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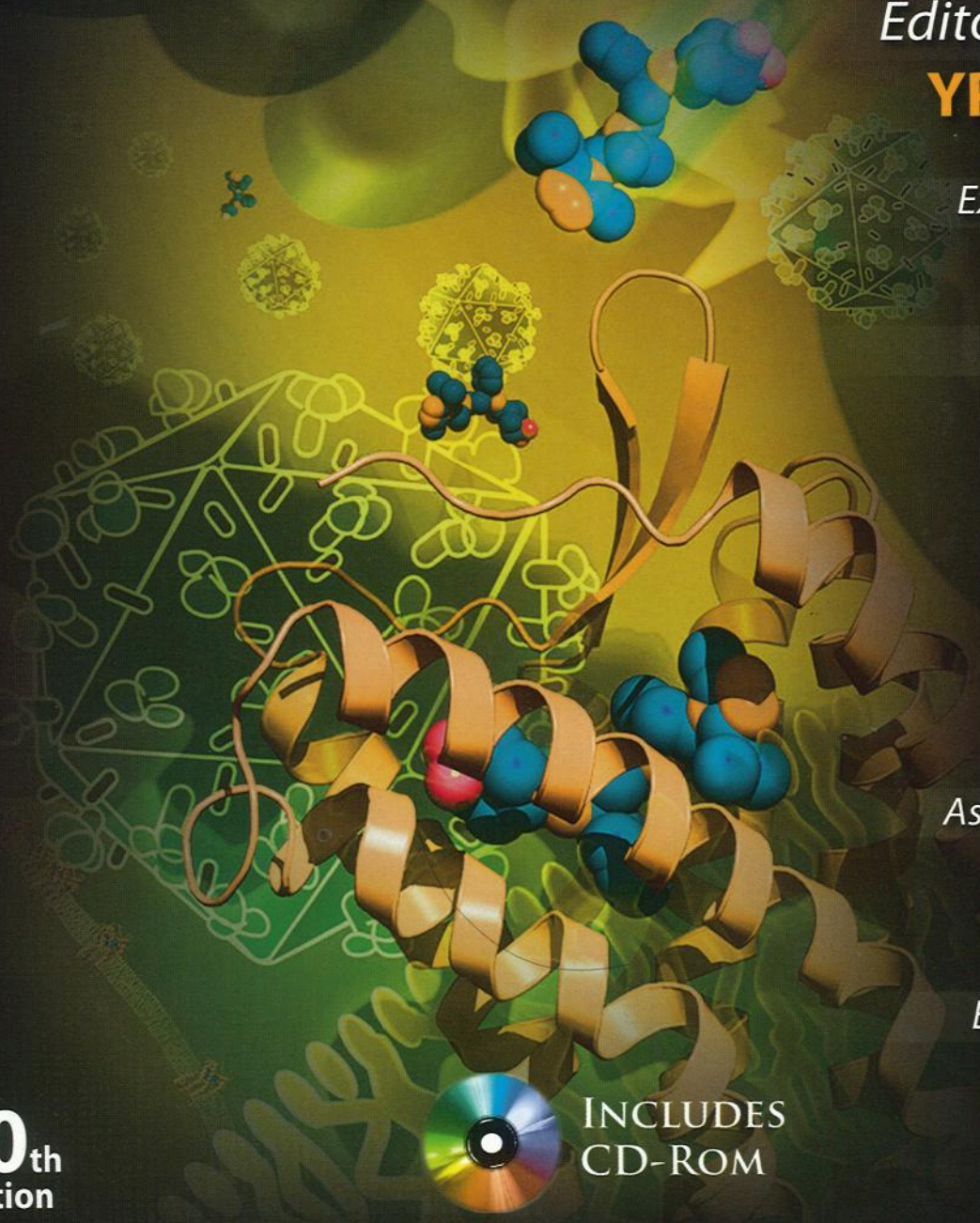

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5 Sexual Medicine

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Sexual disorders are one of the most common disorders of human functioning and deserve attention of almost all physicians regardless of their particular speciality. An overview of sexual disorders is given in this chapter.

DIAGNOSIS OF A SEXUAL DISORDER

For a precise diagnosis of male and female sexual dysfunctions, four cardinal parameters need to be probed in particular along with the routine history of the patient.

Male	Female
Desire	Desire
Erection	Lubrication
Penetration	Penetration
Orgasm	Orgasm

These four parameters cover every possible facet of the reported sexual dysfunction and helps quickly in pinpointing the diagnosis. The evaluating method of history taking is precise and effective in a clinical/office set-up. This procedure has already been successfully tried in more than 50,000 patients.

Desire

Sexual desire is an instinctual inclination towards sensual gratification. In other words, it is the readiness to feel erotic. Increase or decrease in sexual desire can be evaluated by considering the information about frequency of sexual thoughts and masturbation or frequency of sexual intercourse. Increase or decrease in desire could be because of psychogenic or organic causes. The common psychological causes leading to decline in sexual desire could be because of depression, schizophrenia, following intake of certain drugs like antihypertensives, psychotropics, antiandrogens, cimetidine and certain ayurvedic preparations which contain rauwolfia alkaloids and addictive agents like *ganja*. Sometimes, dislike of partner or partner's behaviour, disturbed interpersonal relationship and fatigue may interfere with an individual's sexual desire. Testes produce testosterone which gets metabolised in the liver. Any testicular or hepatic pathology can lead to reduction in sexual desire. Often chronic debilitating illnesses and androgen insensitivity syndrome could contribute to decline in desire. Sudden decrease in sexual desire could be because of discovery of an affair, anxiety obsessive compulsive disorder (OCD) and bilateral removal of testes or ovaries.

Desire could increase in mania and in schizophrenia (because of loosening of inhibitions). Often sudden increase in desire could be following frontal lobe brain tumours, head injuries and temporal lobe epilepsy. It may also suddenly increase following intake of alcohol or marijuana.

Erection

It is essential to differentiate psychological erectile dysfunctions from organic erectile dysfunctions. If a man is able to achieve and/or sustain an erection of adequate quality in one situation (i.e., sleep, early morning on full bladder, during masturbation), but unable to achieve the same at the time of coitus; then the problem is largely situational (psychogenic) and not constitutional (organic). This is the hallmark to differentiate the two varieties of erectile dysfunctions. Psychological erectile dysfunction is characterised by sudden onset and selective nature while in organic erectile dysfunction, the onset is usually gradual and it is non-selective in nature. That means an individual will have erectile dysfunction in all situations and with all partners.

Erectile dysfunction could be primary or secondary. If an individual experiences the erectile dysfunction from the very beginning, it is known as primary and if it is developed later (after normal functioning for a specific period), it is called secondary.

Lubrication

Lubrication is the barometer for female sexual arousal. It is akin to erection in males. Decrease or increase in lubrication may lead to coital discomfort and/or pain. The common causes of inadequate lubrication are lack of adequate foreplay or arousal, local vaginal infections and endocrine imbalance. There could be increase in lubrication because of allergy or increased sexual arousal, often because of unknown aetiology.

Penetration

A man may have adequate sexual desire, stiff erection but would lose his stiffness prior to penetration. This is largely because of anxiety over sexual situation coupled

with fear of failure. Sometimes despite the adequate erection and continued sustenance, penetration may not be possible because of inadequate knowledge of female sexual anatomy and sexual positions. Any evidence of pain in the penis at the time of penetration could lead to decline in erection. Often phimosis (pain and/or difficulty in retracting the foreskin over the glans penis) could lead to pain at the time of penetration leading to decline in desire. Vaginismus and rarely obstructive vaginal pathology in females could be responsible for a man's inability for successful penetration. Vaginismus is a condition where there is an involuntary spasm (severe contractions) of the outer one-third of the vagina during an attempt, or in anticipation of an attempt of vaginal penetration, thereby making penile penetration impossible. Hence, examination of the female partner is necessary prior to implementing the therapy even in a case of male sexual dysfunction. There are occasions where an individual may lose an erection immediately after penetration. This could be because of anxiety, distraction or a lax vagina leading to inadequate penovaginal contact.

Orgasm

Orgasmic disorders have so far been described as ejaculatory disorders in male despite the fact that there is a clear-cut neurophysiological distinction between the two. Orgasm is experienced between the two ears whereas ejaculation in men and vaginal contractions in women occur between the two legs. Orgasm in males is usually followed by ejaculation. However, orgasm can occur without ejaculation and vice-versa. In females, the peak of sexual pleasure, i.e., orgasm is usually accompanied by rhythmatic contractions in the vagina. The feeling of 'enough and nothing more!' is the litmus test to gauge whether a woman has experienced orgasm or not. Orgasm in a male and a female can be best defined as "an explosive, cerebrally encoded, neuromuscular response, at the peak of sexual arousal by psychobiological stimuli, the pleasurable sensations of which are experienced in association with *dispensable* pelvic physiological concomitants". Ejaculation in men and vaginal contractions in women is not a must for orgasm.

CLASSIFICATION OF ORGASMIC DISORDERS

Orgasmic disorders can be best classified as early, delayed, impaired (reduced) and absent (inability to experience) orgasmic responses.

Early Orgasmic Response

If an individual experiences orgasm earlier than his expectation, which is within the rational limits, it is termed as early orgasmic response (EOR). Early orgasmic response is a better terminology than premature ejaculation in males as it does not propagate the myth that ejaculation and orgasm are synonymous and the diagnostic label focuses on exact pathology in men and women.

Delayed Orgasmic Response (DOR)

Here, an individual does experience orgasm, but with a delay. The common causes include reduced arousal, fear, fatigue, anaemia, diabetes and reduced testosterone in men and oestrogen in women. Sometimes, inadequate penovaginal contact, e.g., lax vagina leading to not so firm grip on penis could be a contributing factor.

Impaired Orgasmic Response (IOR)

This categorises a condition in which there is reduction in the intensity of orgasmic pleasure. This could be psychogenic, due to low testosterone in men and oestrogen in women and sometimes following drugs like brown sugar and cocaine. Myopathies and neuropathies are known to cause this particular disorder. Often vitamin B_{12} deficiency could be partly responsible for impaired orgasmic pleasure.

Absent Orgasmic Response (AOR)

In this condition, an individual fails to experience orgasmic pleasure. Myopathies and neuropathies could be the causes of this particular disorder.

This classification is precise, focusses exactly on the pathology and does not propagate any myths. In addition, the classification has a distinct advantage of male and female parallelism. The classification EOR, DOR, IOR and AOR encompasses all the male and female orgasmic disorders.

Following the orgasm, the ejaculate usually comes out through the urethral meatus in spurts, i.e., antegrade ejaculation. But at times following orgasm, the ejaculate does not come out in antegrade fashion and instead goes backward into the bladder due to bladder neck disturbances, e.g., following surgery involving bladder neck, neuropathies, etc. This is known as retrograde ejaculation. Sometimes, there may not be any formation of semen (absent ejaculate) for example in prepubertal boys, elderly individuals with very low serum testosterone and sometimes following long-term use of drugs like carbamazepine. In this situation, the orgasmic ability of an individual remains intact but there is no antegrade or retrograde ejaculation whatsoever. Sometimes, a man experiences orgasm but ejaculation comes out after a while; this could be because of pouch in the urethra following urethral injury or repair. Majority (but not all) of

women may experience vaginal contractions at the time of orgasm.

EXAMINATION AND INVESTIGATIONS

Along with routine physical examination, one needs to check perianal sensations, anal sphincter tone and autonomic nervous system imbalance as and when required. Screening tests like routine blood (to rule out any anaemia), blood sugar fasting and 2 hours post-glucose food, and lipid profile need to be carried out as a routine. Serum testosterone and sex hormone binding globulin (SHBG) may be advised if there is clinical suspicion of testosterone deficiency. Other hormone investigations like prolactin, oestrogen and thyroid may be advised to rule out any underlying pathology.

Other Investigations

Nocturnal Penile Tumescence Rigidity Monitoring

Nocturnal penile tumescence rigidity (NPTR) monitoring by Rigiscan can help in determining the rigidity and sustenance of erection. This is a precise and non-invasive test to diagnose psychogenic or organic erectile dysfunction.

Intrapenile Injection

This procedure involves an injection of vasoactive drugs (papaverine combined with chlorpromazine or phentolamine and/or prostaglandin E1) directly into the corpora cavernosa of the penis. The erectile response and the amount of drug that is required to produce erection, gives a clue to the clinician whether the erectile dysfunction is psychogenic or organic.

Doppler Examination

This is a non-invasive technique which helps in determining the patency of the superficial and deep blood vessels of the penis and their ability to dilate after an injection of vasoactive drugs.

Penile Blood Pressure

This is a screening test used for erectile dysfunctions. Penile systolic blood pressure (obtained by using a Doppler probe and tying a special cuff around the penis) divided by the systolic blood pressure of the arm, gives the Peno-Brachial Index (PBI). Abnormal reading may give indication of vascular insufficiency leading to erectile dysfunction.

Infusion Cavernosometry and Cavernosography

Cavernosometry involves infusion studies with normal saline, helpful in diagnosing venous leaks responsible for inadequate erection. Cavernosography is a graphic study by X-rays of the penis (by injecting contrast medium), which determines the abnormal draining channels responsible for erectile dysfunctions.

Electromyography

Electromyography (EMG) studies could help to diagnose neurological lesions causing erectile dysfunction, impaired or absent orgasmic response and in conditions like squirtless seminal dribble (emission).

TREATMENT

While treating psychosexual dysfunctions, the physician must emphasise the fact that he is treating a relationship and not the individual. The treatment aims at symptom removal which may require adequate blending of supportive psychotherapy coupled with behaviour modification and use of medication as and when necessary. Clearing of the myths and misconceptions and imparting adequate knowledge of sex and sexuality usually helps undo ignorance and reduce anxiety. However, if there is any evidence of major depression, schizophrenia, disturbed marital relationship and those with rigid defences need to get their problem sorted out prior to implementing sex therapy.

The starting point for the most sexual dysfunctions would be sensate focus exercises. This includes sensuous interplay by avoiding sexual interaction. Intercourse is forbidden in the initial stages hence the performance anxiety is allayed completely. The couple is immersed in situation of physical intimacy short of intercourse. The initial sessions consist of tactile stimulation without any genital touch. Here, one partner tries to explore the areas with maximum sexual arousal and verbalises his/her feelings, likes and dislikes. Partners are requested to touch each other in a manner that helps trigger relaxation and not anxiety. If one is passive during an exercise, and the partner's touch is triggering the anxiety, then one needs to convey the same to the partner. The main thought patterns which contribute to anxiety are spectatoring, racing thoughts and performance thoughts. These exercises help to relieve sexual boredom and gradually increase sexual arousal. Although sexual desire and arousal are not the same, often they do reinforce each other. Enhanced arousal leads to increased sexual desire which in turn leads to more arousal. The main focus is on non-demand interactions. When one is the active partner, one should caress for his/her own pleasure. When one is passive, one should allow oneself to flow with the sensations and enjoy them without any anxiety to respond. Initially, the genital touch is prohibited but later genital touching is permitted without demand to produce erection.

Treatment of Male Sexual Disorders

Strategy for Psychological Erection Disorders

1. Pleasure without erection
2. Pleasure with erection
3. Stimulation-stop-restimulate
4. Female superior position
5. Male superior position.

Some cases of psychological and organic erectile dysfunctions can be helped effectively by medicines like sildenafil citrate or tadalafil (**Table 1**). The medicines need to be taken an hour before the anticipated sex act. One can take maximum of one tablet in 24 hours. This particular tablet has no role on desire or orgasm, but it helps to enhance the rigidity and sustenance of already achieved partial (semi-stiff) erection. This medication is contraindicated in those who are taking organic nitrates for heart conditions or hypertension, alpha blocker for prostate problems and those who have retinopathy.

Table 1: Medicines and their Side Effects

	Generic name	
	Sildenafil	**Tadalafil***
Availability in milligrams	50/100	10/20
Onset of action (minutes)	45	45
Duration of action in hours	4–6	18–24
Interference in absorption with food	Yes	No
Side effects**		
Headache	+++	++
Visual disturbances	++	–
Flushing	++	++
Back pain and myalgia	–	+
Dyspepsia	+++	++
Rhinitis	++	++
Flu-like syndrome	+	++

**May cause dizziness; **As encountered by the author in his clinical practice.*

In those patients, where there is evidence of testosterone deficiency (revealed by clinical and metabolic evaluation), testosterone may be implemented by oral route, patches or by injection. Intramuscular depot injections of testosterone undecanoate 1,000 mg need to be taken once in 2 months to 3 months. In elderly individuals above the age of 45 years, however, care needs to be taken to do prostate specific antigen investigation and transrectal ultrasonography of prostate prior to implementing testosterone therapy.

The second option could be intrapenile self-injection with vasoactive drugs, such as papaverine in combination with chlorpromazine, phentolamine and prostaglandin E1. Prostaglandin E1 can be used alone also. However, one out of three patients report of pain in the penis following injection of prostaglandin E1. Sometimes the erection achieved by the papaverine injection fails to subside, leading to priapism. In such situations, physicians should be aware of the methods to relieve priapism. However, prostaglandin E1 is relatively free from the side effect of priapism.

If the above procedure fails, one may consider penile implant prosthesis surgery for the erectile dysfunction. Following this surgery, the pleasure at the time of orgasm and the ability to father a child remains unchanged. The types of penile implant surgeries available are listed in the **Table 2**.

Table 2: Types of Penile Implant Surgeries

	Non-inflatable	Inflatable
Appearance	Always erect	Under one's control
Comfort	Less	More
Hardness	Fixed	Adjustable
Device failure	Less	More
Surgery	Less time	More time and skill
Failure rate	Less	More
Types	Flexible	Three-piece
	Malleable	Two-piece
		One-piece
Cost	Less	More

Treatment of Orgasmic Disorders (Male)

Early Orgasm (Premature Ejaculation)

Many techniques have been used to delay orgasm. The methods commonly used may include doing mental arithmetic during the sex act, applying a local anaesthetic ointment to the glans penis prior to penetration and wearing a condom or two to decrease sensitivity. Other methods include the following:

1. Pelvic muscles exercises
2. Interrupting the flow while urination
3. Practising *Vajroli and Ashwini mudra*
4. The 'squeeze or stop-start' technique.

The author in his clinical practice found these methods good as adjuncts, but not as a mainstream treatment regime.

Paroxetine (20 mg) or clomipramine (25 mg), to be taken 4 hours and 8 hours, respectively prior to the anticipated sex act help delay climax in some individuals. Sometimes, a combination of paroxetine (10 mg) and clomipramine (10 mg), 6 hours prior to the anticipated sex act has also proved beneficial. Depoxetine (30 mg to 60 mg), 1 hour prior to coitus with a glass of water can help delay in climaxing in many individuals. This medicine has relatively fewer side effects and found to be more effective.

Delayed Orgasm (Retarded Ejaculation)

Along with supportive psychotherapy and behaviour modification, enhancing sexual arousal is the main

key of the treatment programme. Researchers have observed that diabetes may be the cause of orgasmic/ejaculatory disturbance. However, it seems to impair erectile mechanism much more frequently as compared to orgasmic mechanism. Testosterone deficiency, if present, needs to be treated and may help increase sexual arousal in cases of delayed orgasmic responses. Pubococcygeal (PC) muscle exercises may prove to be beneficial. Positions like woman's legs crossed and doggie usually prove beneficial in providing better grip and friction, leading to increased sexual arousal which help reduce delay in climaxing. Enhanced sexual arousal by any means may prove useful. Vibrating the under-surface of the glans penis by a simple body vibrator can help achieve orgasm/ejaculation.

Impaired and Absent Orgasm

Addictive drugs like brown sugar and cocaine are known to cause these dysfunctions. Hence, it is best to remain away from them. Pubococcygeal muscle exercises may prove to be beneficial. In those with vitamin B_{12} deficiency, administration of vitamin B_{12} may prove beneficial.

Treatment of Female Sexual Disorders

Vaginismus

Anxiety born out of any myths and misconceptions needs to be cleared. It needs to be emphasised that vagina is highly elastic and is capable of accommodating any size of object, be it a finger for genital examination or head of a baby during delivery. Treatment essentially comprises of supportive psychotherapy, behavioural desensitisation, PC muscle contraction and relaxation exercises and gradual insertion of user friendly vaginal dilators/trainers. Prognosis in the treatment of vaginismus is excellent. No surgery is ever required in the course of treatment.

Painful Sexual Intercourse (Dyspareunia)

There are two questions which need to be asked. First, where does it pain? At the introitus, midway (levator ani myalgia) or deep in the vagina. Second, when does it pain? Before (phobic attitude), during or after (following increased friction during coitus). In our country, inadequate lubrication because of reduced foreplay or vaginal infection is the common cause. It could also occur following post-operative scars and atrophic vulvovaginitis, common in menopausal years.

Orgasmic Disorders

Early orgasm in females has not been described hitherto. But this particular disorder needs to be treated in the same manner as one is treating the early orgasmic disorder (pre-mature ejaculation) in males. Delayed/impaired/absent orgasm in females can be best helped by increasing sexual arousal, pelvic floor muscle exercises, modifying the coital position, using a lubricant or substituting necessary diet and/or hormones (if there is a clinical and metabolic evidence of deficiency). Supportive psychotherapy and behaviour modification may prove beneficial.

Lax Vagina

This may occur following childbirth. It can be best prevented by proper management of labour with perineal support, an adequate and timely episiotomy and perinatal exercises. A lax vagina can be benefitted by Kegel's exercises. It involves contraction of the perineal muscles—a phenomenon akin to holding the urine and releasing it. Twenty such contractions and relaxations, three times a day, may help increase the muscle tone. If this does not work, one may consider vaginal reconstructive surgery.

While treating the sexual disorders, the physician needs to be comfortable with his own sexuality as well as the subject of sexuality. Human understanding, empathy and offering of adequate sex knowledge are the most powerful remedies, the value of which tends to be neglected in this modern age. Their increased application can obviate the majority of use of tranquilisers and the so called sex tonics.

SUGGESTED READING

1. Kothari P. *Sex and You*. India, Mumbai: VRP Publishers.
2. Masters WH, Johnson VE. *Human Sexual Inadequacy*. USA: Little Brown and Co; 1999.