REVIEW ARTICLE

Male Sexual Dysfunction

Diagnosis and Treatment From a Sexological and Interdisciplinary Perspective

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SUMMARY

Background: Among all types of sexual disturbance in men, disturbances of sexual function are the most important in clinical practice. These are classified by the segment of the sexual reaction cycle in which they arise (appetence, arousal, orgasm, and resolution). Partial functional impairment must be distinguished from dysfunction causing significant suffering and requiring treatment.

Methods: The authors' clinical experience is supplemented with a selective review of the literature on sexual dysfunction, its association with underlying diseases, and its impact on sexual and relational satisfaction.

Results: The sexual history (including the partner's sexual history, as far as this can be obtained) is of prime importance in the diagnostic evaluation of sexual disturbances. This evaluation must take the multidimensionality and multiple functions of human sexuality into account. Chronic frustration of the fundamental psychosocial needs for acceptance, closeness, and security is a very important factor that has been neglected until now by the prevailing conceptions of the etiology and pathogenesis of sexual disturbances. Their treatment involves a combination of elements from sexual medicine and psychotherapy, along with somatic medical and pharmacotherapeutic intervention, if needed. The goal of syndystastic sex therapy, a further development of the previous therapies, is to fulfill these fundamental needs and thereby to improve the patient's sexual function and deepen his satisfaction with the relationship in its entirety.

Conclusions: It is essential to understand the different types of sexual disturbance in their biopsychosocial context as well as the significance of sexuality for the individual, and for the couple, with respect to reproduction, sexual pleasure, and bonding. Sexual disturbances are common, and patients therefore expect their physicians to be proficient in sexual medicine. The coverage of this subject in both undergraduate and postgraduate medical education in Germany needs to be improved.

Key words: sexual medicine, sexual history, sexual dysfunction, basic psychosocial needs, couples therapy

The spectrum of sexual dysfunction is wide ranging, and inadequately captured by the ICD-10 and DSM-IV classifications. In addition to functional sexual disorders, which may or may not be associated with organic pathology, disorders of sexual development, gender identity, sexual preference (paraphilia) and sexual behaviour can occur in men (1).

Epidemiology

Sexual disorders in men are categorized according to their occurrence in the cycle of sexual response into disorders of desire, arousal (erectile dysfunction), or orgasm (premature or delayed ejaculation, or anorgasmia), albeit with considerable potential for overlap and concurrence between these disorder groups.

Laumann et al. (1999) found in a representative cross sectional study of 18 to 59 year old US citizens a 5% prevalence of desire or erectile dysfunction and a 21% prevalence of premature ejaculation (2). International comparison (Laumann, et al. 2005) revealed some similarities, but also significant intercultural variations corroborating the biopsychosocial etiology of these disorders. (2, e1). A number of studies have also confirmed the negative effects of functional sexual disorders on relationships and quality of life (3–6).

Desire disorders

Desire disorders increasingly present as a problem among men seeking medical help for sexual difficulties. Erectile dysfunction is often presented as the primary complaint, but it is not uncommon for this to mask other problems such as exhaustion (with or without substance abuse), relationship difficulties, and, more rarely, disorders of sexual preference. Organic causes (testosterone deficiency, hyperprolactinemia, medication-related side effects) are important, but at times overemphasized in the somatic medical literature.

Erectile dysfunction

The prevalence of erectile dysfunction has been well researched. The Massachusetts Male Aging Study (MMAS) (Feldman, et al. 1994) found minimal erectile dysfunction in 17% of the 40–70 year old respondents, moderate erectile dysfunction in 25%, and complete erectile failure in 10% (7). Braun and colleagues (2000) found erectile dysfunction in 19.2% of their 4489 respondent over 30 years, although the authors demonstrated that not all participants with erectile dysfunction

* Translator's footnote:

The translation of terms referring to sexual therapies is complicated by non-equivalence in the precise nature of treatments and practitioners between countries. The German term „Sexualmedizin“ is translated in this article as „sexual medicine.“ However, this term implies treatment delivered in a healthcare setting which is both medical and psychological.

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TABLE 1

Age dependence of erectile dysfunction (ED), n = 4489 (8)

Age group (years)	Prevalence of ED (%)	Distress (%) (ED present and sex life described as unsatisfying)
30–39	2.3	1.4
40–49	9.5	4.3
50–59	15.7	6.8
60–69	34.4	14.3
70–80	53.4	7.7

BOX

Requirements for a sexual history (1, 15, 16)

- Sex as a taboo topic—overcoming the barriers to speaking for patient (couple) and doctor
- Subjective perception and distress (why is the patient presenting *now* and how are things, concretely? How has the patient (couple) already sought to address the problem?)
- Couple centeredness (prompting with questions such as “how does your partner experience the situation?” “How is the sexual dysfunction affecting your relationship?” Even if there is no partner, relational experiences and desires are present.
- Exploration of illnesses, treatments and medication
- The significance of the three dimensions reproduction, desire, and relationship for the individual and their interplay or effects within the relationship
- How are fundamental psychosocial needs being fulfilled or frustrated, in general and in the specific area of sexuality?
- Detailed history of sexual behaviour and experience (genital and non-genital sexual activity, masturbation, sexual preferences [gender, age, practices], fantasies, behaviours, self-image)
- Life history and sociosexual development

The history taking is already a part of the treatment, as one can safely assume that no such frank engagement with the individual's and his partner's sexuality will have taken place previously

reported distress. In relation to both distress and overall prevalence, a marked age effect was found (8) (*Tabelle 1*). An important finding of these studies was the high coincidence with medical conditions (in particular diabetes mellitus, cardiac disease, and hypertension). The onset of erectile dysfunction over the age of 40 can be an early warning sign of chronic ischemic heart disease (9, e2).

Premature ejaculation

Premature ejaculation is the commonest form of sexual dysfunction in men. It is defined as the persistent or repeated occurrence of ejaculation before, during, or shortly after penetration, over which the individual has little or no control and not accompanied by a feeling of orgasmic satisfaction. Around 20% to 25% of surveyed adult men in modern industrialized nations report premature ejaculation associated with distress (10, e3). In seeking to present valid prevalence data one encounters two problems: On the one hand, the normal interval between penetration and ejaculation is to a large extent a subjective judgment, and subject to wide individual and cultural variation (11, e4). And on the other hand, this is an area in which it is particularly clear that biological dysfunction is not synonymous with a clinically relevant disorder.

The aim of this article is to present an overview of male sexual dysfunction from a sexual medicine* and interdisciplinary perspective. Because of their prevalence, particular attention will be paid to the diagnosis and treatment of functional disorders, which are the subject of numerous treatment approaches. The relational aspects of human sexuality are accorded particular importance in a biopsychosocial sexological approach, which is underpinned by a selective literature review.

Background and diagnosis

Extensive research results from the last 15 years and the introduction of selective phosphodiesterase 5 inhibitors have led to changes in the diagnostics and treatment of male sexual dysfunction. Invasive investigation is now almost obsolete. Medication is introduced early. Success is measured in terms of function, which in turn is measured using questionnaire instruments such as the IIEF (International Index of Erectile Function), its short version (IIEF-5), or the Cologne Erectile Dysfunction Questionnaire (*Kölner Erfassungsbogen der Erektile Dysfunktion*, KEED) (8, 12, e5, e6). Erectile dysfunction is generally regarded in the literature primarily as a vascular disorder, acting as a first sign of generalized atherosclerosis (e6). The view of this disorder has changed from an almost entirely psychogenic to an organically dominated, multifactorial etiology (13). A large proportion of studies on male sexual dysfunction is directed at the effects of pharmacological treatment on desire, erection and ejaculation, and remains purely at the level of the functional disorder. The discovery of highly effective oral medications by the pharmaceutical industry have

FIGURE

Erectile dysfunction secondary to disorders and/or their treatment

quite literally created a "potent" new market (e7). It is true that the predominantly somatically focussed literature alludes in general terms to the role played by psychological and relational factors (10), and consensus statements emphasize the importance of a full sexual history taking into account the relationship (14). In clinical practice, however the norm is to focus in a shorthand way on "functional repair," marginalizing or completely neglecting psychosocial and psychosexual (relationship) aspects.

Sexual experience always comprises a synergy of biological, psychological and social factors, whose individual weighting and interrelation where a sexual problem exists must be identified on an individual patient basis. Of primary importance is the subjective meaning of sexuality and partnership, which in turn determines the effects of events and experiences within the intimate relationship (15, e7). Against this background, any diagnostic approach which considers only the physical (sexual function, for example, desire, erection, and ejaculation) or the emotional (for example, personality development and characteristics) or the relationship is necessarily incomplete and inadequate as a means of planning the treatment of sexual dysfunction

accompanied by distress. Distress arises when a sense of one's own sexual inadequacy arises in the context of a relationship. The desire for relationship is innate and therefore ubiquitous (16, e17). Positive social interactions which fulfil fundamental psychosocial needs such as the need for acceptance, belonging, closeness or warmth, promote confidence, reduce anxiety, promote security, and reduce stress and aggression. This is supported by neurobiological data on the importance of attachment and relationship (17). Similarly, MRI studies hint at a specific neuronal correlate for "love" (18). A factor hitherto largely neglected by etiopathogenetic approaches but which appears influential is the chronic frustration of basic psychosocial needs. This leads not only to deterioration of the quality of relationship, but also affects sexuality in three areas: reproduction, desire, and relationship. In a recent interview based study by Kleinplatz et al. (2007), men and women over 65 and in long term relationships cited factors such as authenticity, intense emotional connection, communication, and a sense of being accepted as characteristics of "great sex" (19). Sexuality as "the deepest act of communication" is not a new idea, and the extension of "tactile communication during sex" to

TABLE 2

Organic investigations

Physical investigation	Type of investigation	To exclude	Indication
Clinical examination	Physical examination, pulse, respiratory rate, (exercise) ECG	Urogenital, neurological and cardiovascular disease	General physical examination with attention to specific risk factors (e.g. age, high BMI)
Laboratory investigations	Blood glucose Lipids Serum testosterone Prolactin	Diabetes mellitus Disorders of fat metabolism Hypogonadism Prolactinoma	General physical examination where appropriate in relation to desire or erectile disorders, depending on other symptoms of hypogonadism
Imaging/functional investigation	Duplex sonography with intra-cavernous pharmacological testing	Cavernous insufficiency	Where appropriate in ED, where oral medication ineffective in the presence of desire for intracavernous injection
	Neurophysiology (e.g. somatosensory evoked potentials)	Neurogenic deficits (e.g. following trauma)	Where appropriate in response to questions arising from expert opinions or scientific research
	Penile angiography	Pelvic outflow obstruction	Only when planning revascularization surgery

ED = erectile dysfunction, BMI = body mass index

“an additional language,” was described more than 50 years ago (e15). Couples therapy makes this language conscious, and translates it: attraction, acceptance, closeness, and security are communicated and embodied in sexual body language, as well as in other ways. The German word used for couples therapy, “syndiastic,” derives from the Greek word syndyastikós (“orientated towards mutuality in a couple relationship”).

Aristotle elucidates in his *Nikomachean Ethics* the idea of “becoming close to one another” (*synoikeiousthai*) in the sense of “belonging together.” He distinguishes this from the relationship with a significant other found between members of a couple (*syndyastikós*), in which particularly intense feelings of trust and belonging can develop (15). This does not necessarily presuppose sexual functionality, nor is sexual functionality sufficient to create sexually satisfying experiences (19).

Basic psychosocial needs are therefore capable of being fulfilled in a unique way via sexual “body-language.” Their chronic frustration via dysfunctional or absent (intimate) physical contact, plays a key role in the development and maintenance of psychosomatic disorders, including all functional sexual disorders, and impedes recovery from existing illness (e8). On the other hand, recent studies of the placebo effect have shown that the effect of medicines is frequently enhanced by the supportive attention received in the consultation, in addition to the attribution effect, which arises from a positive expectation of treatment. Even the Drug Commission of the German Medical Association (*Arzneimittelkommission der deutschen Ärzte-*

schaft) has reached the conclusion that “doctor-patient relationships characterized by trust, empathy, and hope are therapeutically effective” (e16). If, reasonably enough, we accept the placebo effect of the good doctor-patient relationship, we should value all the more highly the health promoting potential of a functioning intimate relationship, and seek to influence it positively.

If one wants to attain a perspective commensurate with the complex realities of the situation, sexual history taking, as an important diagnostic tool requiring attention to details not usually elicited in the standard medical history, requires specialist knowledge and qualification (20, e9, e10) (*Box*).

The importance of the various dimensions of sexual history taking was emphasized by the results of the Berlin Men Study (*Berliner Männerstudie*). This study asked a representative sample of 6000 men aged 40–79 about erectile dysfunction and its effects on quality of life, health, and their relationship (21). A subgroup analysis of participants who completed an extensive interview including a full sexual history in the presence of their partner (in total 373 men), not only demonstrated the prevalence of the various functional disorders, but also found that 46.9% reported fantasies used in the arousal phase of masturbation which could be classified as paraphilias (for example fetishistic, masochistic, sadistic, or exhibitionistic fantasies). From the perspective of sexual medicine, paraphilia-like arousal patterns are not in themselves pathological, while the importance of the fantasy in the process of arousal was frequently reported by participants to be “moderate,” and only occasionally as “strong.”

TABLE 3

Medications as a possible part of sexual medical treatment (10, e12–e14)

Substance	Application	Mechanism of efficacy	Where appropriate complementary treatment in:
Yohimbine	oral	Central alpha 2 antagonist, strengthens erection promoting efferents	ED (not effective in ED with somatic correlate)
Sildenafil, Vardenafil, Tadalafil	oral	Selective PDE 5 inhibitors, relaxes smooth muscle in the corpus cavernosum via inhibition of cyclic GMP degradation	ED
Prostaglandin E1	Intracavernosal injection (Cavaject); Transurethral (MUSE)	Prostanoid, promotes smooth muscle relaxation	ED
Lidocaine, Prilocaine	Local (glans penis)	Local anaesthetic, reduces penile sensitivity	Premature ejaculation
Clomipramine	oral	Tricyclic antidepressant, peripheral anticholinergic and anti(nor)adrenergic agent	Premature ejaculation
Fluoxetine, sertraline, paroxetine, dapoxetine	oral	Serotonin reuptake inhibitor, stimulates the sexually inhibiting central serotonin receptors	Premature ejaculation
Testosterone	Oral, transcutaneous, intramuscular	Central stimulant of testosterone synthesis, release and storage of proerectile neurotransmitters (oxytocin, dopamine, NO), testosterone withdrawal leads to apoptosis of the smooth muscle cells of the corpora cavernosa	Proven hypogonadism with effect on desire and erection

ED = erectile dysfunction, GMP = guanosine monophosphate, MUSE = medicated urethral system for erection, NO = nitric oxide

Generalization from this population to the background population is inappropriate due to likely selection bias. Nevertheless, as many as a third of men described the paraphilia-like fantasies alone as inadequate, and in a significant proportion of these, there was a risk of harm to others (for example pedophilic, exhibitionistic, or frotteuristic content of the fantasies), some of which had already been acted upon (15). These data (which represent a tiny group, as the men were over 40), suggest that a diagnostic focus solely on function can very occasionally lead to a “cosmetic” approach to symptoms which leaves important underlying issues unexplored. One example of this is the inappropriate treatment of erectile dysfunction arising in a severe but unrecognized disorder of sexual preference with PDE 5 inhibitors (22, e11).

Functional sexual disorders in men are common complications of illness or its treatment, or early signs of disease. For this reason it is important across medical specialties to include a sexual and relationship history into a general medical history, and where appropriate introduce additional enquiry and investigation (Figure, Table 2). This offers patients (or couples) wishing for change or treatment but reluctant to express this the opportunity to discuss their concerns and receive early intervention. The extent of treatment efficacy is dependent on the timing of diagnosis. The prognosis is good where distressing sexual dysfunction is recognized early (at first presentation) and receives expert treatment. Otherwise, there is a danger that the problem will become chronic (1).

Treatment

The biopsychosocial etiology of sexual dysfunction calls for a biopsychosocial approach to treatment, involving the methods of “narrative medicine” as well as organic and pharmacological approaches (Table 3).

Using the example of the treatment of patients in Germany suffering from erectile dysfunction following radical prostatectomy for prostate cancer, Herkommer et al. (2006) were able to demonstrate that the long term use of solely pharmacological or mechanical treatments were associated with less satisfaction with therapy among patients than estimated by urologists. There was also discrepancy between the views of patients and clinicians regarding choice of treatment modality (23).

Questionnaires exploring the value to prostate cancer patients and their partners of relationship, nongenital sexuality (exchange of caresses) and genital sexuality (sexual intercourse) demonstrated that only importance of genital sexuality decreased in both partners before and after radical prostatectomy. Relationship and the importance of physical closeness (kissing and cuddling) retained their importance (24). Other studies confirmed this higher value placed on the fulfilment of the need for psychosocial closeness, intimacy, and security in comparison with the pursuit of purely sexual satisfaction (25).

Beier and Loewit’s (2004) method of couples therapy focuses on basic psychosocial needs (16). In this it differs from all other forms of treatment (Table 4). The primary aim of therapy is not to restore sexual function but to broaden the understanding of sexuality

TABLE 4

Comparison of treatment options for sexual dysfunction in men

Treatment	Physical treatment	Psychotherapy	Classical sex therapy	Syndiastic sex therapy
Focus	Sexual function	Intra- and interpersonal conflicts, sexuality and sexual function	Sexuality and sexual function, intra- and interpersonal (couple) conflicts	Fundamental psychosocial needs and their meaning, multidimensional understanding of desire
Target group	Patient	Patient (couple)	Couple	Couple
Aims	Restoration of disordered function	Strengthening social and sexual competence	Strengthening social and sexual competence, restoring lost function	Meeting fundamental needs (once more)/relational improvement, sexuality as an embodiment of this
Methods	Medication, mechanical aids, operative interventions	Behavioural or analytic therapy methods, couples therapy	Focussed "exercises" aimed at the restoration of sexual receptivity ("sensual focus")	Communication via body language, including sexual body language, in real time. Gathering "self instigated" new experiences; physical treatment where appropriate

Modified according to Beier et al. 2005, Beier and Loewit 2004 (15, 16)

(relationship dimension), to enable new experiences of (sexual) physical communication, and to improve the (sexual) satisfaction within the overall relationship. Effective medication and mechanical aids are by no means contraindicated but is on the contrary complementary, used at the right moment.

Case report

A 59 year old man presents to the sexual medicine clinic with his partner with persistent erectile dysfunction despite regular use of a PDE 5 inhibitor following nerve sparing radical prostatectomy for prostate cancer. The couple is clearly frustrated with the "lack of effect." Their distress is significant, and physical contact is occurring only rarely. The female partner is "sad," the male partner is considering increasing the medication dose or reducing the dose interval. They are afraid of "hurting each other." The subject of sexuality is avoided.

Questions about feelings surrounding the experience of cancer, the current state of the relationship and their sexuality, as well as earlier experiences break the silence. Sex has always been an important part of the relationship for both parties, even if to different degrees, with a clear delineation of roles. Following surgery, this has changed, with sex now being initiated sporadically by the female partner, with him appearing "resigned" in the face of his missing erection and she reporting feeling guilty at his "stroking her to orgasm." Both experience considerable pressure in connection with "the pill," and miss moments of sexual contact such as they used to enjoy. In ten hours of couples therapy the focus is placed on more conscious use of body language and its associated meaning. The key moment in treatment is the recognition for both partners that despite "incompleteness" (physical and emotional trauma

related to the cancer) it is possible to go on attending to oneself and each other, and to experience value, closeness, and security. The couple achieves this by prescribing themselves a break in medication as well as "new experiences" focussing on physical contact and find this a positive and meaningful experience, leading to more conscious verbal and nonverbal communication. Increasingly, both partners are able to "let go," their genital organs are reclaimed as organs of communication, orgasm loses its negative associations and is experienced as the expression of mutual desire and a sense of belonging, in which each feels addressed and sought out by the other ("...I feel relaxed, as though a burden was falling away from me, ...we lie close, emotionally and physically...").

By means of the altered perspective on sexuality, the much desired sexual intercourse, which the couple sees as "a particularly intense form of closeness," becomes possible via the use of a vacuum pump without performance anxiety or fear of failure. The health giving benefits of sexuality are once again within reach.

Conclusions

A sexual history (if possible with the partner's involvement) is centrally important in the diagnosis of sexual difficulties and must respect the multidimensionality and multifunctionality of human sexuality. Treatment draws on sexual medical and psychotherapeutic techniques as well as organic and pharmacological elements. Couples sex therapy focuses primarily on basic psychosocial needs, with the aim of improving satisfaction in the sexual relationship.

The physician's engagement with the question of sexuality and its disorders requires not only understanding of the biopsychosocial context, but also a willingness and ability to reflect on one's own sexuality.

This is indispensable because of the requirement to be able to address in a frank and authentic manner a subject which connects with (the physician's own) intimate experience. Similarly, the ability to address the question of one's own basic psychosocial needs is essential in order to help patients or couples address their own. This way of thinking and working is unfamiliar to many doctors, because, as sexual medicine remains untaught in a majority of undergraduate medical courses in Germany (20, e10) and elsewhere, it has never been learned. It is however teachable and learnable. In 1997 the Academy of Sexual Medicine for Doctors and Psychologists began its first two year, curriculum-based subspecialty training seminar at the Institute of Sexual Sciences and Sexual Medicine of the Charité Hospital, Berlin. The seminar has run continuously ever since (e9).

The ubiquitous human desire for the fulfilment of basic psychosocial needs is fundamental, and must be taken as seriously by medicine as the investigation of pathogenetic mechanisms. In relation to sexual dysfunction, this implies the restoration to patients of the health promoting effects of sexuality.

Although efforts are being directed at conducting controlled, clinical trials and randomized controlled multicentre studies in sexual medical research, it is an unfortunate truth that nowhere near such generous resources are available for this area as for that of commercially exploitable pharmaceutical research. But this must not lead, for ethical reasons, to the withholding from patients plausible and clinically tried and tested treatments.

Future perspectives

The Medical Association of the German Federal State of Berlin (Berliner Landesärztekammer) included the urgently needed special skills module "Sexual Medicine" in its Continuing Medical Education curriculum. It is to be hoped that the Medical Associations of other German federal states as well as the German Medical Association will follow this example. This is important both for doctors and patients in search of qualified service provision in this area.

Conflict of interest statement

The authors declare no conflict of interests in the terms of the guidelines of the International Committee of Medical Journal Editors.

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