively combined or integrated based on patient preferences and circumstances, as well as available treatment resources (eg, trained psychotherapists).

Psychoeducation

Throughout our history of support and treatment for sexual problems, it has been recognized that sexual health education has valuable benefits. This is largely because sexuality is a highly stigmatized topic, leading to a dearth of understanding of normal sexual function which can contribute to the interpersonal, psychological, and even the biological causes (eg, the lack of education about the need to clean under the clitoral hood contributing to clitoral adhesions that may cause sexual pain) of sexual dysfunction.

More recently, interest in psychoeducation as adjunctive or even primary treatment for sexual dysfunction has become a focus of research. Psychoeducation is a "combination of information and education with elements of psychological therapy".[55] This interest has multiple origins, including that psychological therapy has been demonstrated as effective for multiple sexual dysfunctions and psychoeducation can be an effective way to deliver both sexual health education and the basics of psychological therapy. Additionally, psychoeducation can be packaged and delivered in a cost-effective manner in office visits, and that it does not require health professionals extensively trained in psychotherapeutic modalities; as such, primary care clinicians may be ideally suited to deliver psychoeducation.

Psychoeducation may be provided in numerous ways. While the creation of specific modules of psychoeducation usually will include a healthcare professional well versed in mental health and psychotherapeutic modalities, once a specific module of psychoeducation is created, the delivery of this modality may be provided by different healthcare professionals, including physicians and other medical practitioners, such as nurse practitioners, physician assistants, midwives, etc., or by mental healthcare professionals, such as psychologists or counselors. Depending on the specificity of the patient education module, the treatment parameters (such as whether the module is intended all for self-help or incorporates question and answer or in-person didactics), and the population the module is intended for, these elements may even be provided by others in health care or healthcare adjacent fields, such as physical therapists, counselors, or sex educators.

Psychoeducation has the advantage of being potentially widely available and accessible as it can be created, then disseminated as a curricular module, or as a pre-printed pamphlet or pre-recorded video, and then can be provided in a health care setting or even online. It can be provided to individuals or to groups of patients that share a diagnosis. However, as of yet, there is very little codified psychoeducation that has

been widely distributed and the regular use of this approach has not been established. Therefore, there is very little data on the possibility of insurance coverage. Most of the papers we reviewed were empirical studies evaluating psychoeducation where economic outcomes, such as cost to the patient, were not evaluated. However, it seems likely that, given the ease of provision and dissemination, in the future there will be room for codified, widely disseminated psychoeducation modules to target specific sexual dysfunctions in various populations and that the cost to the patient will be accessible.

Sensate focus

Sensate focus is one of the earliest evidence-based approaches to treat sexual difficulties. Pioneered by Masters and Johnson[56] and more recently updated by Avery-Clark and Weiner,[57] sensate focus is a targeted behavioral approach meant to be used by couples (but sometimes conducted with individuals). However, while sensate focus typically includes both members of couples and can address interpersonal processes such as sexual communication, it is not considered a formal couple therapy per se because there is typically an identified patient, and because it does not explicitly assess or target broader non-sexual relationship dynamics. The first goal of sensate focus is to reduce couples' attempts to "fix" unsatisfactory sexual interactions that tend to be performance-focused and stress-filled (eg, both partners believe they must experience high levels of arousal and reach orgasm, or the interaction is a "failure") which leads to "spectatoring"—instead of being focused on their sensations, they view themselves from a judgmental 3rd-person perspective, increasing distraction and decreasing awareness of sensation.[58]

The second goal is to provide a structure through which couples can rebuild a satisfying sexual relationship that includes a sense of safety and exploration, open communication of sexual preferences, flexible behavioral repertoires regarding sex, and accepting awareness of their physical sensations. Inspired by the technique of systematic desensitization made famous by Wolpe,[59] these goals are accomplished via a series of structured behavioral exercises where partners exchange potentially pleasurable touch. While the approach is grounded in behavioral therapeutic techniques, its integration of nonjudgmental awareness attention of subjective experience has led authors to argue that it may represent the first use of mindfulness in sexual therapy.[60]

According to Avery-Clark and Weiner,[61] sensate focus can be framed in two phases that are differentiated by the focus of the intervention and the language used by the therapist. Phase 1 aims at addressing current impairments in sexual function. The language used by the clinician focuses on the sensations experienced during touch, with the aim of reducing anxiety related to expectation of arousal or pleasure. Phase 2 is focused on interpersonal processes, such as sexual communication, and the clinician should use language that favors maintaining mutuality of positive experiences over time. In both phases, couples engage in time-limited exchange of touch with each alternating between being the "giver" or "receiver" of touch. The amount of time and areas of the body (eg, including erogenous zones, or not) are agreed to beforehand. Crucially, both giver and receiver are instructed to attend to physical sensations in an exploratory, non-judging manner rather than attempting to "force" pleasure or sexual arousal in themselves or their partner.

The primary care clinician can provide an overview of the goals and instructions of sensate focus, and this can be done face-to-face or remotely. Sensate focus can be integrated into other more comprehensive interventions (eg, CBT), or be used as a therapeutic strategy on its own.[62-64] Sensate focus is ideally provided by a licensed therapist/counselor so that it can be informed by broader therapeutic skills (eg, formal training in active listening) and integrated into other methods of intervention (eg, cognitive therapy) as needed. However, the relative simplicity of sensate focus means that it can often be effectively provided by a range of practitioners such as sexual medicine physicians.

Sensate Focus instructions are widely accessible in books[56,65] and providers delivering sensate focus might be found in primary or specialized care in the national public health system where sexual health or sexual medicine services are delivered.[66] As it is usually administered in a psychotherapeutic context, insurances that cover psychotherapeutic interventions may cover sensate focus interventions.

Cognitive-behavioral therapy

Cognitive-behavioral therapy is a widely used therapeutic approach based on learning principles and empirical evidence that highlights the interplay between cognitive processes (eg, attention; expectations), emotions (eg, anxiety) and behaviors (eg, avoidance) in explaining psychological distress.[67] It is an evidence-based treatment as its core processes (cognition and behaviors) have been shown to be effective in promoting positive therapeutic change, which has contributed to its status as one of the most widely used and well-tested therapies for a wide range of behavioral health concerns.[68]

While CBT is widely used, the diversity of specific interventions that can be included in CBT has made determining what approaches constitute CBT (or not) controversial.[69,70] Additionally, CBT tends to evolve and incorporate new evidence-based interventions. As such, there tends to be significant overlap between "traditional" CBT and related interventions that share much of CBT's emphasis on cognitions, emotions, and behaviors such as mindfulness (see section on mindfulness)[71] or Acceptance and Commitment Therapy.[72,73]

CBT for sexual dysfunction has been evaluated in randomized trials targeting specific sexual dysfunctions, as well as in studies addressing sexual function broadly or to address a range of sexual problems that accompany particular health conditions (eg, traumatic brain injury; breast or prostate cancer; hypothyroidism).[74-76] These RCTs may include different components such as psychoeducation (see section on psychoeducation), identification/challenging of thoughts/beliefs regarding sex or sexual function, specific behavioral recommendations such as sensate focus (see section on sensate focus) or use of progressively larger vaginal dilators in cases of sexual pain, and couple-focused components (eg, communication training).[64,75,77,78] Unfortunately, much of this research uses measures of sexual function as primary outcome measures and sexual distress is sometimes not[79] evaluated,[79] limiting our knowledge regarding impact on subjective well-being which may respond differently to interventions.[7]

CBT for sexual dysfunctions is usually performed by a licensed CBT therapist trained in sex therapy and is often available in the Western world. Depending on one's national context, it can be available in public settings with low-cost

associated, private settings covered by insurance as a form of psychotherapy, or on in digital platforms (see section on Internet/Digital Health treatments).

Mindfulness

Over the past four decades, mindfulness, rooted in Buddhist meditation, has gained widespread interest from researchers, clinicians, and the public. Mindfulness-based approaches, part of the third wave of cognitive behavioral therapies, foster a nonjudgmental and compassionate awareness of the body. Both Mindfulness-based stress reduction and Mindfulness-Based Cognitive Therapy encourage the patient to cultivate the skill of observing present-moment thoughts, emotions, and bodily sensations, often focusing on the breath, body sensations, sounds, and with practice—thoughts themselves. It encourages gentle redirection of attention when the mind wanders and cultivates equanimity toward all objects of attention.[80] There is considerable evidence that one of the mechanisms by which mindfulness improves many domains of health and well-being is through its direct effects on the brain.[81] Over the past 20 years there has been a growing body of research evaluating mindfulness for sexual dysfunctions.

Given its secular framing, mindfulness can be delivered by any practitioner trained in mindfulness-based therapies, regardless of their own religious affiliation. Many providers delivering these interventions to clients seeking treatment for sexual dysfunction are trained first in sex therapy, and then acquire additional training in mindfulness-based interventions either through a certified mindfulness training center, or through individualized training and workshops. There is a smaller number of practitioners who first are Buddhist practitioners of meditation, and then acquire training in sex therapy subsequently. There is very good evidence that mindfulness-based sex therapy can be delivered in person or online, individually, to couples, or in groups. The costs for such treatments depend on the individual clinician and their fee model (eg, they may be a salaried clinician and able to cover services for free as part of their clinical appointment, or they may be a mental health practitioner offering services on a fee-for-service basis). Of note, many community centers offer mindfulness-based drop-in groups free of charge, but these will not have a focus on sexual health concerns.

Whereas most of the studies evaluated mindfulness for an individual with a sexual difficulty, a few studies applied mindfulness in the context of a couple. Prostate cancer survivors with sexual dysfunction and their partners who were randomized to a 4-session group mindfulness significantly improved in sexual satisfaction and sexual distress, even though there were no changes in erectile function.[77] A different 6-week mindfulness delivered to couples (in a group format) with any sexual dysfunction found the treatment to significantly reduce sexual distress and showed high rates of feasibility, even though it did not improve sexual function in men.[82]

More recently, adaptations of these effective face-to-face mindfulness interventions have been tested in a digital health tool. Preliminary studies find this to be feasible, satisfying to participants, and show preliminary evidence of efficacy[83] though larger randomized trials are needed.

Couples therapy/therapy inclusive of partner(s)

While there are psychotherapy interventions that include partners of identified patients (eg, sensate focus, provision of psychoeducation to cancer survivors and their partners, etc.), formal couples therapy is distinct from these individual-focused approaches in a number of ways. For example, most empirically-supported methods of couple therapy view the relationship as the client (rather than either partner) and focus on conceptualizing presenting problems as dyadic, resulting from potentially problematic differences between partner personalities, emotional sensitivities, and methods of coping, rather than as difficulties "owned" by one partner or the other.[84]

Unfortunately, while some research on treating sexual dysfunction has included partners, few studies use true couples therapy interventions that attend to broader relational dynamics. Similarly, research in couple therapy has rarely focused on sexual difficulties as potentially unique challenges in relationships.[85] Recent studies with couples where one partner is experiencing sexual dysfunction have generally consisted of an eclectic mixture of psychoeducation (eg, informing couples of possible sexual challenges following treatment for cancer), CBT (eg, encouraging individuals to identify and evaluate possibly biased interpretations of their partner's behavior/intentions), and communication training (eg, encouraging the use of "I" statements and alternating between each partner having the conversational "floor"). Aside from these commonly shared components, there is little consistency in terms of length or method of delivery for these interventions.

Distinct from these approaches, which are typically created by the authors of particular studies to fit the perceived needs of specific subpopulations of couples (eg, cancer patients and their partners), another set of studies has examined the impact of more systematically developed, widely practiced, and empirically-supported methods of formal couple therapy. Primary among these approaches are Emotion Focused Therapy (EFT[86]) and Integrative Behavioral Couple Therapy (IBCT[87]). Both EFT and IBCT encourage couples to reconceptualize problematic patterns of interaction as understandable attempts by each partner to manage emotional distress and/or meet relational needs. Both approaches also help partners engage in new methods of communication that include more disclosure of vulnerable emotions and accepting/empathic responses.

Internet/digital health based psychological treatments for sexual dysfunction

In the context of psychological interventions, Internet- and mobile-based interventions- sometimes called internet interventions, digital interventions, or internet-delivered interventions- refer to interventions characterized by the delivery of therapeutic content and processes through digital means (computers, tablets, smartphones, and similar devices). We will exclude telemedicine from this discussion due to its close resemblance to conventional in-person therapy.

Digital health delivery modes are varied and can include virtual environments, serious games, chat-bot mediated interventions, and automated content delivered through apps or web-based platforms. Among these, the most common format employs used in IMIs in sexual dysfunctions is automated content.[64] These treatments are delivered through platforms that can be tailored according to the patient's own pace and needs, but usually, they are characterized by some common elements such as an assessment; a predetermined set of modules that follows a progressive stance, for example, each

person needs to complete the modules goals before moving on to the next one.[88] Each module typically has a central theme aimed at a specific therapeutic goal and can include written text, information delivered in video format, exercises, and homework/tasks to perform during the week (eg, exposure to a particular situation). Depending on the context and level of interaction with the therapist, digital health interventions can be self-guided, guided, or blended. Self-guided interventions are stand-alone interventions with no communication or support from a therapist; guided interventions imply some form of interaction to maximize adherence (these are usually asynchronous to promote therapists' and patients' autonomy, eg, written feedback at the end of the modules, the possibility of e-mail support); and blended interventions take place when digital health interventions are used in the context of face to face treatment, as the inclusion of mobile-based exercises in between sessions, or scheduling regular face to face meetings, or as part of the relapse prevention program.[88] Digital health interventions have proven to be sufficiently effective in screening and improving well-being and mental health outcomes in people with common mental health disorders[87] and have also been demonstrated to be cost-effective from a financial point of view in comparison to face-to-face care[89,90] Individualized guided support tends to increase engagement and retention with online interventions for mental health generally,[91] but differences between type of support (eg, synchronous vs. asynchronous, expert vs. non-expert vs blended, video vs. text) have not been studied in the area of sexual dysfunction, even though experts suggest that blended version may be preferable.[92] It is critical that limitations of privacy, and potential cybersecurity issues be discussed between patient and provider.

Digital health interventions present diverse advantages over in-person treatment (eg, accessibility to treatment for those who usually cannot reach it due to transport, financial or mobility barriers), namely the possibility of overcoming barriers to access to treatment due to stigmatization and shame[93] associated with seeking treatment for sexual dysfunctions.[94]

Combined interventions

Historically, sexual interventions have usually fallen into one of two groups: psychotherapy or medical intervention (including pharmacotherapy). However, in recent years, there has been a growing interest in assessing the efficacy of combined interventions.[4,95] In particular, the integration of psychotherapy and medical treatment aims to provide a more holistic approach, targeting both physical and psychosocial dimensions of sexual dysfunctions.[96,97]

In the context of combined therapy for sexual dysfunction, various healthcare professionals may be involved in its delivery. Physicians, including the primary care clinician, other medical practitioners inclusive of nurse practitioners and midwives, psychologists, and other therapists, as well as pelvic floor physical therapists, are among the many professionals who may perform combined treatment, depending on the specific needs of the individual and the healthcare system in which they are receiving treatment. For example, physicians may prescribe medications and provide medical guidance, while psychologists and therapists may offer psychotherapy to address psychological factors contributing to or resulting from the SD.[98] Furthermore, in some cases of mild to moderate SD, combined therapy may not require a psychotherapist. Trained non-mental health professionals, such as a midwife, an advanced practice nurse or other healthcare professional, can effectively provide the non-intensive psychotherapeutic aspects of combined therapy.[99]

The availability and accessibility of combined therapy for sexual dysfunction can vary depending on factors such as location and healthcare system. In some cases, combined therapy may be available for free or covered by insurance, while in other cases, individuals may need to pay out-of-pocket for these services. The availability of combined therapy may also vary, with some areas having a greater number of practitioners and resources than others. However, the COVID-19 pandemic has led to an increase in the use of telehealth services, which may make combined therapy more readily available online.[99-101] Insurance coverage for combined therapy for sexual dysfunction can also vary. In some cases, insurance plans may cover the cost of psychotherapy and/or pharmacotherapy for sexual dysfunction, while in other cases, individuals may need to pay for these services themselves. The extent of insurance coverage may depend on factors such as the specific insurance plan and the diagnosis or severity of the sexual dysfunction.[102]

How assessment information informs treatment recommendations

Despite ample evidence of the efficacy of psychological treatments for sexual health concerns, the primary healthcare provider should make decisions regarding treatment that take into account the presence of other health conditions as well as patient characteristics that require specific attention. These conditions and characteristics can be individual (eg, psychopathology, personality tendencies) or interpersonal (eg, aversive/violent couple dynamics). The comprehensive assessment of the patient's (and when appropriate, partners') sexual history should provide information on the individual and interpersonal factors, including sexual and/or physical abuse, aversive couple dynamics, communication styles, or psychological vulnerabilities (eg, acute psychopathology or severe/persistent psychopathological conditions), as these have a role in sexual dysfunction.[4] The expected harms associated with such conditions must guide treatment selection and help define treatment priorities. Medical conditions beyond the scope of psychological intervention must also be considered so priority/at-risk organic conditions are appropriately addressed. In these cases, a referral to other specialists (eg, trauma therapist, medical specialists) can benefit the patient and the success of the psychological intervention chosen. In the following section, we provide more detail on these psychological treatments, and also provide an overview of internet-based interventions, which may be especially appropriate in the context of sexually diverse individuals, where preventing sexual stigma has been a significant goal.[103]

Individual psychological interventions

Psychoeducation

As mentioned, psychoeducation is emerging as an effective component of therapy for sexual problems, likely in part because education and normalization around both the dysfunction and the psychological components of treatment can mitigate stigma, supporting better outcomes. Moreover,

psychoeducation is within the purview of the primary care clinician. Yet, psychoeducation seems to do more than just mitigate negative outcomes. To date, studies of psychoeducation, either as a stand-alone intervention or as an additional component to psychotherapeutic treatment, while limited in number and in power, have shown somewhat consistently positive results. Unfortunately, these studies are often small and of extremely specific populations or even subpopulations of those with SD, which limits conclusions that can be drawn from them. However, expert opinion suggests that the inclusion of psychoeducation could be most helpful for populations with little exposure to or understanding of sexual health education and/or mental health treatments.

The limited research that has been conducted reflects that there is not yet a universally agreed upon model for psychoeducation, or the other modalities of treatment that could be best suited to be used in combination with psychoeducation. However, while the research is limited, it shows that psychoeducation can improve sexual function and mitigate sexual dysfunction for both men and women, whether as a stand-alone intervention or in addition to psychological interventions.[64,104-107]

Studies also show psychoeducation to be helpful for improving sexual function in various subpopulations. It was shown to improve sexual function in those with various types of cancer (including gynecologic, breast, colon, and rectal[108-112]; to decrease sexual dysfunction in patients[113,114] and, specifically, improve erectile disorder (ED) in men[115] with cardiovascular disease; and to positively affect SF outcomes for patients post stroke[116] or women with rheumatoid arthritis[117]; and improve sexual function in those with multiple sclerosis[25] and men with ED and diabetes mellitus type II.[118]

In addition, psychoeducation was shown to improve sexual function and possibly prevent dysfunction when provided for women at various life stages; pre-menopausal,[119] pregnancy,[120] post-partum,[121] and post-menopausal.[122-125] And psychoeducation was shown to be effective in mitigating specific female sexual dysfunctions; SIAD,[83,126,127] persistent genital arousal disorder (PGAD),[128,129] and vaginismus.[130]

The limitations to the research on psychoeducation to mitigate or treat sexual dysfunction likely reflect the current focus on proven medical and psychological treatments for sexual dysfunction—which would help explain the larger amounts of research for female sexual dysfunctions, particularly those for which there are no approved medical treatments, the lack of codification and/or lack of recognition of the amount of psychoeducation that is often integrated into psychological treatments, a lack of funding, and other barriers. However, despite these limitations to the research to date, expert opinion absolutely supports the use of psychoeducation to enhance outcomes in treatment for sexual dysfunction.

The preponderance of the research has been conducted on heterosexual women and men. Expert opinion suggests, and future research will almost certainly corroborate, that psychoeducation will have to be modified to suit sexual and gender minority populations. Most obviously, the use of pronouns for individuals, partners, and references to number of partners should be more inclusive or tailored to fit the audience. In addition, the education should reflect the unique sexual health considerations of each group.

In summary, despite the limitations of research, both research and expert opinion support codified psychoeducation has significant promise and is a definite improvement over no intervention. The research that does exist also supports that psychoeducation can be presented to groups and/or administered online, making it widely accessible. More, larger, and better RCT's, together with work towards codification of the necessary components of psychoeducation for the different sexual dysfunctions is needed to create standardized psychoeducational treatment modules and protocols and to produce better quality studies and generalizable findings.

Cognitive behavioral therapy

CBT approaches to sexual dysfunction generally stem from scientific models that emphasize cognitive, behavioral, and emotional causal and maintaining factors of sexual problems such as rigid sexual beliefs, cognitive interference/distraction during sexual activity, negative self-schemas, negative outcome expectancies, worry, and disengagement/avoidance.[131-139] While cultural and relational context is typically considered important, these distal factors are thought to operate through proximal intrapersonal processes such as specific interpretations of events and behavioral choices. As such, while CBT can be offered to couples where one or both partners is experiencing sexual problems (see Couples Therapy section), it is usually provided to an individual who serves as the identified patient. When assessment indicates that sexual problems stem primarily or entirely from cultural (eg, homophobia) or relational (eg, interpersonal violence) sources, individual CBT may be less appropriate.

Clinical trials employing CBT for sexual dysfunction exhibit considerable variation in their methodologies. These differences include a focus on singular techniques, such as the stop-start method, versus the integration of multiple therapeutic strategies. Some trials target specific areas of sexual function, while others address sexual dysfunction more broadly. Sample makeup also varies, ranging from those formally diagnosed with sexual dysfunctions to subclinical populations to individuals experiencing sexual issues due to health-related concerns. Additionally, the mode of delivery differs across studies, with some offering face-to-face sessions and others utilizing online platforms. Another key variation lies in the assessment metrics used; some trials measure sexual distress, which is a critical aspect of sexual dysfunction, whereas others primarily assess sexual function without delving into the emotional and psychological effects of the interventions. While trials report average improvements across samples, most studies do not report indices of clinically reliable change,[140] limiting our ability to predict likelihood of success for individual patients.[140]

Although the available evidence varies in strength, high-quality clinical trials exist, and older trials remain relevant. Additionally, in recent years, the field has been marked by the increase of iCBT (CBT delivered through digital means). In sum, CBT is recommended to treat a wide range of sexual dysfunctions, especially when other options are not available, desired or feasible. Domain-specific recommendations are presented below.

CBT for sexual difficulties in premature ejaculation

Premature ejaculation (PE) is linked to psychological and interpersonal factors.[141] Psychological interventions on

premature ejaculation have relied mainly on the use of behavioral techniques, such as the "start-stop" program by Semans and the "stop-squeeze" developed by Masters and Johnson[142] that include the systematic use of exercises that gradually allow one to gain control over ejaculation and reduce intrusive, rigid performance related cognitions. These may be used alone or with a collaborating partner. The most recent reviews of the literature and expert opinions highlight that the high success rates in early studies have not been replicated.[143] As RCTs have become more robust, it has been consistently demonstrated that even though behavior techniques have moderate effects in improving ejaculation control and sexual satisfaction, the best results are found for combined interventions (see section on Combined Interventions).[144] However, it is important to note that, while pharmacologic therapies are almost universally associated with some level of adverse side-effects, such adverse effects are rarely reported using behavioral techniques.[145]

Despite its established status as an effective treatment option whose efficacy is strengthened when combined with pharmacotherapy, some patients may not have the personality profile or circumstances (partner availability) to benefit from CBT interventions. Recent clinical trials that use strictly behavioral techniques (eg, stop-start technique and sphincter control training; penis root masturbation) present methodological shortcomings (eg, lack of a control group).[146,147]

Increasingly, published iCBT protocols are tested using high quality methodology, which may improve the quality of evidence showing the benefits of CBT in the future.[148]

CBT for erectile disorder

Fruhauf and colleagues' systematic review on RCTs of psychological treatments[149] highlighted the limited evidence of efficacy of psychological interventions on ED, with most studies characterized by small sample size and the low statistical power.[150] Most research about CBT interventions has assessed combined treatment (see the section on combined interventions), and these have become the preferred approach to ED.[151] However, the possibility of delivering iCBT and the existence of more powered trials aimed at specific groups (eg, young adults) and with diverse samples[152] have renewed research in the field and established evidence that CBT may be an effective therapeutic answer to ED with better results than combined treatment in improving mental health indicators (anxiety).[153]

CBT for orgasm difficulties in women

Even though cross-sectional research has supported associations between individual and interpersonal factors and women's experience of orgasm,[154-156] Marchand's review of treatments for female orgasmic problems[157] revealed a scarcity of RCT's in this field with inconsistencies across studies (eg, length, components, outcome measures). At the time of the review, specific behavioral techniques such as directed masturbation and sensate focus had received moderate support and bibliotherapy presented mixed results. Since then, new RCTs of group and individually-focused interventions incorporating additional components of CBT have been conducted.[76,158] While these studies showed that CBT had a positive effect on orgasmic function, they still included fairly small sample sizes.

CBT for low sexual desire in women

In the last decade, different types of literature reviews and robust RCTs have established that psychological interventions, namely CBT and mindfulness[119] (see mindfulness section), are effective in overcoming interest or arousal problems,[159-162] and can have beneficial effects on couple's communication. Interest and desire problems are commonly associated with discrepant levels of desire among partners that cause interpersonal distress.[163] As such, most existing trials have integrated content addressing communication and intimacy.[127] Despite methodological problems found in most RCTs (such as being underpowered)[164]; a consistent body of research supports CBT's effect on addressing interest/arousal problems.

CBT for sexual pain in women

Multiple studies have focused on CBT for treating sexual pain disorders in women, including conditions like dyspareunia, vaginismus, and vulvodynia. These investigations highlight the critical role of addressing psychological aspects, such as fear, and interpersonal dynamics, including partner support and relationship satisfaction.[165,166] While these studies establish the validity of CBT, discerning the superiority of any single psychological approach remains a complex issue due to methodological challenges like sample size variability and the use of diverse strategies across different psychological intervention studies.[167] Nonetheless, research from 2015 onwards has increasingly validated the effectiveness of CBT, including internet-delivered formats, in treating sexual pain disorders.[71,168-170] As with research on most sexual dysfunction, concerns about methodological rigor persist in some studies, such as those lacking a comparison or control group.[171] Recent data has also established combined treatment[144] (see combined treatment section) as an effective approach.

Mindfulness-based therapy

The Incentive Motivation Model[172] provides a comprehensive explanation of sexual response, considering attention, memory, thoughts, and emotional reactions and illustrates how biological, psychological, and situational factors interact to generate sexual desire and arousal. This model emphasizes the importance of sexual stimuli in triggering sexual motivation, regardless of whether one experiences sexual difficulties. Cognitive distractions during sex can significantly contribute to sexual difficulties,[173] as they hinder the awareness of bodily sensations and the emergence of desire following arousal, also known as responsive sexual desire. Distraction, inattention, and self-judgment all play roles in sexual desire and arousal challenges.[174] With this theoretical understanding of the processes that elicit sexual arousal and desire, and evidence for mindfulness in a host of other domains of health, there is a solid rationale for the application of mindfulness-based approaches to improving desire and arousal difficulties in women.

Here we reviewed the published literature since 2016 and we have seen a growth in the number of empirical studies evaluating the effects of 3, 4, and 8 session mindfulness-based interventions to address low sexual desire and arousal,[175-179] sexual dysfunction after cancer[180] or neurological disease,[181,182] and sexual difficulties associated with premenstrual syndrome.[183] Importantly, while the mindfulness programs evaluated for sexual dysfunction prior

to 2016 tended to also include elements of CBT, more recently these mindfulness interventions have been more "pure" deliveries of mindfulness, along with some psychoeducation, but without other therapeutic treatment ingredients. In a well-powered randomized trial evaluating 8-session group mindfulness for women with sexual interest/arousal disorder, mindfulness yielded very strong effect sizes for improving sexual desire and distress, and these improvements were fully sustained a year later.[126] Collectively, there have been nine systematic reviews and/or meta-analyses showing the benefits of mindfulness-based interventions for women's sexual dysfunction.

Though psychoeducation is often woven into the mindfulness interventions, there is also evidence that mindfulness alone, without any additional therapeutic ingredients, also significantly improves sexual function in women.[184] Moreover, there is some evidence that even a single session of mindfulness training can significantly improve both physiological and self-reported sexual arousal in women who are exposed to erotic stimuli.[185]

Relatively fewer studies have been published examining the efficacy of mindfulness for addressing sexual pain (either related to vulvodynia or chronic pelvic pain/endometriosis). One randomized trial evaluated an 8-session group mindfulness versus 8-session cognitive behavioral therapy in women with provoked vestibulodynia (PVD) and found that whereas a wait-list control group led to no improvements in any outcome, the mindfulness-based group led to significantly improved self-reported pain (as measured by the visual analogue scale) compared to the CBT group.[71] Both the mindfulness and the CBT groups saw equal improvements in sexual distress and overall sexual function. In addition to the body scan and other breath-focused mindfulness exercises that are common in mindfulness-based therapies for low desire, this mindfulness-based intervention for those with PVD also included a practice that involved elicitation of pain (which was referred to during the group as discomfort—not pain). Participants learned how to mindfully tune into discomfort in group by holding their arm up in the air for 10 min. Then they were invited to elicit their own vulvovaginal pain at home (with a finger, dildo, or vaginal insert) and use the same skills of mindfully tuning into bare sensations without focusing on the "pain" label or their suffering. Pain catastrophizing and pain vigilance also improved in both groups, suggesting that both mindfulness and CBT might be considered for women presenting for treatment with PVD; however, mindfulness leads to a slightly greater reduction in pain intensity, with effects retained a year later. A systematic review focused on women with chronic pelvic pain concluded that there was strong evidence for the benefits of mindfulness on pain catastrophizing but relatively weaker evidence for the benefits on pain intensity.[186]

A scoping review of 12 studies included those which evaluated mindfulness-based treatment for men's sexual difficulties or examined the association between trait mindfulness and domains of men's sexual function.[187] The review concluded that mindfulness was effective for improving sexual satisfaction, sexual desire, erectile function (in some samples), orgasmic function, and self-control. Correlational studies included in the review also found that mindfulness could protect against sexual insecurities and anxiety on men's sexual desire and satisfaction. A preliminary efficacy study found evidence for the feasibility of group mindfulness for men with situational erectile dysfunction[188] though there is a need for larger randomized clinical trials in this area.

Understanding the factors that emerge during an assessment can be very helpful for identifying which patients may respond best to a mindfulness-based sex therapy approach. Although there have been a few studies identifying patient predictors of who may respond best to a mindfulness-based approach, this literature is rather small and replication of these findings is required before recommendations can be made.

Interpersonal approaches

Sensate focus

Much of the formal, targeted research on sensate focus was conducted over 20 years ago.[189] When integrated with other techniques, sensate focus has been shown to be the strongest predictor of successful intervention.[190] More recent work generally consists of case studies or uncontrolled studies[63] and/or the inclusion of sensate-focus techniques into larger treatment packages (typically consisting of CBT interventions).[170,191] Despite this lack of recent high-quality treatment outcome research, sensate focus continues to be widely practiced, often being seen as the de-facto default of what constitutes "sex therapy," and often being described as analogous to a CBT or MBT approach.[61] Multiple studies do suggest that individuals and couples receiving sensate focus report improvement in sexual function and well-being.[192] There have also been recent controlled trials of low-to-moderate quality providing evidence of efficacy.[193]

Importantly, sensate focus procedures have recently been clarified and expanded in a series of clinician-facing protocols and articles,[65] improving ease and consistency of implementation. Unfortunately, there are very few studies that assess the impact of sensate focus among individuals with specific well-assessed sexual dysfunctions. Instead, the sensate focus has typically been tested using samples which are *presumed* to have sexual concerns (eg, women in the postpartum period[194]), survivors of sexual trauma,[195] individuals reporting a mix of sexual problems,[192] or those who describe sexual concerns that fall outside of formal diagnoses (eg, sexual desire discrepancy[63]).

Reviews of existing research reveal that sensate focus has been adapted and used inconsistently,[196,197] has not been consistently applied and studied in diverse populations (eg, functionally diverse; LGBTQ+),[198] and has been mainly integrated in larger protocols and diverse contexts,[199] making it challenging to identify recent high-quality evidence of its therapeutic role.

Considering that sensate focus is a behavioral technique that aims to overcome detrimental patterns of attention and distraction from erotic cues during sexual interaction, and to promote mindful focus and awareness of bodily sensations, the clinician should consider sensate focus for patients where the following problems are involved: Limited body awareness; high anxiety levels; cognitive distraction during sexual activity related to performance demands; avoidance of sexual activity; a rigid repertoire of sexual behaviors; and patients who avoid sexual communication. As mentioned earlier, a primary care clinician may only be able to briefly explain and introduce sensate focus, and then recommend referral to an expert in this area.

There may be factors that account for lack of attention to erotic cues during sexual activity or lack of sexual

communication that should be considered before sensate focus is recommended. For example, patients with high levels of body dissatisfaction who are distracted by their body image during sexual activity,[200] those with body shame or dysphoria, those who are so uncomfortable with bodily sensations that these may trigger panic attacks; those who present severe relational distress or conflict; or those in unstable relationships may be less likely to benefit from sensate focus.

The accessibility of sensate focus guidelines, the consistency of its use for over 40 years, and the relative simplicity of the approach make it a valuable treatment option despite the lack of recent higher-quality evidence. Because its primary focus is on helping couples create satisfying sex lives independent of objective levels of sexual function, it can be considered a "first line" intervention regardless of whether suspected etiology is psychological or biological.

Couple therapies for sexual concerns

Much recent research on couples-based approaches for sexual concerns has focused on cancer patients and their partners. For example, studies have assessed couples' workshops for men with ED and their partners following prostate cancer treatment[201] and women with diverse sexual concerns and their partners following treatment of breast cancer.[202] Many of these studies report moderate-to-large pre-post effects on sexual function. However, reviews and meta-analyses highlight the fact that most studies are of low quality and many report non-significant effects in comparison to control conditions.[203,204]

One recent exception was a randomized trial of prostate cancer survivors and their partners who participated in either couples-based CBT or MBT[77]. They found significant improvements in sexual distress for survivors and their partners relative to a no-treatment control. Somewhat ironically, partners also reported worsened relationship satisfaction in this study, the authors hypothesizes that this effect may be an anomaly since it runs counter to research on couple-based interventions generally, and research in relationship adjustment to prostate cancer specifically. So, while couples-based approaches are often recommended in cases of sexual problems associated with cancer or other medical procedures (eg, treatment of infertility[205]), the overall strength of evidence is only moderate given the variability in study quality, inconsistent sampling and assessment, and rare use of evidence-based procedures with publicly available protocols.

One area where the research is stronger is in the treatment of sexual pain disorders (eg, PVD). A recent high-quality randomized clinical trial showed that a CBT-based couples' approach for women with PVD and their partners resulted in large pre-post improvements in multiple outcomes related to pain and well-being and outperformed an active control (topical Lidocaine) in outcomes such as pain unpleasantness.[206] Across multiple studies, this approach has resulted in outcomes that are equivalent, or superior, to other medical interventions for PVD such as vestibulectomy and corticosteroid cream.[168]

Unfortunately, no studies have used EFT or IBCT to treat individuals with formally diagnosed sexual dysfunction. However, a small number of studies with samples of distressed couples (without or without sexual concerns) suggest that these approaches lead to improvements in sexual satisfaction.[207,208] Additionally, experts in EFT and IBCT have recently provided guidelines for using these approaches to address sexual concerns.[209,210] However, these recommendations generally view sexual problems as more specific examples of broader relational patterns, which may or may not be an accurate conceptualization of sexual dysfunction, depending on the individual and relationship.[85] Indeed, by definition, a diagnosis of sexual dysfunction would be inappropriate if the sexual concerns were fully explained by relational distress.[211]

A final important limitation in couple-based approaches to treating sexual dysfunction is that very few studies have assessed the applicability of these approaches to sexual and gender minority couples. While expert recommendations focused on adapting therapy approaches to account for potentially unique strengths and vulnerabilities of LGBTQ+ couples are available[212] such couples are typically not included, and often actively excluded from quantitative research.[213]

Individual and interpersonal interventions

Digital health interventions

Despite the rise in Internet- and mobile-based interventions (hereafter referred to as digital health interventions) to address sexual dysfunctions, research trials predominantly focus on singular groups without control groups. A recent meta-analysis encompassing studies since 2007 found that only 12 RCTs were developed to test the efficacy of digital health interventions for sexual dysfunctions, all employing a CBT theoretical framework.[64] However, the empirical evidence supporting the effectiveness of digital health interventions for sexual dysfunctions based on disorder-specific intervention studies,[170] studies on sexual dysfunctions related to medical conditions (eg, cancer)[214] cross-diagnostic studies involving multiple diagnoses[215] remains limited. Despite digital health interventions having proven to be more effective than control groups, research continues to be heavily biased towards heterosexual cisgender people, with inadequate attention to participant diversity as most studies are developed in Western countries. Additionally, studies in this field are marred by high dropout rates and potential biases stemming from the randomization process.[64]

It is unknown which specific components mediate the positive outcomes found, as not all interventions are designed to include the same therapeutic interventions. However, with one exception all research reviewed includes an initial module on psychoeducation. This consistency is in line with the theoretical model used (see section on CBT interventions) and may be indicative that psychoeducation is a key factor in achieving beneficial outcomes (please see earlier section on Psychoeducation).

The field of sex therapy needs more robust studies with diverse samples to better understand the potential of digital health interventions and to maximize their benefits. The scalability of such interventions is an unexplored field. Given that clinical sexologists may regard digital health interventions with suspicion (eg, perception of lack of therapeutic quality; ethical concerns),[92] the pace of the increase in research on digital health interventions for sexual dysfunctions will also depend on the openness of health professionals (eg, general practitioners who are at the front to assess and refer patients to specialized care) to collaborate and properly refer patients

to research in this field. There is a significant role for primary healthcare providers here given that they are likely the first point of contact for people seeking help for sexual concerns.

Inclusive therapy practice

It has been argued that, given its focus on the unique bi-directional interplay between behaviors, interpretations, and environmental factors for each individual client, CBT as well as psychological treatments more generally, are flexible and an inclusive method of providing treatment.[171] However, others have suggested that additional adaptation is needed to make such interventions maximally inclusive and efficacious for sexual and gender minority clients, including assuring up-to-date provider knowledge regarding affirmative language, consideration of minority stress frameworks, and self-reflection on the provider's own biases.[216] In the context of sex therapy in particular, authors have suggested specific techniques such as questioning normative standards of sexual relationships and behavior, reflecting that sexual problems may be understood at least partly as reasonable reactions to culturally-based stressors such as transphobia, and emphasizing the patient's expertise regarding their own lived experience.[217]

In the last decade, there has been a rising number of CBT RCTs adapted or developed for people who identified as LGBTQI+ in the context of diverse clinical conditions (eg, mood disorders, anxiety disorders[218,219]). However, this development has not been reflected in CBT-inspired clinical trials for sexual problems of people who identify as LGBTQI+. Future RCTs should take into consideration the specificities of distressful sexual problems that arise in sexual activity in self-identified LGB+.[220]

Combined interventions

The effectiveness of combination therapy for sexual dysfunction, encompassing both medical treatment and psychotherapy, is enhanced when clinicians follow treatment recommendations informed by comprehensive assessments that consider organic, psychological, and interpersonal dimensions.

RCTs have demonstrated improved outcomes for ED when combining medical treatment and psychotherapy, especially in cases where anxiety is a contributing factor.[94,97,144,145,149-151,221-224] Similarly, combining on demand pharmacotherapy and behavioral therapy techniques has shown enhanced treatment responses for PE.[142-144,225-228] However, research on other combination treatments for male sexual dysfunction is limited. Research for FSD combined treatment is also limited, though there are promising responses when combining hormone therapy or vasodilators with psychotherapy, particularly in postmenopausal women.[93,96,229-231] The limitations in research likely reflect the common siloing of treatment modalities and therefore the limited recognition of the potential for a combined treatment approach, a lack of funding, and other impediments.

In conclusion, although the limited research and expert opinion suggests a combined strategy is highly effective and there is growing interest among professionals in integrating psychosocial strategies with medical treatments, there is no universally agreed-upon model for how to deliver this combined approach, and it remains unclear from the research whether treatments should be sequenced or administered concurrently. Larger and better RCTs are needed to develop standardized treatment protocols and produce reliable and generalizable findings.

Conclusion

This paper provided a practical guide for primary care clinicians to understand the intricate psychological factors underlying sexual dysfunction. This approach calls for an evidence-informed approach for assessing sexual dysfunctions and implementing the appropriate practices within the primary care setting, and knowing when to refer to an expert.

A comprehensive evaluation of these bio-psycho-sociocultural factors is recommended to ensure psychological interventions are personalized not just to the sexual dysfunction itself but also to the individual's overall context (chronic diseases, mental health issues, conjugal conflicts, etc.).

Consequently, the initial assessment (Figure 1) is illustrated as a prerequisite for healthcare practitioners' ability to structure an individualized intervention plan. Such a plan would ensure a wide variety of psychological interventions, which could include psychoeducation, cognitive-behavioral therapy, mindfulness, and couples therapy, while also taking the needs for medical or digital health interventions into consideration. This specific, individual-oriented approach embraces the unique history, individual and interpersonal factors, and sexual health objectives of each person.

Conflicts of interest

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