Sexual Behaviour in Elderly : The Need to Address

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Introduction

Sexuality is an important component of emotional and physical intimacy that most men and women desire to experience throughout their lives. Although it is a fundamental driving force, human sexuality is frequently misunderstood[1]. Even among clinicians who acknowledge the relevance of addressing sexual issues in their patients, there is a general lack of understanding of the optimal approach for sexual problem identification and evaluation[1].

In line with the worldwide trend the number of older adults is notable and is growing in India. The latest data by the Ministry of Statistics and programme implementation in 2016 shows that India has a total of 103.6 million elderly and their population has risen from 5.6% to 8.6% in the last 5 decades, thus this topic which is frequently neglected in the elderly takes on particular importance.

Sexual life continues to be important in later life and the elder often view sexuality as an expression of passion, affection, admiration and loyalty .Sexual activity is a means for elder to

affirm physical functioning, to maintain a strong sense of identity and establish self-confidence[2]. Studies show that Sexual desire does not change with older age [3] and it is important for both men and women. Even in elderly women after menopause, the sexual ability does not completely disappear but it is affected by sexual dysfunction, either in oneself or in the partner [4].

Sexual functioning is a complex combination of bio-psycho-social process which is coordinated by neurological, vascular and endocrine systems and any approach to the study of human sexuality that stresses only in one dimension is counter-productive [5]. Recent studies suggest Sexual functioning are influenced by factors representing three domains: biologic (the drive), psychological (the will), social context (the wish), and interactions between them.

Sexual function and activity are closely linked with physical health, hence the understanding sexual function in the later life course is important from a medical standpoint [6]. Poor sexual function can be due to an underlying serious health condition. For example, it has been found that erectile dysfunction in men may be a marker for asymptomatic coronary artery disease. Diabetes mellitus, which has vascular effects on blood vessels, is one of the most frequent systemic disorders associated with low sexual desire and other sexual problems in aging men [7] whereas diabetic neuropathy can cause impaired sexual desire in women .Understanding the sexual behaviour may uncover protective health effects. Laumann and colleagues discovered an association between sexual well-being and happiness.[8]

Numerous prescription drugs have adverse effects on sexual functioning including antidepressants especially SSRI's(causing anorgasmia, erectile dysfunction, decreased libido) and antihypertensives (Diuretics, calcium channel blockers). Moreover adverse drug effects are reported much more frequently in the aging population than in the general population. The use of prescribed medications and the rate of adverse effects of drug therapy are consistently higher in female than male elderly populations and they influence sexual responses including desire by non-specific effects on general well-being, energy levels and mood[9].

Psychological factors (the will) are major determinants of intensity of sexual desire. Psychological factors are independently related to sexual functioning. In addition emotional and interpersonal motivation mediates the effect of sexual drive which is characterized by willingness of person to behave sexually with a given partner and can compensate for diminished

physiologic desire of sexual activity (eg as result of declining testosterone levels). Psychological condition such as depression is a risk factor for sexual dysfunction along with the medications associated with treating it.[9]

Social context (the wish) also plays a crucial role in sexual function- a role that has been neglected in medical literature. For e.g availability of a partner, intimate communication, relationship duration, characteristics of an individual's sexual partner and cultural experiences. Furthermore, Laumann et al. discovered in their analyses of the Global Study of Sexual Attitudes and Behaviours that association among subjective sexual wellbeing and physical health, mental health, sexual practices, and relationship context were consistent in a broad variety of countries from each major world region. In addition, the authors found that men reported higher levels of subjective sexual well-being regardless of sociocultural context. They also established an overall correlation between subjective sexual well-being and happiness in men and women.[8]

Despite the importance of sexual function sexual problems are highly prevalent yet frequently under-recognized and under diagnosed in clinical practice. Adequate attention to these aspects during the history taking will educate the patients regarding the complex nature of sexuality, and prepare them or understanding treatment and outcome realities. The rational selection of therapy by patients is only possible following appropriate education, including information about sexuality and all treatment options for sexual dysfunction. Although not always possible on the first visit, every effort should be made to involve the patient's sexual partner early in the therapeutic process. There are many myths (Table 1) prevailing in the society and the treating physician and collaborating specialist should possess broad knowledge about human sexuality.[10]

Table 1 : Myths associated with Elderly Sexuality[11]
• Quality of sex declines with age for both sexes.
• Erectile dysfunction is inevitable and incurable without medical treatment.
• If a man does not get an immediate erection or a woman is not sufficiently lubricated he or she is not aroused (Sexual arousal may not lead to immediate physical changes in elderly)
• If a man is no longer aroused by the mere sight of his wife he would not be able to perform.
• Female sexual desire decreases dramatically after menopause.
• Females peak in their 30s and sexual responsiveness decreases later.
• Orgasms in young age are more intense and orgasms attained through masturbation are more enjoyable.

• Sex should always end with orgasm.
• Elderly with cardiovascular morbidity should avoid sexual activity altogether.
• Only vaginal intercourse is appropriate for elderly and oral intercourse is reserved for the young.

Psychosocial factors affecting sexuality in Elderly

Marriage;

For woman availability of a sexually willing, capable and societally sanctioned sexual partner appears to be the most important factor, but problems arise as women usually outlive men. Marital status appears to be less important in men regarding sexual activity. As society is moving from double standard for men and woman these differences are narrowing. More and more older people cohabit to avoid social insecurity; therefore one should not assume older unmarried people are sexually inactive.[12]

Families;

Many traditional and joint families, particularly in rural areas fail to provide privacy to the elderly, young newly married occupying the private space. Families who do not accept the sexual needs of divorced or widowed elderly contribute to the negative feelings of the elderly about themselves. Medical and nursing staffs tendency to be judgmental about sexual needs of the elderly patients, gives the impression that this is abnormal. Total care of elderly should encompass addressing sexual feeling and the need for privacy.[13]

Remarriage;

Remarriage in late life may be even more satisfying than first marriage. Remarriage is often threatening for grown up children and throw storms of protest .Remarriage should be encouraged as loneliness may lead to despair.[14]

Education;

Education usually removes inhibition and unnecessary anxiety, and enhances communication.

Disparity in desire

Disparity in desire among couples may increase over years; difficulties arise if one content to hold hands and others have strong sexual urges.

Sexual interest

Individuals who enjoyed sex in younger years continue sexual interest when they grow older and remain sexually active in later years. Couples tend to become less inhibited and feel free to explore varying type of sexual stimulation as age advances.

Regular sexual expression

Regular sexual expression is important, especially for women. Lack of regular sexual expression and privacy correlates with a decrease interest in coitus.[15]

Family climacteric; Faulty attitude to "change in life" may affect the couples response if they consider that it implies a change of status and the level of attractiveness, and the sexual activity is inappropriate.

Women may suffer from empty nest syndrome or boredom, and have little status of their own. They may have difficulty in re-entering the profession of their own, or picking up the threads of their own lives once their children have left home. Women may link sexual capacity to maternal capacity, and loss of reproductive capacity may be difficult for some to accept, depending on what fertility has meant, and whether they have had as many, too many or too few children compared to what they wanted. Problems faced during pregnancy, infertility and contraception also have an impact.

A small number of men over 60 years also experience a syndrome called *male climacteric.* This is characterized by four or more of the following symptoms; listlessness, weight loss, poor appetite, depressed libido, loss of erectile potency, impaired ability to concentrate, weakness, easy fatigability and irritability. The differentiating and deciding factor is level of testosterone.[16]

HORMONES

Decrease in testosterone concentrations (normal 270-1100 ng/dl) are noted from the age of 50 years, at the rate of 100 ng/dl per decade and the sensitivity of androgen receptors decreases in men with age; ***however healthy aging men never become hypogonadal***. Testosterone levels in saliva of heterosexual adolescent men correlate positively with the number of times they initiated sexual contact (although whether sexual contact led to the increase in androgens needs to be confirmed). In both men and women, orgasm (induced by masturbation) increases sympathetic activation leading to an increase in heart rate, blood pressure and plasma noradrenaline levels (transiently) an increase in plasma prolactin level for 30 min in men and 60 min in women. In women, sexual arousal increases plasma luteinizing hormone and testosterone levels. The neurohormone oxytocin is also released during orgasm and reinforces pleasure.[17,18]

ILL HEALTH

Hypertension: Hypertension causes endothelial dysfunction by shear stress within the vessel wall leading to reduced vasodilation and problems with erection and vulvar /vaginal congestion.[19]

Vascular disease: 30% of men with coronary artery disease have sexual dysfunction. Women with diagnosed coronary artery disease have impairment in desire, orgasm, arousal and number of intercourse.[20]

Cerebrovascular accidents: There is significant decline in sexual functioning in stroke patients. Some studies report 20-75% of people having stroke has sexual dysfunction. Post stroke sexual dysfunction can be explained based on autonomic dysfunction, consequence of imbalance between sympathetic over activity and parasympathetic hypoactivity.[21,22]

Proctectomy: Proctectomy is usually done to treat rectal cancer in older patients. Sexual impairment is reported in both men and women after proctectomy, males report more distress even after years of surgery.[23]

Prostate illness: Lower urinary tract symptoms (LUTS) is most commonly associated with Benign prostatic hypertrophy. Lower urinary tract symptoms include urgency, frequency, hesitancy and overflow incontinence. LUTS is commonly associated with erectile and ejaculatory dysfunction.[24]

Diabetes Mellitus: Erectile dysfunction is associated with diabetes mellitus; ED is a marker of cardiovascular dysfunction. Loss of sexual desire has been proven as consequence of diabetes mellitus in both men and women.[25]

Arthritis is an inflammatory condition affecting all the joints leading to various degrees of disability. Hip and knee immobility causes difficulty in performing sexual acts. Pain, negative body image, morning stiffness and increased fatigue dampens sexual desire.[26]

Androgen deficiency and hyperprolactinemia in elderly affects all phases of sexual response cycle .[27]

Depression and antidepressant medications lead to sexual dysfunction.

EFFECTS OF AGEING ON SEXUAL RESPONSE CYCLE

The capacity to respond to sexual stimulation is effectively retained, although the intensity of physical reaction is slowly reduced in all phases of sexual response cycle. Table 2 mentions the changes in sexual response seen with aging.

Table 2: Changes in sexual response with aging

SEXUAL RESPONSE CYCLE	MALE	FEMALE
Excitement	Erection takes longer time and somewhat lost in what is called physiological impotence	Excitement phase takes longer time
Plateau	Plateau phase is extended	
Orgasm	Orgasmic phase is shortened. Ejaculation may not happen on every occasion and the volume and expulsive force and biphasic characteristics of ejaculation decline	Woman remain capable of having multiple orgasm throughout their lives without any refractory period
Resolution	Refractory period is increased	Resolution is more rapid

WOMEN

General changes when compared with the other changes in the body that are associated with diminished tone, strength and elasticity of the tissue and increased response time.

Clitoris; Tumescence is slower and reduced in clitoris and also there is clitoral head atrophy.

Labia majora; Reduction in flattening and separation

Labia minora; Reduction in thickening, expansion and colour changes

External urinary meatus; Gapes during orgasm and this may result in post coital dysuria or burning as long as 2 days, sometimes associated with urinary urgency and incontinence.

Vagina becomes shorter, narrower and has decreased ability to expand. Vaginal lubrication time is extended to 2-3 minutes in woman aged more than 40 years when compared to 30 seconds in younger woman.

MEN

Speed and intensity of vasocongestive responses are reduced. Decreased frequency of sexual activity, morning erections and nocturnal emissions.

Erections take longer and requires more direct stimulation. Penile tumescence will be slower, reduced in size and turgidity. Erection may be lost and more difficult to regain

Erection may be maintained for longer duration , however there will be decreased angle of penis, deepening of colour of glans, myotonia, elevation of testes, sex flush and preejaculatory secretion.

Ejaculation; Decrease in intensity of ejaculation**,** incidence of ejaculation, reduced or absent ejaculatory inevitability, volume force duration, expulsive contractions and awareness of orgasm. Less rectal sphincter contractions and premature ejaculation

Detumescence very rapid but longer refractory period[28]

Sexual Problems: Classification and Epidemiology

The 'Sexual Response Cycle' was described first by Masters and Johnson in 1966 as the EPOR Model (Excitement, Plateau, Orgasmic and Resolution phases) and later modified by Kaplan in 1974 into the DEOR model (Desire, Excitement , Orgasmic and Resolution phases), which became the accepted model universally. Classically, sexual inadequacy refers to some specific disruption of the 'Sexual Response Cycle' (as described by Masters and Johnson in 1970).[29,30] The clinicians initially faced the difficulty of ascertaining the threshold for sexual disorders. This difficulty was overcome by adopting a patient centered approach. Accordingly, a sexual problem is said to be present when an individual comes with difficulty in particular area of sexual functioning which may or may not be associated with behavioral, mood or cognitive symptoms. As per the DEOR model *"Sexual dysfunction is referred to a problem during any phase of the sexual response cycle that prevents the individual or couple from experiencing satisfaction from the sexual activity"*. Gender identity disorders and paraphilias should be differentiated from sexual inadequacies. 'Sex' is most commonly referred to as what an individual is biologically, whereas 'gender' is what one becomes in the social context.

DSM-5 (Diagnostic and Statistical Manual of Mental Disorders 5th Edition) released in May 2013 defines Sexual Dysfunctions as "a heterogeneous group of disorders that are typically characterized by a clinically significant `disturbance in a person's ability to respond sexually or to sexual pleasure" [31] Subtypes can be classified as Lifelong vs acquired and generalized vs situational. Other factors which may influence the symptom presentation include i) Partner's and individual vulnerability factors ii) Relationship issues iii) Psychiatric comorbidity iv) Cultural and v) General medical factors.[31]

Common Sexual Problems and Dysfunctions

Classification in psychiatry has been a topic of debate and complex area of research. Some are of the opinion that classificatory system creates artificial boundaries between different category of problems; one the best examples for the same is merging of female sexual desire disorders and arousal disorders in DSM-5. Due to its eclectic approach the International classification of mental disorders (ICD-10) has been clinically acceptable in India. The DSM classificatory system by the American Psychiatric Society has been acceptable in academic institutions due to its pointwise approach. DSM 5 highlights the fact that clinical judgement needs to be applied to

ascertain whether the sexual dysfunction is due to inadequate stimulation. DSM-5 subtypes include, lifelong which denotes that the problem has been present from the very beginning; acquired denotes that the problem started after a period of normal sexual functioning. Generalized (vs Situational) denotes that the sexual problem is present with all types of stimulation, all situations and partners. Other factors which need to be considered include: 1)Partner factors (sexual problems in the partner), 2) Relationship factors, 3) Individual vulnerability factors (poor body image), 4) Cultural or religious factors, 5) Medical factors. As per DSM 5, if the sexual problem is due to a non -sexual mental disorder (anxiety, depression), substance use, other medical condition or severe relationship distress then a sexual dysfunction diagnosis is not made. Table 3 gives a comparison of sexual dysfunctions mentioned in DSM 5 and ICD 10 Classification of Mental and Behavioral Disorders (International Classification of diseases 10th Revision) [9] Table 4 gives a brief description of sexual dysfunctions mentioned in DSM 5.

Table 3 Comparison of diagnostic categories of ICD-10 & DSM-5 of sexual disorders[9]

Disorders according to sexual cycle	ICD-10	DSM-5
Sexual desire disorders	Lack or loss of sexual desire Sexual aversion Excessive sexual drive	Male hypoactive sexual desire disorder Female sexual interest/arousal disorder
Sexual arousal Disorders	Failure of genital response	Male Erectile disorder
Orgasm disorders	Orgasmic dysfunction Lack of sexual enjoyment Premature ejaculation	Male Premature (early) ejaculation Delayed ejaculation Female Orgasmic disorder
Sexual pain disorders	Nonorganic dyspareunia Nonorganic Vaginismus	Female Genito-pelvic pain/penetration disorder
Other sexual disorders/ problems	Paraphilias Gender identity disorders Other sexual dysfunction, not caused by organic disorder or disease Unspecified sexual dysfunction, not caused by organic disorder or disease	Substance/Medication induced sexual dysfunction Other Specified Sexual Dysfunction Unspecified Sexual Dysfunction Paraphilic disorders Gender Dysphoria Gender Dysphoria in children

		Gender Dysphoria in adolescent and adults Other specified Gender Dysphoria Unspecified Gender dysphoria

Table 4 : Brief description of sexual dysfunctions mentioned in DSM 5
DSM-V (Diagnostic and Statistical Manual of Mental Disorders 5th Edition)
Delayed Ejaculation: Marked delay of ejaculation; infrequent or absence of ejaculation:* Specify- Lifelong vs Acquired; Generalized vs Situational; Mild, moderate or severe.
Erectile Disorder Marked difficulty in obtaining an erection during sexual activity or maintaining an erection during sexual activity or marked decrease in erectile rigidity:* Specify- Lifelong vs Acquired; Generalized vs Situational; Mild, moderate or severe.
Female Orgasmic Disorder Marked delay, infrequent, reduced intensity or absence of orgasm:* Specify- Lifelong vs Acquired; Generalized vs Situational; Mild, moderate or severe.
Female Sexual Interest/ Arousal Disorder# Significantly reduced or absence of sexual interest or arousal which may include any 3 of the following: (1) Absent/Reduced interest (2) Absent/reduced erotic thoughts (3) Absent/reduced initiation of sexual activity or no response to partner's attempt to initiate the same (4) Absent/Reduced sexual excitement in 75-100% encounters (5) Absent/reduced response to erotic cues (6) Absent /reduced genital or non-genital sensations during sexual activity in 75-100% encounters. Symptoms mentioned above are present for a minimum period of 6 months and cause clinically significant distress. Specify- Lifelong vs Acquired; Generalized vs Situational; Mild, moderate or severe.

Male Hypoactive Sexual Desire Disorder

Persistently deficient or absent sexual thoughts or fantasies and desire for sexual activity. The judgement is made by taking into consideration the age and socio-cultural factors. The symptoms are present for a minimum period of 6 months and cause significant distress.

Specify- Lifelong vs Acquired; Generalized vs Situational; Mild, moderate or severe.

Premature (Early) Ejaculation

Persistent or recurrent ejaculation occurring during sexual activity with partner, within 1 minute of vaginal penetration and before the individual wishes:*

This diagnosis may be applied in cases of non-vaginal sexual activities.

Specify- Lifelong vs Acquired; Generalized vs Situational; Mild, moderate or severe.

Genito-Pelvic Pain/ Penetration Disorder

Persistence of any of the following symptoms: (1)Difficulty in vaginal penetration (2)Significant pain during vaginal intercourse /penetration (3) Fear/anxiety or pain in anticipation during vaginal penetration 4) Significant contraction of pelvic floor muscles during vaginal penetration attempt.

The symptoms are present for a minimum period of 6 months and cause significant distress.

Genito-pelvic pain disorder can be further classified into (1) Lifelong vs Acquired & (2) Mild, Moderate or Severe.

Other Sexual Dysfunctions mentioned in DSM-5

Substance/Medication induced Sexual Dysfunction (Specify whether onset is during intoxication, during withdrawal or after medication use)

Other Specified Sexual Dysfunction

Unspecified Sexual Dysfunction

For making any of the above diagnosis as per DSM-5, a nonsexual mental disorder, substance abuse/ general medical cause leading to sexual dysfunction and severe relationship distress should be ruled out.

***** On almost all or greater than 75% occasions of sexual activity with a partner (in identified situations or, if generalized, in all situations), and without the individual desiring delay. The symptoms are present for a minimum period of 6 months and cause significant distress.

Sexual Dysfunctions: Epidemiology

The frequency of reporting and seeking help for sexual problems varies due to a number of factors like availability of sexual health care facility, awareness about the problem and the social and cultural factors. Geriatric sexuality literature constitutes only 0.5 % of the total publications,[32] and still very few from the developing world. Logistical issues, sexuality specific venues competing for publication and geriatric journals avoiding sexuality related topics in elderly, contributes to low research volume on geriatric sexuality.

A study done by Rao et al[33] in Suttur village in South India found that among those who are above 60 years of age and sexually active, 43.5% of the male subjects had erectile dysfunction, 10.9% premature ejaculation, 0.77% male hypoactive sexual desire disorder and 0.38% male anorgasmia. Among females the prevalence of female arousal dysfunction was found to be 28%, female hypoactive sexual desire disorder 16%, female anorgasmia 20% and dyspareunia in 8% of the female subjects. This study has concluded that sexual problems are very much common among both men and women in the older population. Among males, ED was the most common whereas arousal disorder was the most common female dysfunction noted, implicating that biology plays an important role in men, whereas psychology plays an important role in women sexual functioning.

A study done in the United States concluded that the proportion of sexually active males declined with age from 83.7% (age group 57–64 years) to 38.5% (age group 75–85 years)[34] A study of 200 healthy, 80 to 102 years olds concluded that 62% of the men still engaged in intercourse.[35] There is age related increase in erectile problems especially after 50 years of age. Different studies have found different rates of ED in the elderly. Approximately 40-50% of men older than 60-70 years have problems with erection[31]. Massachusetts Male Aging Study has documented the probability of complete ED (Erectile Dysfunction) at 15% in men aged 70 years (vs 5% in men aged 40 years).[36] The European Male Aging Study (EMAS), concluded that the prevalence of ED was higher in the old age groups, peaking in men at 70 years of age or older.[37] After the age of 60 years the rate of increase in ED is independent of comorbidities such as coronary artery disease, diabetes and hypertension.[37] After the age of 70 years the percentage of ED may climb up to 75%.[35] Approximately 41% of older men

(aged 66-74 years) have problems with sexual desire. Prevalence of premature ejaculation may increase with age. However in around 20% of men with premature ejaculation, ejaculatory latency may decrease with age. Age and length of the relationship are negatively associated with prevalence of premature ejaculation. [35] In the US, the NSHAP (National Social Life, Health, and Aging Project) study assessed sexual behavior in 1455 men aged 57–85 years.[8,39] The most common sexual problems as combined averages for the three age groups, with the percentage who were bothered by these problems (in parentheses) are as follows: lack of interest, 28% (65%); erectile dysfunction, 37% (90%); anxiety about performance, 27% (75%); and inability to climax, 27% (73%). The prevalence of all of the above disorders increased with age; however premature ejaculation, which affected 28% overall (71% of whom were bothered by the problem) was more prevalent among the lower age groups.

Table 5 highlights the different studies with sexual dysfunction in older women. The level of sexual activity was found to be stable over time in longitudinal studies. Individuals with a sexually active life at a younger age continue to be sexually active into old age.[40,41] The prevalence of FSD (Female Sexual Dysfunction) is high across cultures with the incidence increasing with age.[42] However personal distress associated with the dysfunction decreases with age. In the Women's International Study of Health and Sexuality (WISHeS) [43] HSDD (Hypoactive Sexual Desire Disorder) was associated with a less active sex life and decreased sexual and relationship satisfaction. In the PRESIDE (Prevalence of Female Sexual Problems Associated with Distress and Determinants of Treatment Seeking) study [44] the prevalence of sexual problems associated with distress in women (> 65 years of age) was as follows, Desire – 7.4%, Arousal -6%, Orgasm -5.8%. (Prevalence rates not adjusted to distress were 74.8% (Desire), 65.3% (Arousal) and 54.6% (Orgasm)) The possible reasons of low levels of distress could be attributed to significance of other medical problems in the individual or partner, change in partner status and sexual function, and increased importance of other factors in relationship of long duration. The prevalence of dyspareunia is known to increase among postmenopausal women with rates varying widely between 12% and 45% .[45] Few studies have reported that women with a surgical menopause report a higher rate of HSDD when compared to women who have had a natural menopause. Low sexual desire is associated with decreased arousal, orgasm

and pleasure. The prevalence of lack of interest in sex for women aged 50 to 59 years (in the United States) has been about 27%;[46] however in women 57–85 years of age, rates of 38% to 49% were noted. Difficulty with vaginal lubrication during sexual activity was found in 36% to 43% of women 57–85 years of age[47]

Table 5: Different studies with sexual dysfunction in older women		
Study	**Age group**	**Sexual functioning/ dysfunction**
PEPI (Post-menopausal Estrogen/Progestin Intervention) trial[43]	55 to 64 years age group	60% of women in were found to be sexually active.
Women's International Study of Health and Sexuality (WISHeS) [44]	Menopausal women aged 50-70 years	Prevalence of Hypoactive Sexual Desire Disorder (HSDD) was found to be 9%
PRESIDE STUDY (Prevalence of Female Sexual Problems Associated with Distress and Determinants of Treatment Seeking) [45]	Women above 65 years of age	Prevalence of HSDD was 74.8% (not adjusted for distress)
	Women above 65 years of age	When HSDD was adjusted for distress, the prevalence rate was only 7.4%.
	Women above 65 years of age	The prevalence of sexual problems is high: 80.1% but the prevalence of distressing sexual problems is lowest (8.9%) in this age group.

Sexual Dysfunctions: Etiology

Human sexual response is a complex biological phenomenon and is strongly influenced by interpersonal and socio-cultural factors. Generally speaking, sexual dysfunctions are multi-factorial in etiology. As mentioned, DSM-5 highlights the point that a sexual dysfunction diagnosis is not made if the problem is better explained by a nonsexual mental disorder, stressor, substance use or a general medical condition.Table-6 highlights the etiology of sexual disorders,[31] whereas table 7 and 8 mention the drugs most commonly associated with sexual dysfunction in the elderly male and female. Tricyclic antidepressants (TCAs) and selective serotonin reuptake inhibitors and MAO Inhibitors may be associated with erectile dysfunction, decreased desire and delayed ejaculation. Though seen less commonly, SSRIs, Nefazodone, Bupropion and Trazodone may be associated with spontaneous or prolonged erection. Less frequently premature/retrograde or painful ejaculation may occur due to TCAs, Nefazodone, and Trazodone . Topiramate can lead to varied sexual dysfunctions, especially anorgasmia in women and erectile dysfunction in men.[48] In postmenopausal women who are sexually active treatment for hypertension with valsartan lead to improvement in sexual functioning in some respects.

Table-6: Etiology of sexual disorders	
Partner Factors	➢Partner's sexual problems ➢Partner's poor health
Relationship Factors	➢Poor communication, lack of Intimacy ➢Discrepancy in sexual desire
Psychiatric Comorbidity (Nonsexual mental Disorder)	➢Depression, psychotic disorders, dementia ➢Anxiety, obsessive compulsive disorders
Individual factors	➢Poor body image
Sociocultural and religious factors	➢Certain cultures consider sex as appropriate only for the young ➢Various myths associated with elderly sexuality
Medical Factors	➢Cardiovascular comorbidity, neurological disorders, infections, malignancies, endocrinal disorders ➢Pelvic nerve damage, Diabetes, traumatic surgical injury ➢Drugs
Substance Abuse	➢Alcohol, smoking

Table 7: Common Drugs associated with male sexual dysfunction and alternative safer drugs available		
Drugs	**Associated Dysfunction**	**Notes for alternative safer drugs**
First generation antipsychotics,[49] many second generation antipsychotics	Erectile Dysfunction, Multiple phases of sexual function	Quetiapine and Aripriprazole have minimal side effects and don't lead to prolactin elevation
Tricyclic Antidepressants, SSRIs (Selective Serotonin Reuptake Inhibitors)[50] Benzodiazepines Alcohol, Ketoconazole, Phenobarbital, Phenytoin	Erectile Dysfunction Decreased Libido Ejaculatory Dysfunction	Among Antidepressants Bupropion, Mirtazapine, Duloxetine and Nefazodone have minimal side effects.[51]
Antihypertensives (diuretics : hydrochlorothiazide , sympatholytics : Clonidine, nonselective beta blockers, alpha blockers) Antiandrogenic Drugs (Digoxin, Histamine H2 receptor blockers	Erectile Dysfunction Decreased Libido Ejaculatory Dysfunction	ACE (Angiotensin Converting Enzyme) inhibitors like Ramipril, ARBs (Angiotensin Receptor II blockers) like Losartan and Calcium channel blockers (Amlodipine, Diltiazem, Verapamil) are neutral towards sexual functioning.[20]

Table 8: Common Drugs associated with female sexual dysfunction	
Decreased Libido	Antihypertensive medications: (Diuretics, Sympatholytics, Central agents :Methyldopa , clonidine: alpha blockers, Beta blockers , Calcium Channel Blockers) Antidepressants (MAO Inhibitors; SSRIs) Benzodiazepines
Drugs causing problems with orgasm	Antihypertensives (Central agents :Methyldopa , Clonidine) Antipsychotic agents Antidepressants (MAO inhibitors, SSRIs) H2 receptor blockers
Decreased Desire	Antipsychotics, Zolpidem, Lithium Histamine H2-receptor blockers Ketoconazole, Phenobarbital, Phenytoin Oral contraceptives Note: Buspirone and Tricyclic Antidepressants may lead to increased sexual desire.
Dyspareunia	Antidepressants Antipsychotics

Management of Sexual Inadequacies

Diagnostic workup

As in all psychiatric interviews one needs to develop rapport in an accepting atmosphere with a non-judgmental attitude. Sexual history needs to be more structured, though areas of concern for the patient should be explored positively. Both recent and early sexual histories need to be noted. The current sexual complaints, life stresses, sexual practices, contraceptive use, partners, relationship problems, sexual fantasies, masturbatory history, extramarital affairs and commitment to partner should be enquired into. If married courtship period, honeymoon and reproductive history should be looked into. Mutual physical attraction, temporary separation and the effect of children on couple's sexual life should be noted. Changes in sexual functioning and frequency and quality of sexual interactions with age should be detailed. The partner's contribution to the present distress, life style factors, psychiatric history including history of substance abuse should be ascertained. The patient's self-image as a sexual being through childhood and adolescence and people who contributed to patient's sexual education and identity needs to be detailed. Any history of group sex, homosexual encounters and abortions should be considered and enquired. Sexual orientation of the patient, any high risk sexual behaviour and sexual abuse history should be kept in mind. Regardless of sexual orientation, each phase of the sexual response cycle applies equally to both heterosexual and homosexual partners and methods and principles of treatment are similar.[52] Table 9 highlights the points to be considered for taking a sexual history; [53] whereas table 10 describes the assessment of current sexual functioning in males and females.

Table 9- Taking a Sexual History[53]	
Individual's Identifying Data	Name, Age, Sex, Occupation, Relationship status (single, married, previous marriages, separated, divorced, cohabiting), sexual orientation
Current sexual functioning	Satisfactory or not Sexual dysfunctions (Onset-lifelong or acquired /Generalized/Situational-in a particular situation or only with the current partner or only during masturbation) Frequency (decreased in elderly), Desire/Libido (How frequently Sexual fantasies are experienced) Sexual Interaction Description (Initiation, foreplay, coital positions, verbalization, afterplay, feelings post sexual activity Any compulsivity related to sex
Past Sexual History	Childhood and Adolescent sexuality/ sexual activities Adult Sexual activities including premarital sex and Marriage(marital and extra marital sex)
Psychosocial History	Sexual myths, Sociocultural factors
Psychiatric & Medical History	Depression, Psychotic illness, Cardiovascular comorbidity, Diabetes, Neurological problems, Drugs
Other important issues	Sexual or Physical abuse, Gender Identity conflict, Paraphilias

Table 10- Assessment of current sexual functioning in males and females	
Current Sexual Functioning (Males)	**Current Sexual Functioning (Females)**
Libido/Interest: Do you remain interested in sexual activity? Whether you dream/fantasize about sex? How easily are you aroused? Do you enjoy sexual activity? How strong is your sex drive?	**Libido/Interest:** Do you remain interested in sexual activity? Whether you dream/fantasize about sex? Do you enjoy sexual activity? How easily are you aroused?
Arousal and Performance: When was the last time you got a satisfactory erection which can be maintained? Was the Onset of the problem- Gradual/Sudden? Sexual stimulation and time required for erection? Whether it can be maintained? Whether you need to concentrate in maintaining an erection? Loss of erection before penetration? Pain during erection? Situation/partner specific erectile problems? Difficulty with certain sexual positions?	**Arousal and Performance:** Subjective excitement during intercourse? Moistening of Vagina? **Orgasm/Satisfaction:** Do you achieve orgasm during sexual activity? Whether orgasm is delayed/ absent? frequency? Do you get adequate stimulation during sexual activity? Stimulation during masturbation/ mutual masturbation? Trust on partner or any associated fears?
Ejaculation/orgasm Whether you ejaculate during sex / masturbation? How long do you take to ejaculate? Do you ejaculate before you or your partner wants to? Frequency? Reaction of partner? Is your ejaculation delayed? Frequency? Do you have pain during ejaculation? Do you reach Orgasm? Frequency? Is your partner satisfied?	**Pain/Vaginismus** Where and when does the pain occur? During partial/deep penetration, thrusting, ejaculation, withdrawal, during micturition? Describe the pain. Tensing of body during partner's attempt? Your thoughts and feelings at that time? Pain during other forms of penetration (finger)? Pain while bicycling or wearing tight clothes? Do you feel the tensing of pelvic floor muscles during sexual activity/other acts? Do you have a drying up feel of the vagina?

A number of questionnaires are helpful in evaluating the sexual behavior in elderly. The PRESIDE study used Changes in Sexual Functioning Questionnaire (CSFQ) to assess current sexual behaviors and problems, and Female Sexual Distress Scale (FSDS) to assess women's feelings associated with distress about her sex life. FSDS assesses guilt, frustration, worry, anger, embarrassment and unhappiness related to the sexual problem. A five question diagnostic screening tool for HSDD has been validated- the Decreased Sexual Desire Screener (DSDS)- which can be easily used by clinicians without training in sexual health. Sexual Function Questionnaire (SFQ) has been used to assess Female Sexual Arousal Disorder.[54] The critical factor in making this diagnosis is that there must be lack or delay of orgasm following a normal excitement phase. Data indicates that unlike men, women find it easier to orgasm as they age, which seems to be related to increased sexual experience.

Careful history taking should be followed by a physical examination in all the cases after obtaining consent and maintaining privacy. Rule out organic disease and make a note of any contributing general medical illness. Laboratory studies should include urine analysis, blood tests for complete blood count, kidney and liver function tests, lipid profile, fasting blood sugar, thyroid function, other endocrinal tests and Lab tests related to general medical illness if any. Nocturnal penile tumescence, Intracavernous pharmacologic injection using a vasodilating agent like Papaverine, Duplex color ultrasonography, dynamic infusion pharmacocavernosometry and cavernosography, pharmacologic pelvic penile angiography are the other tests in some selected cases and depends on what procedure is being planned . It is necessary to understand relationship difficulties among the couple, whether partner is sympathetic or not sympathetic towards the problem, their expectation and motivation for treatment. Differentiating features between organic and psychogenic sexual dysfunction need to be established well before the active management as mentioned in table 11.

Table11: Differentiating features between organic and psychogenic sexual dysfunction[9]		
Parameters	Psychogenic	Organic
Onset of disorder	Situational	Insidious
Precipitating event	Psychogenic condition	Debilitating disease, vascular insufficiency or CNS abnormality, penile trauma or interfering drugs
Erectile response to other sexual stimuli	Usually present	Usually absent
Nocturnal or morning erections	Initially present and full, lost in longstanding Dysfunction	Absent or reduced in frequency and intensity
Course of disorder	Episodic or transient loss of erection	Persistent and progressive erectile Dysfunction
Associated ejaculatory disorder	Premature ejaculation and intermittent loss of Ejaculation	Retrograde or absent ejaculation

Psychotherapeutic Intervention

Sex therapy as it is referred to today is essentially a modified form of the original therapy (as founded by Masters and Johnson in 1970) and follows a brief, problem focused, and behavioral approach. Based on classic psychodynamic theories, resolution of early developmental conflicts, acceptance of sexual impulses to the ego and resolution of the problem was the main focus. The 'new' sex therapy focuses on relief of immediate symptoms and acts as a bridge between the psychoanalytic and behavioral approaches. Psychodynamic approaches are only used if the initial behavioral techniques do not produce symptom relief.

As elaborated by Masters and Johnson in 1970, sex therapy (dual sex therapy) ideally includes involvement of both the partners. Anatomy and physiology of sexual function are explained in brief and doubts are cleared. Therapy emphasizes that there is no use blaming one's partner or oneself, and sex is a mutual act between two individuals. Interpersonal communication at a highly intimate level and enhanced social communication benefits the relationship. Education, heightening sensory awareness and sensate focus exercises are taught to the couple. Behavioral

exercises include sensate focus (non-demand pleasuring), to allow the individual to re-experience pleasure without any pressure of performance or self-monitoring. The assessment and treatment need to be tailored depending upon one's setting, profession, specialty and most important of all, the type of the problem encountered in the client, wherein different approaches may be helpful.[53]

Behavioral techniques

Sexual dysfunction is considered as a maladaptive behavior by behavioral therapists. Using a hierarchy of anxiety provoking sexual interactions the client systematically desensitized. Different approaches include Masters and Johnson's approach, Kaplan's approach and the PLISSIT MODEL with some variations in the treatment process. Annon (1974) proposed a graded intervention popularly called as PLISSIT MODEL wherein the individual letters stand for: P: Permission giving, LI: Limited information, SS: Specific suggestion and IT: Intensive Sex Therapy.[55,56]

Permission giving: In the first phase the client is assured that their thoughts, feelings, fantasies and behaviors are normal till they are not affecting the partner in a negative manner. In **'Limited Information'** phase the client is given information related to his or her sexual problem. In **'Specific Suggestion'** behavioral exercises like start- stop technique, 'sensate focus' are taught and home-work assignments are given. These help in improved communication between the couple and in learning new arousal behaviors. **Intensive therapy** is considered if the first three fail. Here insight oriented and psychosexual approaches are taken to make the client aware of their feelings. Sex therapy involves primarily Sensitization, desensitization techniques. The general principles are applicable to majority of the inadequacies encountered in clinical practice. The major guide-lines to be followed are (i) Educating the couple (ii) Setting the framework for the therapy (iii) Proscribe sex (iv) Sensate focus exercises (v) Systematic Sensitization & Desensitization: The couple is advised to talk on issues bothering them in a nonjudgmental way, encourage partners to see, hear and understand each other's perception and teach verbal and nonverbal communication skills, in general and during sexual activity, in particular.[57,58,59]

Other Therapies

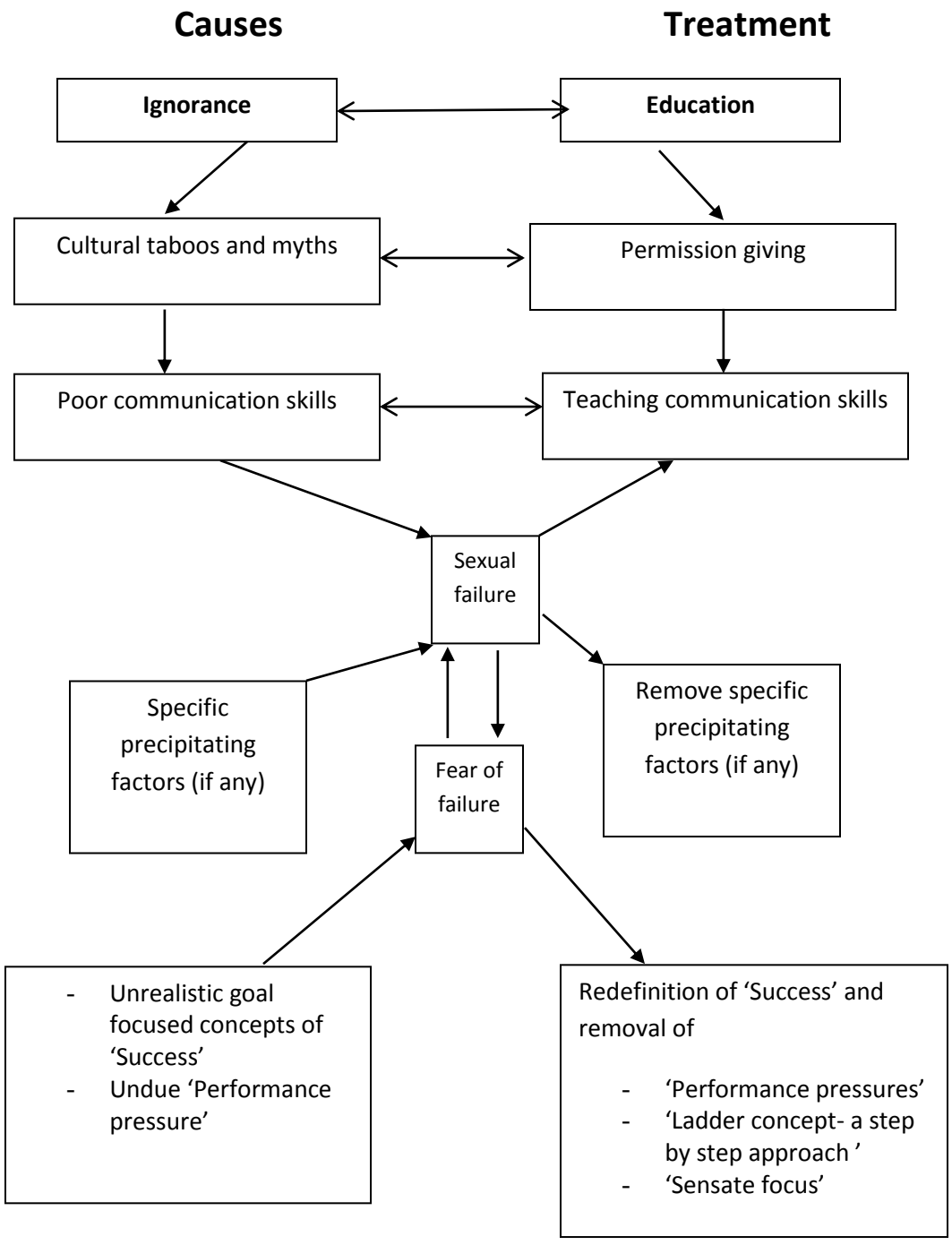
Couple Therapy: In couple and family therapy, (also known as marital therapy and family counselling) the therapist works with families and couples in intimate relationships, regardless

of whether the client considers it to be an individual or family issue. In eclectic approach the therapist uses a theoretical concept which leads to improvement of a couple's relationship. Ideally, in marital therapy both partners are counselled together. It is important to first ascertain whether love and concern exists for each other. Communication pattern between the couple and the power structure of their relationship needs to be ascertained. The therapist could by exaggeration highlight the method of relating to each other in a couple and their communicative pattern. The therapist by modelling demonstrates methods like genuine listening, encouraging and empathizing by which love and tenderness can be can be expressed.[52,53]

Emotions focused Couples Therapy is a short term intervention to reduce distress in adult love relationships and create more secure attachment bonds.[54]

Behavioral Marital Therapy is a skill oriented approach emphasizing that couples need basic skills and understanding of relationship interactions to improve their marriages. The focus is the current marital relationship and improving positive communication.[55]

Cognitive Behavioral Couple therapy grew as an extension of Behavioral Couple Therapy. It is based on the concept that relationship distress includes cognitive, behavioral and affective components that influence each other.[56]



Causes & Management of sexual problems

Pharmacotherapy for sexual dysfunction

Nitric oxide enhancers:

These drugs improve inflow of blood into the penis and improve erection. First drug developed in this class was sildenafil citrate. It acts on the nitric oxide mechanism by blocking PDE - 5 (Phosphodiesterase-5) enzyme. It is the first approved non-surgical treatment for erectile dysfunction and was approved by US Food and Drug Administration (US-FDA) in 1998 for prescription sale. It is rapidly absorbed after oral administration and has to be taken one hour before sexual activity which is the time required for peak plasma concentrations to be reached and the effect may last for upto 4 hours. The starting dose should be used on atleast four occasions to precisely access the efficacy and tolerability. If a satisfactory sexual performance is not achieved, the dose should be increased to the next higher level. Studies have clearly demonstrated that there is a dose-response curve with sildenafil and the best results are obtained upto a maximum dose of 100mg. However sildenafil has been used as a salvage therapy for severe erectile dysfunction at a maximum dose of 200 mg, but the incidence of side effects and discontinuation rates increase considerably. Very recent studies have reported that sildenafil does not worsen the cardiac profile of patients with Ischaemic heart disease, undergoing stress exercises. Sildenafil increases the time to developing symptoms of angina in symptomatic patients with Ischaemic heart disease undergoing a treadmill test. Sildenafil does not cause coronary steal or reflex tachycardia. For patients who experience an acute myocardial ischemia and who have taken sildenafil in the last 24 hours, administration of nitrates should be avoided. The American College of Cardiology and the American Heart Association have published recommendations for the use of sildenafil in patients with cardiac risk. Sildenafil should be used with caution in individuals maintained on multiple Antihypertensive drugs. Adverse effects with sildenafil are dose dependent. Common adverse effects are headache (most common), flushing, rhinitis and visual disturbance changes in the perception of colour, hue or brightness. The adverse effects are usually mild and transient, lasting a few minutes to a few hours after drug administration. It is contraindicated in patients on concurrent organic nitrates. This is because it potentiates the hypotensive action of such drugs through its effects on nitric oxide/c-GMP mechanisms. It should be used with caution in persons with anatomical deformities of the penis (e.g. Angulation, Cavernosal fibrosis, Peyronie's disease), and in patients at risk for Priapism (e.g

patients with Sickle Cell anemia, Multiple Myeloma, Leukemia, Bleeding Disorders, Retinitis Pigmentosa). Rare side effect reported is Nonarteritic Ischemic Optic Neuropathy (NAION). Recent studies have reported that metformin and pioglitazone used in diabetes enhance the effect of Sildenafil in treating ED. [60,61] Various PDE-5 inhibitors have been compared in table 12. A a long-acting PDE5 inhibitor should be considered for elderly men who frequently have sexual intercourse in the morning after waking up and patients who anticipate frequent sexual intercourse. Udenafil has clinical properties of both relatively rapid onset and long duration of action though it is not available in India.[62]

Table 12: COMPARISON OF PDE-5 INHIBITORS[9]

	Sildenafil	Vardenafil	Tadalafil	Udenafil
Time to maximum plasma concentration (T max) in minutes	30-120 (median 60)	30-120 (median 60)	30–360 (median 120)	60 to 90
Half‑life in hours	2.6 to 3.7	3.9	17.5	11–13
Plasma protein binding	96%	94%	94%	---
Bioavailability	41%	15%	Not known	38% (studied in rats)
Onset of action in minutes	15‑60	25	16‑45	Onset of action is comparable with Sildenafil and Vardenafil
Duration of action	4	4	36	
Absorption	Fatty meals cause a mean delay in Cmax of 60 minutes	Fatty meals cause a reduction in Cmax	Not affected by food	Overall bioavailability not affected by food. Fatty meals cause a reduction in Cmax
Dose adjustments required	Patients >65 years old • Hepatic impairment • Renal impairment • Concomitant use of potent	Patients >65 years old • Hepatic impairment • Renal impairment • Concomitant use of	• Patients >65 years old • Hepatic impairment • Renal impairment • Concomitant use of	Concomitant use of potent cytochrome P450 3A4 inhibitors, such as Ketoconazole,

	cytochrome P450 3A4 inhibitors, such as Ketoconazole, Itraconazole, Erythromycin, Clarithromycin, HIV Protease Inhibitors (Ritonavir and Saquinavir) • Concomitant use of Rifampicin, Phenobarbital, Phenytoin and Carbamazepine, may induce CYP3A4 and enhance the breakdown Concomitant use of cimetidine	potent cytochrome P450 3A4 inhibitors, such as Ketoconazole, Itraconazole, Erythromycin, Clarithromycin, HIV Protease Inhibitors (Ritonavir and Saquinavir) • Concomitant use of Rifampicin, Phenobarbital, Phenytoin and Carbamazepine, may induce CYP3A4 and enhance the breakdown	potent cytochrome P450 3A4 inhibitors, such as Ketoconazole, Itraconazole, Erythromycin, Clarithromycin, HIV protease inhibitors (Ritonavir and Saquinavir) • Concomitant use of Rifampicin, Phenobarbital, Phenytoin and Carbamazepine, may induce CYP3A4 and enhance the breakdown	Itraconazole, Erythromycin, Clarithromycin, HIV protease inhibitors (Ritonavir and Saquinavir) • Concomitant use of Rifampicin, Phenobarbital, Phenytoin and Carbamazepine, may induce CYP3A4 and enhance the breakdown
Contraindication	Patients receiving organic nitrates either regularly or intermittently Hypersensitivity to any component of the tablet	Patients receiving organic nitrates either regularly or intermittently Hypersensitivity to any component of the tablet	Any patient using organic nitrates either regularly or intermittently Hyper-sensitivity to any component of the tablet	Any patient using organic nitrates either regularly or intermittently Hyper-sensitivity to any component of the tablet
Side effects	Headache Flushing Dyspepsia Nasal congestion Alteration in colour vision	Headache Flushing Rhinitis Dyspepsia Sinusitis	Headache Dyspepsia Back pain Myalgia Nasal congestion	Stomach discomfort, flushing, Headache, and Nasal congestion, Blurred vision
Recommended time between medication intake and intercourse	1 hour	1 hour	1 to 12 hours	1 to 12 hours

Oral Phentolamine and Apomorphine are helpful as potency enhancers in minimal erectile dysfunction. Apomorphine effects are mediated through the autonomic nervous system causing arterial vasodilation and has[63] dopamine receptor stimulating effect. Phentolamine decreases sympathetic stimulation and relaxes corporeal smooth muscle. Smooth Muscle relaxants like Papaverine, Phentolamine, Phenoxybenzamine are used in ICIVAD (Intracavernosal injection of vasoactive drugs) techniques for ED; Prostaglandin E (Alprostadil) through injection or through intraurethral [64,65,66] insertion is an effective agent for ED. to improve erectile function in animal studies and is likely to be studied on humans 52 in near future. A topical cream containing 3 vasoactive agents: Aminophylline, Isosorbide dinitrate and Co-dergocrine mesylate with or without Alprostadil is helpful in ED. An Alprostadil cream and vaginally applied Phentolamine are helpful for female sexual arousal disorder. Yohimbine is a central Alpha 2 adrenoreceptor blocker and increases sympathetic drive. Its effectiveness is doubtful in ED. Horny Goat weed (Epimedium) has been used as a traditional remedy for ED in China. Trazodone, an antidepressant acts by inhibiting serotonin uptake and also by influencing alpha adrenergic and dopaminergic function. Results are [64,65] inconsistent in erectile disorders.

Pharmacotherapy of premature ejaculation includes judicious use of tricyclic antidepressants, SSRIs and certain topical [66] therapies.

Hormonal therapies:

Testosterone is definitively effective only in case of hypogonadism. It can increase the desire but has no effect on erectile functioning. Female low sex drive and anorgasmia can be tried under careful monitoring. Hormone Replacement Therapy (HRT) with estrogen in case of menopausal women as vaginal function, particularly lubrication is determined by them. Hyperprolactinaemia is treated by administration of dopaminergic drugs like bromocriptine.

Other drugs:

Naltrexone, an opiate antagonist, can antagonize the [67] inhibition of sexual functions. Aswagandha, Shathavari, Korean red ginseng are helpful in enhancing sexual functioning in both males and females. Aswagandha (Indian ginseng) enhances sexual desire in men. Shathavari (*Asparagus racemosus*), a creeper which grows in low jungle areas throughout India is

considered to be the women's equivalent to Ashwagandha and enhances female sexual functioning.Some of the traditional herbal medicines used in medieval Persia, have been shown to be helpful in ED by relatively recent research. These include ginger (*Zingiber officinale*), almond (*Amygdalus communis*), spice commonly known as 'grains of paradise; Melegueta pepper' (*Aframomum melegueta*), and certain brassica species and seed of garden cress (Lepidium spp).[67-73] Saffron (30 mg/day) has been shown to improve sexual function (arousal, lubrication and pain domain) in females with 63 SSRI induced sexual dysfunction.[74] Snacking on pistachio nuts, 100 gm/day for 3 weeks, has been shown to improve erectile dysfunction.[75]

Flibanserin (Trade name-Addyi; now available in India by the name Fliban by Hindustan Unilever) is a medication approved by US-FDA for the treatment of pre-menopausal women with hypoactive sexual desire disorder (HSDD)[76].

In some selected cases when psychotherapy, behaviour techniques and drugs fail or seen to be not very effective, vacuum devises, injections and implants, vibrators are found to be relatively effective. Ultimately, the success of sex therapy depends on a host of factors. Therapy duration ranges from 6 weeks to more than a year in occasional cases. Sexual dysfunctions respond to treatment better compared to gender identify disorders and paraphilias, which are very resistant to therapy. More than half of the cases of erectile dysfunction and almost all the cases of premature ejaculation respond to combination of therapies.[77]

Gender Identity disorder / Gender Dysphoria

Although much has been written on diagnosis of gender dysphoria, emphasis has always been on younger individuals. While several researchers have alluded to the problems of the aging gender dysphoric patient the relationship between diagnosis and treatment has been neglected. As more older gender dysphoric patients request sex-reassignment surgery, there will be increasing demands for differential diagnoses and treatment strategies. Correct diagnosis is especially crucial since life stresses may lead some transvestites to clinically present as transsexuals desiring sex-reassignment surgery.[78]

Sexual Variations, Paraphilia and Paraphilic Disorders

Sexual variations are very common in almost all age groups and elderly are no exception. The term 'deviation' refers to the existence of a norm and the deviation takes place. In sexuality no such norm exists, as standard varies from time to time, place to place and epoch to epoch and culture to culture. Homosexuality has gradually come to be considered as a variation of sexual activity rather than deviation. However, one may encounter issues related to them in the Indian context in the elderly and there is need to attend to them with utmost sensitivity.

The term *paraphilia* denotes a persistent sexual interest other than sexual interest in genital stimulation with phenotypically normal, mature and consenting human partners. These may include the person's erotic activities or targets. Previously considered perversions implying sexually arousing fantasies, activities and gratification other than by willing genital intercourse between partners and a departure from the cultural norm. Normal sexual relationship implies activities which are acceptable and pleasurable to both the partners without the degradation, exploitation or distress to either of them. Contrary to the long held belief many paraphilic behaviours are predominantly male, does not involve offences and practices remain intensely private. DSM 5 recognizes and differentiates innocuous paraphilic behaviours from paraphilic disorders. A paraphilic disorder is a paraphilia causing distress to the individual with or without risk of harm to self or others. Example persistent interest in whipping or strangulating another person. A paraphilia is a necessary but not the only condition for diagnosing a paraphilic disorder. Among elderly they may represent some other primary cause and ruling out dementia, mood disorders and personality disorders is a must. Sexually inappropriate conduct often accompanies the disinhibition associated with dementia and neuropsychologic deficits.[79] A detail evaluation is mandatory. The treatment involves medications, behaviour modification therapies, family and psychotherapy and where necessary sex therapy like reinforcement of socially acceptable sexual function and management of erectile and ejaculatory impairment.[80]

CONCLUSION

Conclusions:

A. Quality of Life

1. Aging typically entails some degree of change in men's and women's capacities for sexual performance from strictly physiological standpoint, yet research data suggests that an equal number of people in late life find sex satisfying, if not more so, than in their youth.

2. It is important to recognize that older people are at risk of several health-related, psychosocial, environmental circumstances that can hinder sexual expression and functioning. Although some of these barriers cannot be prevented entirely, education, advocacy and effective coping strategies can soften their impact considerably.

3. An understanding of the sexual changes that accompany normal aging may help physicians give patients realistic and encouraging advice on sexuality. Although it is important that older men and women do not fall into the psychosocial trap of expecting (or worse, trying to force) the kind and degree of sexual response characteristic of their youth, it is equally as important that they not fall prey to the negative folklore according to which decreased physical intimacy is an inevitable consequence of the passage of time.

4. Early adoption of healthy lifestyles may be the best approach to reducing the burden of erectile and other sexual dysfunctions on the health and wellbeing of elderly.[81]

B. Sexual Rights

Sexual rights embrace human rights that are already recognized in international human rights documents and other consensus statements and they include the right of all persons, free of coercion, discrimination and violence, to the highest attainable standard of sexual health, including access to sexual and reproductive health care services. [81]

C. **Guiding Principles for Affirmative Action propounded by WHO implies** Affirmative approach to sexuality, Autonomy and self-determination and responsiveness to changing needs, Comprehensive understanding of sexuality, Confidentiality and privacy, Advocacy and Equity, Non-judgemental and Accessible services and programmes to the edlderly. [82]

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