Movement Disorders
CLINICAL PRACTICE
REVIEW

The Role of Sex Therapy in the Management of Patients with Parkinson's Disease

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Abstract: **Background:** Patients with Parkinson disease (PD) and their partners report deterioration in their sexual life. Sexual dysfunction (SD), an important and often ignored aspect, is common in PD. Motor and nonmotor symptoms are involved in limiting pleasure and disturbing function. Sexual dissatisfaction is more common in men that in women. Frequently, both patients and partners have SD associated with PD, and both need suitable treatment. These issues need to be evaluated by neurologists or PD nurses and by specialized sex therapists. The objectives of this study were to describe the complexity and multidimensional nature of sexual problems in PD, enable practitioners to assess and treat sexual difficulties of their patients, and increase awareness of the role of sex therapy in the therapeutic process of PD.
Methods: Based on clinical experience of over 30 years in movement disorder clinics and a review of the literature, the authors suggest practical approaches, including an "Open Sexual Communication" module, prescribing medications, and/or referring to specialists.
Results and Discussion: The longitudinal nature of treating neurologic patients puts physicians in an important position to introduce sexual issues and to assess and plan the interventions and follow-up needed to ensure that sexual difficulties are resolved. The management of hypersexuality requires a thoughtful distinction between lack of opportunities for sexual expression, limited ability to perform, and true hypersexuality. Sex therapists have a major role in the assessment and treatment of the multiple factors that may underlie sexual dissatisfaction in PD, differentiating between hypersexual behaviors and other sexual preoccupation behaviors, and training the professional team.

Parkinson's disease (PD) is an age-related, chronic, multisystem, progressive disorder with motor symptoms (bradykinesia, rigidity, tremor, and postural instability)[1] and highly prevalent and diverse nonmotor symptoms (NMS), which can precede the motor symptoms and may have a significant, adverse impact on quality of life (QoL).[2] NMS also contribute to caregiver strain and depression even more than motor symptoms.[3] NMS can be divided into 4 domains: (1) neuropsychiatric (e.g., depression, anxiety, apathy, dementia), (2) autonomic (e.g., constipation, orthostatic hypotension, urinary disturbances, and erectile dysfunction [ED]), (3) sleep-related (e.g., insomnia, excessive daytime sleepiness, restless-legs syndrome), and (4) sensory dysfunction (e.g., pain and changes in smell, vision, and olfaction).[2] The motor symptoms and NMS progress over time with growing physical disability and may contribute to sexual dysfunction (SD).[4]

Sexual functioning is a multifaceted process that requires coordinated functioning of the person's mental, autonomic, sensory, and motor systems and depends on proper function of the neurologic, vascular, and endocrine systems, allowing sufficient blood supply to and from genital organs, a balanced hormonal system, and a healthy emotional state.[5] Many aspects of sexuality can be disrupted along PD, both physical and mental. Two main trends of sexual change in patients with PD have been reported: decreased and increased sexuality.[6–8] The disease, treatments, medications, and comorbid illnesses are involved in

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the changing sexual life of patients and their spouses. Psychosocial factors (such as family, religious, and cultural background; role changes; and relationship difficulties), individual factors (such as depression, anxiety, self-esteem, aging, fatigue, or concentration problems) impact sexuality and sexual functioning directly and indirectly.[5] SD has a major impact on QoL and includes changes in desire, arousal (erection, lubrication), orgasm, and sexual satisfaction. These changes require individuals to reinvent their sexuality and develop new intimate practices. Partners have to cope with similar challenges. The occurrence of SD in patients who have neurologic disabilities may be associated with a considerable amount of unhappiness and poor QoL.[9] Consequently, professional advice from sex therapists and support from health providers are needed to make the necessary changes in their sexual life.

The myth that people with disabilities are less sexual is unjustified. For example, patients with PD rate SD as 12th of the 24 most bothersome symptoms of their disease.[10] Similarly, patients with spinal cord injuries rate sexual satisfaction as 1 of the 5 main long-term care needs required for rebuilding their lives.[11] The World Health Organization has declared that sexual health is a central aspect of life and that each individual has the right to love and be loved, to receive appropriate information and treatment, and to enable intimate relationships and personal control over sexual and reproductive behavior.[12] However, societal attitudes may hamper sexual communication between couples, and health care professionals rarely proactively address patients' sexual concerns.[13,14] The objectives of the current review were to describe the complexity and multidimensional nature of sexual problems in PD, to enable practitioners to assess and treat sexual difficulties of their patients, and to increase awareness of the role of sex therapy in the longitudinal therapeutic process of PD.

Why Should Neurologists Talk About Sex with Their Parkinsonian Patients?

This issue should not be neglected by health care providers. Of course, it needs the right time to be brought up, not during a short routine visit.

PD Affects the Couple's Relationship

The disease affects partnerships and couple relationships. Compared with women, men who have PD and their partners have greater marital and sexual problems; and patients with young-onset PD have worse scores in marital satisfaction scales than older patients.[16] Motor disability is an independent predictor of relationship difficulties,[17] and depressive symptomatology adversely correlates with patients' and partners' relationship satisfaction.[18]

Patients with PD (1008 men, 330 women) reported that communication, especially physical (caressing) and emotional (showing feelings), were reduced since their diagnosis, whereas a desire for mutual intimacy prevailed on the same level as before.[19] Research in a nonparkinsonian population indicates that marital distress is intricately connected to sexual problems[20]; therefore, SD should not be ignored, especially in couples who are already affected by the difficult consequences of PD.

Sex is Important to People in All Age Groups, Including Patients with PD

The majority of patients, including seniors, would like their physicians to bring up the topic of sexuality. "Sex is important," say 83% of 319 Swedish men ages 50 to 80 years; and, even among those ages 70 to 80 years, intact sexual desire, erection, and orgasm are common.[21] Data from the US National Social Life, Health, and Aging Project (NSHAP) confirm that elders rarely talk about sexuality with their doctors. Among a sample of 3005 adults (ages 57–85 years), only 38% of men and 22% of women reported having discussed sexual issues with a physician. Interestingly, those individuals were still sexually active, including 73% of those ages 57 to 64 years, 53% of those ages 65 to 74 years, and 26% of those ages 75 to 85 years.[22] Among married or cohabitating women aged 60 years and older, 59% were sexually active, and age did not affect sexual satisfaction.[23] An investigation of reasons why people engage in sexual intercourse identified 237 different motives for having intercourse, including physical pleasure, spiritual motives, love, commitment, mate guarding, boosting self-esteem, resources, and gains.[24]

Because most patients with PD are older than 60 years, the likelihood that they will receive suitable sexual information and counseling is low. The need for intimacy, physical contact, and an affectionate relationship does not subside with age and may contribute to a sense of well-being. A study of 91 patients with PD indicated that quality of sexual life was significantly correlated with the patients' general satisfaction from life.[25]

Sexual Problems are Common in PD

SD is common among people with PD[6,15,26–29] and is associated with depression and relationship dissatisfaction.[18,30] In both men and women with PD, the frequency of intercourse decreased, whereas sexual pain and insufficient arousal during masturbation or intercourse increased.[4,6] Motor symptoms and NMS can explain this deterioration in sexual life. Rigidity, tremor, immobility in bed, or difficulty in fine finger movement may impair the touching, hugging, and kissing needed for intimate pleasure and sexual arousal. Sleep disturbances may lead to bed separation, thus decreasing opportunities for sex. Changed appearance and body odors, excessive sweating, drooling, and gait disturbances make patients less attractive. Hypomimia and hypophonia can convey a message of indifference and lack of affection. PD interferes with positioning and mobility during sexual activity.

Incontinence, pain, and side effects of medication may inhibit sexual pleasure.[5,7,30,31]

Decreased sexuality is common in men with PD

ED is the most studied sexual problem in PD and is reported in 60% to 80% of patients, compared with 37.5% of healthy, age-matched controls.[4,15,32] Gao et al.[33] observed a correlation between ED and the risk of developing PD in the future. Premature ejaculation (PE) is another disturbing sexual problem in men who have PD, with prevalence rates of 41% to 51%[4,34]: much higher than the prevalence (23%) among men without PD (ages 18–70 years).[35]

Decreased desire was reported by 59% men and was associated with asymmetrical motor signs (left-sided).[36] In addition to depression and apathy, another possible explanation for low sexual interest is testosterone deficiency, which was identified in 47% of patients with PD and was significantly correlated with patient's reported apathy, independent of disease severity.[37]

The burden of SD in men with PD was highlighted by Buhmann et al., who reported that orgasmic dysfunction in men with PD was accompanied with fear of not fulfilling the sexual expectations of their partners, avoidance of sexual activities, withdrawal from the relationship, and even thoughts of separation from the partner.[6]

Decreased sexuality is common in women with PD

Women with PD report a decrease in their sexual life (78%), including problems with arousal and lubrication (87.5%), low sexual desire (50%), and orgasmic difficulties (75%).[4] Compared with age-matched, healthy women, those with PD experience significantly more anxiety and depression as well as vaginal tightness, urinary incontinence during sex, and sexual dissatisfaction.[27,29] Depression, apathy, and anxiety frequently deteriorate sexual interest and function.[38,39] Urinary incontinence negatively impacts desire and sexual function in women with PD, but not in men.[40]

Issues regarding femininity were raised by young women in PD support groups. These included worsening of menstrual and premenstrual symptoms, concerns about physical changes and sexual image, and frequent feelings of distress and being unattractive.[41,42]

Increased sexuality

Increased sexuality involves behaviors in which patients seem to be preoccupied by sex. Because these sexual preoccupation behaviors (SPBs) have different etiologies, accurate evaluations and appropriate interventions are required.[43] A "sex talk" between physicians, patients and partners (seen together or separately) may ameliorate the assessment of SPBs.

The most frequent SPB is sexual desire discrepancy (SDD), and the frequent demands for sex by patients, mainly men, negatively impact their partners.[43] SDD can be created by adverse desire changes, including (1) Restored desire after the initiation of antiparkinsonian therapy with dopaminergic agents in patients[44] and (2) decreased desire in the partner associated with burden and depression.[45]

The most devastating SPB is hypersexuality or compulsive sexual behavior (CSB), which is reported in 1.7% to 3.5% of patients.[8] Dopaminergic treatment, particularly dopamine agonists, may induce behavioral addictions termed *impulse-control disorders*, including hypersexuality.[46,47] This compulsive SPB imposes distress and anger on partners, family, and staff members. Therefore, it should be properly assessed, distinguished from SDD, and treated as early as possible, ideally by a multidisciplinary team.[48] Effective assessment should bear in mind the features associated with hypersexuality, including a change in antiparkinsonian medications (especially an increase in dopamine agonists), dopamine dysregulation syndrome, a history of drug and alcohol abuse, concomitant psychiatric problems (e.g., psychosis), and concomitant impulse-control disorder (e.g., gambling).[49] Novelty seeking, risk-taking behavior, and low levels of agreeableness are significantly greater in hypersexual patients with PD compared with non-hypersexual patients (with or without other impulse-control disorders).[50] Medication adjustment is a central intervention (e.g., reduction or discontinuation of dopamine agonists, use of advanced treatments, such as deep-brain stimulation [DBS], or levodopa/carbidopa intestinal gel therapy [LCIG]). DBS and LCIG indirectly improve impulse-control disorders in PD, including hypersexuality.[51]

The importance of educating patients and partners to prevent risks of hypersexuality, including sexually transmitted diseases, unplanned pregnancies, and legal consequences (e.g., lawsuits for sexual harassment or abuse), should not be ignored.[52] Our clinical experience indicates that hypersexual patients experience considerable frustration. They have a compulsive drive to obtain sexual relief, but their performance is typically limited (e.g., ED, inability to reach orgasm). Concerns over their failure[6] may drive some patients to repeatedly attempt intercourse, while partners refuse to cooperate with such uncontrolled behavior. Counseling should identify this sad aspect for both partners.

A rare, sporadic SPB is restless genital syndrome (ReGS), a problem reported among women.[53] Three reports of ReGS in women with PD have been published, including a 65-year-old Canadian woman, a 62-year-old Japanese woman, and a 62-year-old Greek woman.[54–56] All of those women complained of similar symptoms: severe and disabling discomfort in the genital region, burning sensations, and pain, which occurred without sexual desire, was exacerbated during rest at night, and improved by walking. The third patient reported that she was experiencing orgasms at the rate of 1 every few minutes for the preceding 4 months. The first woman was treated with a low dose of a dopamine agonist, the second received clonazepam and pramipexole, and the third received haloperidol, then later switched to paliperidone. The uncomfortable genital sensations improved in all women. Obviously, women with ReGS may try to alleviate the discomfort by rubbing the genital area, expecting to be relieved by reaching orgasm. Mistakenly, these

women may be considered hypersexual unless they are properly assessed and treated.

Gender Issues: PD Affects Men and Women with PD Differently

Studies have identified differences in sexuality between men and women with PD. In one study of patients with PD, 37% of women, versus 65% of men, were sexually dissatisfied.[4] In another study of 14 couples who were coping with PD, all female partners expressed sexual dissatisfaction, and almost one-half reported reduced sexual desire, which often was associated with reduced arousal and orgasm.[57] Decreased sexual desire was more frequent among women with PD than among men (75% vs. 59%).[36] Difficulties reaching orgasm were reported by 75% of women versus 40% of the men.[4] Interestingly, although women who had PD reported lower sexual desire, they were significantly more satisfied with their sexual life compared with men who had PD.[6,48]

The significant sexual dissatisfaction among men with PD may be attributed to the high frequency of performance problems (ED, PE, and orgasm failure), which are exacerbated by motor symptoms,[4,27,30] and to the devastating effects of these problems on the man's self-esteem and his overall sexual experience.[58]

SD in Patients Affects their Partner's Sexuality

Studies investigating the correlation between male SD and the partner's sexual function support the idea that SD is a couple's problem, affecting both men and women in nonparkinsonian samples.[59–61] Sexual and relationship dissatisfaction among patients with PD paralleled that of their partners.[15,18,57] The burden and increased depression in the caregiving partner can explain the sexual deterioration reported among spouses and partners of patients with PD.[18,45]

SD in PD is Comorbid with Other Diseases and a Side Effect of Drug Treatments

SD is frequently comorbid with other illnesses or may be an adverse effect of drug treatment. ED in men can be a presenting symptom of both cardiovascular disease[62] and multiple system atrophy (MSA).[63] Depression, anxiety, and treatment with antidepressants may result in loss of desire, ED, delayed ejaculation, female anorgasmia, and (rarely) retrograde ejaculation, painful ejaculation, or priapism.[64]

The high degree of comorbidity suggests that evaluating sexual complaints of patients can have comprehensive diagnostic significance, sometimes providing clues to other serious physical or emotional issues. There is a bidirectional correlation between the affective state and sexuality; while depression reduces sexual desire and function, there is also evidence that symptoms of depression in men with ED normalize with successful restoration of the sexual function, whereas depression scale scores remain elevated when ED is unresponsive to treatment. This suggests that the experience of SD may aggravate depression, and vice versa: the resolution of a sexual problem can lessen distress and enable better coping with the illness.[65]

Sexual Problems Can Be Treated

Effective treatment is available for many sexual problems. Various modalities of treatment and rehabilitation for SD in neurologic diseases have been described.[66,67] Phosphodiesterase-5 inhibitors (PDE5-I), like sildenafil citrate, was efficacious in the treatment of ED, improving the ability to maintain erection and quality of sex life.[68–70] However, it may exacerbate hypotension, particularly in patients suffering from MSA.[63] Selective serotonin reuptake inhibitors (such as dapoxetine) and topical anesthetics are used to slow down the ejaculatory reflex and treat PE.[70] However, relapse is usual when drugs are discontinued.[35] Combining pharmacologic and behavioral techniques is recommended to prolong benefit and ultimately allow the withdrawal of medication.[66] Testosterone deficiency, which is a significant NMS of PD, is easily reversed by a daily dose of transdermal testosterone gel. Testosterone deficiency symptoms in men with PD, such as apathy, energy level, enjoyment in life, and libido, were improved.[71] The only approved and available medication for female SD is local vaginal estrogen for the treatment of dyspareunia from vulvovaginal atrophy caused by estrogen deficiency.[66] Hypersexuality or CSB can be treated by medication adjustments, as previously described.

No Need to Be an Expert in Sexual Medicine

It is important to stress that no one needs to be an expert in sexual medicine to provide meaningful care. Being aware of the sexual aspects of PD, inquiring about sexual changes and problems, providing proper information and explanations to reduce anxiety, and then prescribing an appropriate medication or referring to experts are exactly what most patients and their partners need. They need recognition of their basic right to remain a human sexual being despite their progressive disease.[12] Because of the complexity of sexual problems, they should be handled with multidisciplinary team cooperation. It is recommended to raise sexual issues in staff meetings and in case assessments by sharing dilemmas and knowledge.

How Can Neurologists Talk to Patients About Sex?

Communication problems between physicians and patients may stem from a lack of training in sexual medicine. In 2003,

a comprehensive study found that 54% of 101 US medical schools provided only 3 to 10 hours of instruction in sexual health, and most of them did not provide any clinical training.[14] This may explain the results from a later survey in which 53% of 1206 medical students said that they had not received sufficient training to clinically address sexual concerns.[72] However, despite this lack of training, there are a few things that can be done right away to help patients with sexual issues.

Physicians can address sexual issues in a comforting and secure atmosphere in which patients can easily discuss their intimate problems. The "Open Sexual Communication" module may assist clinicians instigate conversation during a routine office visit.[73] Physicians can bring up sexual health concerns directly or indirectly. The indirect approach uses leaflets, posters, questionnaires, and other relevant information in the clinic to invite patients to present their sexual concerns. In the direct approach, the physician actively raises the subject, asking, for example: "Have you noticed any changes with your sexual function?" Then, the physician may reduce the patient's anxiety by saying, "Maybe you are unaware, but PD may affect your sexual life. Today, there are specialists who treat sexual problems, and I can refer you when needed."

When a sexual problem is brought up, the physician may evaluate relevant information before deciding on further action. The information may be collected using 4 simple queries[73]: (1) ask about previous treatments and consequences (e.g., medical treatments, over-the-counter drugs, psychotherapy, sex or couple therapy), (2) ask about the impact of the problem on the patient and partner's QoL; (3) evaluate the patient's expectations with regard to further treatments and counseling, and (4) inquire about the partner's resistance or cooperation in solving the sexual problem. Most neurologists do not have much time to get into the psychosocial issues that are often involved in the sexual problem. They would rather keep it simple, for example, prescribe a PDE5-I for ED, make changes to a patient's medication regimen, offer the use of lubricants for vaginal dryness, suggest the use of satin sheets for smooth movement in bed, or refer to a specialist. Providing patients with specific suggestions and practical tips, adjusting medications, and enabling patients and partners to share their sexual concerns can be quite valuable for most couples.[74] However, when time is limited or the physician is inexperienced (particularly in dealing with the sexuality of older people), referral to a specialist is appropriate. The principles of implementing sexual health issues in the routine and long-term treatment of patients with PD are described in Table 1. Practical and useful tips on how to increase intimate relationships and overcome SD caused by PD, as suggested by patients with PD and their partners, are presented in Table 2.

TABLE 1 Principles of Implementing Sexual Health Issues in the Routine Treatment of Patients with Parkinson's Disease

(1) Routinely address sexual and intimate issues.
(2) Asking simple, sexually related questions, listening, and responding in an empathic and nonjudgmental way can have a noteworthy therapeutic effect.
(3) Use the open sexual communication[71–73] module to initiate a "sex talk."
(4) Don't discriminate: Talk with older patients and with the other sex, too.
(5) Remember: The needs to feel loved, be touched, be intimate physically and emotionally, and feel sexually alive do not vanish due to aging or disease.
(6) Patients will appreciate you for introducing this delicate topic.
(7) If you fear that the sexual problem will not be well treated, remember that many problems in Parkinson's disease (PD), including sexual problems, cannot be cured.
(8) The goal of sexual rehabilitation is not resuming full genital functions but, rather, achieving pleasure and satisfaction, reducing anxiety and concerns, increasing intimate couple communication, and decreasing relationship tension.
(9) Multiple underlying factors affect sexuality and intimacy in PD and should be taken into account.
(10) Motor dysfunction (such as rigidity, tremor, immobility in bed, or difficulty in fine finger movement) may impair intimate touching needed for sexual pleasuring and arousal.
(11) Nonmotor dysfunction (e.g., depression and anxiety) may reduce desire and arousal; sleep disturbances may lead to bed separation, thus decreasing opportunities for intimate contact; and fear of urinary incontinence may inhibit arousal and orgasm.
(12) Drugs may induce sexual dysfunction (SD). Antidepressants may negatively affect desire, arousal, and erectile function and result in delayed orgasm and ejaculation.
(13) Spouse sexual problems may be related to the patient's SD, and vice versa.
(14) Untreated SD in partners may disturb couple life.
(15) Caring for partners, supporting them, and reducing their stress and burden are essential.
(16) Information and education are valuable even in cases when SD cannot be solved.
(17) Refer to specialists in sexual medicine, sex therapy, and couple therapy whenever needed.
(18) Sexual issues can be handled better with multidisciplinary team cooperation.
(19) Raise sexual issues in journal club, case discussions.

Role of the Sex Therapist

The evaluation, diagnosis, and treatment of sexual problems in patients with PD and their partners may require the involvement of experts in sex therapy. Sex therapy is a specialty comprised of cognitive-behavioral interventions, mindfulness techniques, systems/couple interventions, and psychotherapy. The sex therapist frequently uses an array of technical and behavioral interventions as well as take-home assignments known to effectively treat SD in men and women.[75] Present and past detailed sexual history may assist in the evaluation of all factors involved in the problem. Sex therapy is most beneficial when used together with medical, psychological, and relationship factors for both partners.

The goal of sex therapy is to achieve not perfect sexual function but, rather, the restoration of a lasting and satisfying sexual relationship. A study testing the concept of "good sex" affirmed this approach.[76] Interestingly, the participants in that study enjoyed their sexuality despite their own or their partners' disabilities and diminishing genital responsiveness.

TABLE 2 Patients with Parkinson's Disease and Their Partners Suggest Tips on Intimacy and Sexuality*

(1) We prefer tips and sexual advice over prescription of more medications.
(2) Keep expectations real and do not blame yourself so much.
(3) Don't worry about erection–enjoy the physical intimacy you have with or without full penetration.
(4) Plan sexual activity when motor dysfunction is at minimum.
(5) Don't wait until bedtime. Fatigue makes it stressful.
(6) Lots of intimacy and touching can be out of bed as well as in.
(7) Find alternative ways of expressing caring.
(8) Find what works for you for intimate problems.
(9) Plan appropriate positions for intercourse. Try different positions and find what suits you.
(10) Apply oily lubricants to lessen the effects of tremor or harsh touch during foreplay.
(11) Use sexual aids to increase pleasure.
(12) Use lubricants to enable smooth penetration.
(13) Reduce partner's stress and burden.
(14) Try to learn about the medications' effect on your sexual function.
(15) A good body massage first may allow a good orgasm later.
(16) You need patience in reaching an orgasm. Sometimes, you feel like you are there, and then you lose it.
(17) Use humor: "I say that I shake with excitement. It always makes us smile."
(18) Use communication: "Talk as much as you can, discuss problems honestly, it keeps you close."

*In a webinar initiated in September 2013 by the US Parkinson Disease Federation, with the participation of 450 patients and spouses, the participants shared their tips on "How to increase intimate relationships and overcome sexual dysfunction caused by Parkinson's disease."

In PD, the sex therapist needs to consider the complex interplay of the multiple factors that may underlie the presented sexual problem. For example, when a patient with PD complains of ED, all optional etiologies should be considered to suggest the appropriate treatment. (1) Problems with position change: In this case, the erectile function is normal; however, when the patient tries to change a position (move to the "man-on-top" position), he loses his erection and fails to get aroused again. The sex therapist will suggest positions (for foreplay and intercourse) that demand minimal movement. (2) Problems with fatigue: In this case, erectile function is normal, but the patient gets tired and loses concentration, followed by reduced arousal, and ED. Planning the optimal timing for sex, when fatigue is minimal, or changing to a more comfortable position may solve the problem. (3) Failures with PDE5-I: The patient reports failure to achieve erection with PDE5-I. In this case, the therapist should consider the possibility of slow gastric function,[77] which may delay absorption of the medication. Patients are instructed to wait longer (approximately 2–3 hours) than the usual recommended time (1 hour) before attempting intercourse. (4) Problems with the partner: All factors affecting the woman's sexual desire must be investigated, including caregiver's burden and stress, relationship problems, limited and ineffective sexual arousal, and inability of the patient to concentrate on her sexual needs due to his SD.

Another multifactorial problem is difficulty reaching orgasm, which may be explained by ineffective arousal, motor problems (which diminish concentration), side effect of antidepressants, or female vaginal pain due to general slowness of the patient's sexual response. Interventions in this case include (1) increase the physical and emotional pleasure for both patient and partner, (2) shift from intercourse to outercourse (sexual activity without vaginal penetration) to avoid female pain, (3) referral to a psychiatrist for antidepressant change, or (4) a "weekend vacation" of 48 hours from the antidepressant to enable orgasm.[48]

In PD, the sex therapist will assist patients and partners in changing sexual habits (timing and positions), improving sexual communication skills, and accommodating different modes of sexual expressions (e.g., enjoying sex with or without orgasm, with partial erection, or with lubrication). Sometimes, there is a need to use sexual aids (male or female vibrators, lubricants, vaginal trainers to enable penetration, vacuum devices to increase genital blood engorgement). Intimate nonsexual touching is reduced in couples who are coping with PD and may worsen self-esteem and the marital relationship.[19] The sex therapist can focus on improving physical touch (hug, caress) and encourage couples to restore this aspect of nonerotic sexuality. Based on our clinical experience in patients with PD and their partners (>30 years), the restoration of touch may improve the couple relationship, as demonstrated in a Portuguese study using a causal model in which touch interaction increased communal feelings and gratitude with the partner.[78]

An important role of a sex therapist is to participate in a multidisciplinary team assessment of disturbing SPBs. The sex therapist may assist in differentiating between increased sexual desire (caused by dopaminergic treatment or SDD) and hypersexuality (part of the impulse-control disorders in PD)[8,43] and in suggesting appropriate interventions.

The training of health care providers in movement disorders clinics by a sex therapist may increase awareness and knowledge regarding sexual issues of patients with PD, improve staff skills to discuss sexuality, and enable them to take an important role in this aspect of QoL.

Conclusions

Addressing sexual problems in PD has a major role in improving the QoL of patients and their intimate partners. Patients appreciate involvement from their health care provider. The longitudinal nature of treating neurologic patients puts physicians in an important position to introduce sexual issues, to assess patients, and to plan interventions and the follow-up needed to ensure that sexual difficulties are resolved. Physicians should proactively initiate "sex talk" with their patients and choose the extent to which an intervention corresponds to their capabilities and time constraints. Despite their multidimensional nature, clinical experience confirms that sexual difficulties in PD are highly responsive to the standard treatments, including PDE5-I, selective serotonin reuptake inhibitors, mindfulness, and sex therapy. In addition to PDE5-I, studies on other sexual interventions in PD populations are scarce. The management of hypersexuality requires a careful distinction between lack of opportunity for sexual expression and true hypersexuality or CSB. Frequently, both partners have sexual

difficulties associated with PD, and both need suitable consultation and treatment: an important and often ignored aspect. The sex therapist has a major role in evaluating the complex interplay of the multiple factors that may underlie sexual problem in PD, assessing the specific sexual needs of patients and their partners, suggesting interventions, and differentiating between hypersexual behaviors and SPBs. The sex therapist has also an active role in training health care providers and assisting them to cope with sexual issues in their clinical settings. Obviously, approaches need to be individualized based on the patient's and partner's personal backgrounds and ethnic, religious, and other sociocultural standards. Finally, although this review focuses on sexuality in PD, patients suffering from MSA and dementia with Lewy bodies have very similar problems, which should be addressed in a similar way. Patients with MSA may suffer from ED early, and blood pressure dysregulation may complicate the picture. In those who have dementia with Lewy bodies, the cognitive changes occur before other manifestations, which of course make the situation more difficult.

Author Roles

1. Research Project: A. Conception, B. Organization, C. Execution; 2. Statistical Analysis: A. Design, B. Execution, C. Review and Critique; 3. Manuscript Preparation: A. Writing the First Draft, B. Review and Critique.

G.B.: 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B

A.D.K.: 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B

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