INTRODUCTION

Sexual dysfunction is a major healthcare issue and therefore it deserves attention, consideration, proper investigation, and appropriate treatment. The purpose of these guidelines is to present a framework for the evaluation, treatment, and follow-up of the patient/couple, who presents with sexual dysfunction. These guidelines also discuss the cause and the available treatments to recognize and rectify disorders of sexual functioning. These guidelines address the complexity involved in diagnosing the various aspects of the disorder and offer an organized system of care for the couple. The guidelines are evidence based, to a large extent. We hope that these guidelines would help in facilitating proper management and avoiding unnecessary expense and inconvenience.

Sexual problems are highly prevalent in men and women, yet frequently under-recognized and under-diagnosed in clinical practice. 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 (Hatzichristou, 2004). It is important to understand that sexual functioning is a complex bio-psycho-social process, coordinated by the neurological, vascular and endocrine systems. While evaluating sexual functioning of an individual it is important to incorporate family, societal and religious beliefs, health status, personal experience, ethnicity and socio-demographic conditions, and psychological status of the person/couple. In addition, sexual activity incorporates interpersonal relationships, each partner bringing unique attitudes, needs and responses into the coupling. A breakdown in any of these areas may lead to sexual dysfunction.

Problems of sexual dysfunction may be lifelong or acquired, general or situational. Adequate attention to these aspects during the history-taking will educate the often-uninformed patient regarding the complex nature of sexuality, and prepare him for 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/erectile 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. The treating physician and collaborating specialists should possess broad knowledge about human sexuality.

The essential concepts underlying the management of sexual problems are adoption of a patient-centered framework for evaluation and treatment, application of the principles of evidence-based medicine in diagnostic and treatment planning and adoption of common management approaches for sexual dysfunction in both men and women.

CLASSIFICATION OF SEXUAL DISORDERS

An adult’s sexuality has seven components: gender identity, orientation, intention (what one wants to do with the partner’s body and have done with one’s body during sexual behaviour), desire, arousal, orgasm and emotional satisfaction (Levine, 1989). The first three components constitute our sexual identity and the next three comprise our sexual function. The seventh component of emotional satisfaction is based on personal reflections on the first six components. Accordingly, sexual disorders are often classified into three groups: Sexual dysfunctions (problem of phases of sexual functioning),
paraphilias (problem of intention) and gender identity disorders (problem of identity). Problems of sexual orientation, i.e. homosexuality are not included in the nosological systems.

Sexual dysfunctions

Masters and Johnson (1966) first characterized the sexual response cycle as consisting of four successive phases: excitement, plateau, orgasmic, and resolution (EPOR model). Later on Kaplan (1974) found that many of her female patients professed that they have no desire to be sexually aroused, even by their partners. Following this she proposed that the sexual cycle consist of four successive phases, viz., desire, excitement (arousal), orgasm and resolution (DEOR model), which later on became an accepted model. Later on this model formed the basis of classification of sexual disorders. Accordingly, “Sexual dysfunction was 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”.

According to DSM-IVTR, the category of sexual dysfunctions is further sub-divided into 4 categories: (1) primary, (2) general medical condition-related, (3) substance-induced, and (4) not otherwise specified. The advantage of the above classification is that all sexual function disorders are grouped together, notwithstanding their etiology. Each of the 4 DSM-IVTR categories has disorders in all 3 sexual phases. Further DSM-IV required that the disturbance in sexual desire or in the psychophysiological changes that characterize the sexual response cycle must cause marked distress and/or interpersonal difficulty before it can be termed a disorder. DSM-IV also describes subtypes of various sexual dysfunctions to indicate the onset, context and etiological factor associated with the disorder (Table-1). Further as per DSM-IV, if multiple sexual dysfunctions are present, the appropriate subtype of each may be noted.

According to ICD-10 sexual dysfunction refers to a person's inability to "participate in a sexual relationship as he or she would wish". Compared to DSM-IVTR, ICD-10 doesn't try to describe various sexual dysfunctions according to various phases of sexual cycle. ICD-10 describes various categories of sexual dysfunctions under the broad heading of “Sexual dysfunction, not caused by organic disorder or diseases”. The various categories included are Lack or loss of sexual desire, Sexual aversion and lack of sexual enjoyment, Failure of genital response, Orgasmic dysfunction, Premature ejaculation . Nonorganic vaginismus, Nonorganic dyspareunia, Excessive sexual drive, Other sexual dysfunction, not caused by organic disorder or disease and Unspecified sexual dysfunction, not caused by organic disorder or disease. Table-2 gives comparison of sexual dysfunctions as conceptualized in the versions of DSM-IVTR and ICD-10.

Various authors have criticized ICD-10 classification for not being specific about the phases of the sexual response cycle at places. For example, ICD-10 describes a disorder as a “failure of genital response.” According to various authors this description is rather confusing. Without consulting the criteria set, it is not clear if the genital response in question is the response during the phase of sexual arousal (genital vasocongestion and, therefore, erection and lubrication) or during the orgasmic phase (involuntary contractions of all kinds of muscle groups).

But it is important to remember that the accepted diagnostic categories for sexual dysfunction described in ICD-10 and DSM-IVTR do not reflect the reality of sexual dysfunctions in the clinical setting. When these classifications are used it must be remembered that sexual dysfunctions are not all or nothing phenomena but occur on a continuum both in terms of frequency and severity. With our current knowledge, any cut off is inevitably arbitrary. It is also rarely possible to identify cases with a purely organic or purely psychogenic aetiology. Indeed, with growing knowledge of psychoneuropharmacology and endocrinology, the distinction between organic and psychogenic is increasingly becoming blurred. Another important aspect to remember is that comorbidity of sexual dysfunctions is common. For example, nearly half of men with low sexual desire have another sexual dysfunction, and 20% of men with erectile dysfunction have low sexual desire.

(145)
### Table-1: Subtypes of sexual dysfunctions according to DSM-IV

<table>
<thead>
<tr>
<th>Onset</th>
<th>Lifelong: present since the onset of sexual functioning</th>
<th>Acquired: develops after a period of normal functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>Generalized: not limited to certain types of stimulation, situation or partner</td>
<td>Situational: limited to certain types of stimulation, situation or partner</td>
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<tr>
<td>etiology</td>
<td>Due to psychological factors: when psychological factors have a major role in the onset, severity, exacerbation or maintenance of the sexual dysfunction</td>
<td>Due to combined factors: when psychological factors and general medical condition or substance use is also judged to be contributory</td>
</tr>
</tbody>
</table>

### Table-2: Comparison of diagnostic categories of ICD-10 & DSM-IVTR of sexual disorders

<table>
<thead>
<tr>
<th>Disorders according to sexual cycle</th>
<th>ICD-10</th>
<th>DSM-IVTR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual desire disorders</td>
<td>• Lack or loss of sexual desire</td>
<td>• Diminished sexual desire</td>
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<tr>
<td></td>
<td>• Sexual aversion</td>
<td>• Sexual aversion</td>
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<td></td>
<td>• Excessive sexual drive</td>
<td>• Excessive sexual drive</td>
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<tr>
<td>Sexual arousal disorders</td>
<td>• Failure of genital response</td>
<td>• Genital arousal disorders</td>
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<tr>
<td></td>
<td>• Orgasmic dysfunction</td>
<td>• Sexual excitement disorders</td>
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<td></td>
<td>• Lack of sexual enjoyment</td>
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<tr>
<td>Orgasm disorders</td>
<td>• Premature ejaculation</td>
<td>• Orgasmic disorder</td>
</tr>
<tr>
<td></td>
<td>• Nonorganic dyspareunia</td>
<td>• Anhedonic orgasm</td>
</tr>
<tr>
<td></td>
<td>• Nonorganic Vaginismus</td>
<td>• Premature orgasm</td>
</tr>
<tr>
<td></td>
<td>• Paraphilias</td>
<td>• Ejaculation disorders</td>
</tr>
<tr>
<td></td>
<td>• Gender identity disorders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Other sexual dysfunction, not caused by organic disorder or disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Unspecified sexual dysfunction, not caused by organic disorder or disease</td>
<td></td>
</tr>
<tr>
<td>Sexual pain disorders</td>
<td>• Dyspareunia</td>
<td></td>
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<tr>
<td></td>
<td>• Vaginismus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sexual dysfunction due to general medical condition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Substance induced sexual dysfunction</td>
<td></td>
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<tr>
<td></td>
<td>• Sexual dysfunction not otherwise specified</td>
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</tr>
<tr>
<td></td>
<td>• Paraphilias</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gender identity disorders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sexual disorders not otherwise specified</td>
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</tr>
</tbody>
</table>

### Other sexual disorders/dysfunctions in Indian context

Although both the nosological systems have classified sexual disorders, but they don't include certain...
sexual disorders commonly seen by Indian clinicians. Indian researchers have consistently alluded to the existence of certain unique socio-culturally determined sexual clinical conditions such as, *Dhat syndrome* and *Apprehension about potency*. Dhat syndrome has been coded in ICD-10 under other neurotic disorders (F48.8) the diagnosis of apprehension about potency doesn’t find mention.

*Dhat Syndrome* was first described in 1960 (Wig, 1960). It refers to a culture bound clinical condition characterized by guilt about loss of semen in young men, often leading to undue concern with its debilitating effect on physical and psychological health. Patient presents with vague and multiple somatic and psychological symptoms like lack of physical strength, fatigue, listlessness, poor concentration, forgetfulness etc. The core feature is the undue concern with the passage of semen during micturation or while straining to pass stools, although there is no objective evidence of semen in urine or its passage otherwise. There may be accompanying anxiety or depressive symptoms and the patient may present with or without sexual dysfunction and accordingly some researchers have described subgroups of Dhat syndrome, viz. Dhat syndrome alone, Dhat syndrome with anxiety or depressive symptoms and Dhat syndrome with sexual dysfunction. Dhat syndrome has also been extended to include Indian women presenting with somatic symptoms associated with leucorrhoea, and explained as due to loss of a 'vital fluid'.

Another clinical entity commonly encountered in the clinical practice is *Apprehension about potency*. It is a common held belief in most of the Indian sub-cultures that masturbation and night emissions before marriage result in loss of potency in marital conjugal relations. Masturbation is considered to be responsible for shrinkage or sideward curvature of penis and watery semen. Thus, there are exaggerated apprehensions in males centered on sexual performance on "First wedding night (Suhaag raat)" (Avasthi & Nehra, 2000).

**DEFINITION OF SEXUAL DYSFUNCTIONS**

There has been a lot of variation in defining various sexual dysfunctions and over the years various researchers used their own definition for various dysfunctions and in fact, this has been a major hindrance in generalization of results of various treatment strategies. Definition of various dysfunctions as defined by ICD-10 and DSM-IVTR are given in table- 3. For all definitions DSM-TR specifies that the disturbance causes marked distress or interpersonal difficulty and the sexual dysfunction is not better accounted for by another Axis I disorder (except another Sexual Dysfunction) or is not exclusively due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.
### Table-3: Definition of sexual dysfunctions

<table>
<thead>
<tr>
<th>ICD-10</th>
<th>DSM-IVTR</th>
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<tbody>
<tr>
<td><strong>Lack or loss of sexual desire:</strong> It includes hypoactive sexual desire. Loss of sexual desire is the principal problem and is not secondary to other sexual difficulties, such as erectile failure or dyspareunia. Lack of sexual desire does not preclude sexual enjoyment or arousal, but makes the initiation of sexual activity less likely.</td>
<td><strong>Sexual Aversion Disorder:</strong> Persistent or recurrent extreme aversion to, and avoidance of, all (or almost all) genital sexual contact with a sexual partner.</td>
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<tr>
<td><strong>Sexual aversion:</strong> The prospect of sexual interaction with a partner is associated with strong negative feelings and produces sufficient fear or anxiety that sexual activity is avoided.</td>
<td><strong>Hypoactive Sexual Desire Disorder:</strong> Persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity. The judgment of deficiency or absence is made by the clinician, taking into account factors that affect sexual functioning, such as age and the context of the person's life.</td>
</tr>
<tr>
<td><strong>Lack of sexual enjoyment:</strong> Sexual responses occur normally and orgasm is experienced but there is a lack of appropriate pleasure. This complaint is much more common in women than in men.</td>
<td><strong>Female Sexual Arousal Disorder:</strong> Persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement.</td>
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<tr>
<td><strong>Failure of genital response (In men, erectile dysfunction and in women vaginal dryness or failure of lubrication):</strong> Erectile dysfunction defined as difficulty in developing or maintaining an erection suitable for satisfactory intercourse. In women, the principal problem is vaginal dryness or failure of lubrication. It is unusual for women to complain primarily of vaginal dryness except as a symptom of postmenopausal estrogen deficiency.</td>
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<tr>
<td><strong>Orgasmic dysfunction:</strong> it includes inhibited orgasm. Subjects usually have orgasm either does not occur or is markedly delayed. This may be situational (i.e. occur only in certain situations), in which case etiology is likely to be psychogenic, or invariable, when physical or constitutional factors cannot be easily excluded except by a positive response to psychological treatment.</td>
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<td><strong>Premature ejaculation:</strong> The inability to control ejaculation sufficiently for both partners to enjoy sexual interaction.</td>
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<tr>
<td><strong>Nonorganic vaginismus:</strong> Spasm of the muscles that surround the vagina, causing occlusion of the vaginal opening. Penile entry is either impossible or painful.</td>
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<tr>
<td><strong>Nonorganic dyspareunia:</strong> pain during sexual intercourse. Can occur in both women and men. It can often be attributed to a local pathological condition and should then be appropriately categorized. This category is to be used only if there is no other more primary sexual dysfunction (e.g. vaginismus or vaginal dryness).</td>
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<tr>
<td><strong>Excessive sexual drive:</strong> Both men and women may occasionally complain of excessive sexual drive as a problem is its own right, usually during late teenage or early adulthood.</td>
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(148)
**Male Erectile Disorder:** Persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate erection.

**Female Orgasmic Disorder:** Persistent or recurrent delay in, or absence of, orgasm following a normal sexual excitement phase. Women exhibit wide variability in the type or intensity of stimulation that triggers orgasm. The diagnosis of Female Orgasmic Disorder should be based on the clinician’s judgment that the woman’s orgasmic capacity is less than would be reasonable for her age, sexual experience, and the adequacy of sexual stimulation she receives.

**Male Orgasmic Disorder:** Persistent or recurrent delay in, or absence of, orgasm following a normal sexual excitement phase during sexual activity that the clinician, taking into account the person’s age, judges to be adequate in focus, intensity, and duration.

**Premature Ejaculation:** Persistent or recurrent ejaculation with minimal sexual stimulation before, on, or shortly after penetration and before the person wishes it. The clinician must take into account factors that affect duration of the excitement phase, such as age, novelty of the sexual partner or situation, and recent frequency of sexual activity.

**Dyspareunia:** Recurrent or persistent genital pain associated with sexual intercourse in either a male or a female.

**Vaginismus:** Recurrent or persistent involuntary spasm of the musculature of the outer third of the vagina that interferes with sexual intercourse.

**Epidemiology of Sexual Dysfunction**

**Sexual dysfunctions**

Sexual dysfunctions are highly prevalent, affecting about 43% of women and 31% of men. Hypoactive sexual desire disorder has been reported in approximately 33.4% of women and 15.8% of men in population-based studies, and is associated with a wide variety of medical and psychologic causes (Laumann et al, 1994). Sexual arousal disorders, including erectile dysfunction in men and female sexual arousal disorder in women, are found in 10% to 20% of men and women, and is strongly age-related in men (Laumann et al, 1999; Laumann et al, 1994). Orgasmic disorder is relatively common in women, affecting about 10% to 15% in community-based studies (Laumann et al, 1994; Dunn et al, 1998; Rosen et al, 1993). In contrast, premature ejaculation is the most common sexual complaint of men, with a reporting rate of approximately 30% in most studies (Metz et al, 1997; Cooper et al, 1993; Laumann et al, 1994). Sexual pain disorders have been reported in 10% to 15% of women and in less than 5% of men (Laumann et al, 1994).

**Sexual dysfunctions in male**

Erectile dysfunction: The prevalence and incidence of erectile dysfunction appears to be uniform throughout the globe, irrespective of racial or ethnic variations (NIH Consensus Development Panel on Impotence, 1993). Nonetheless, in countries with sexual taboos and in other developing countries, the entity is usually infrequently and under-reported (Althof & Seftel, 1995; Korenman, 1995; Krane et al, 1989; Lester et al, 1980). Researchers frequently encounter patient resistance and unwillingness to discuss erectile dysfunction. People fail to report their problem due either to embarrassment or by presuming it to be a normal aging process not amenable to medical treatment (Manecke & Mulhall, 1999; Lundberg, 1977). Although the prevalence of ED varies from study to study, self-reported data
more likely underestimate the true dimensions of the problem. As per one report, the current global prevalence of ED is more than 150 million. Given the advancing median age in Western industrial countries, together with population growth in developing nations, this figure is projected to increase to more than 320 million by the year 2025 (Aytac, 1999). Available literature suggests that erectile dysfunction is common, increases with age and is associated with chronic physical illnesses (Levine & Kloner, 2000).

The Massachusetts Male Aging Study (MMAS), a community-based survey of over 1,200 men carried out between 1987 and 1989, found that 52% of men between the ages of 40 and 70 years reported some degree of ED. The MMAS also showed that the prevalence and severity of ED increases with age. The study found that 40% of the men at age 40 and over 60% of the men at age 70 experienced some degree of erectile dysfunction (Feldman et al., 1994). The age-related results of MMAS were also reported by the National Health and Social Life Survey (NHSLS), a nationally representative probability sample of men and women aged 18 to 59 years. The NHSLS found that the oldest cohort of men, aged 50 to 59 years, was approximately three times more likely to experience erection problems and to report low sexual desire than were men aged 18 to 29 years. In this study there was a higher prevalence of sexual dysfunction in men who had never married or were divorced. Experience of sexual dysfunction was more likely among men with poor physical and emotional health (Laumann et al., 1999). Men's Attitudes to Life Events and Sexuality (MALES) study, which included 27839 patients spanning over eight countries, found an overall prevalence of self-reported ED of 16% in men aged 20-75 years. Differences were noted between the various countries, with the highest prevalence seen among men in the US (22%) and the lowest in Spain (10%). The study confirmed the increased prevalence of ED with both increasing age, and other co-morbid conditions (hypertension, diabetes, ischaemic heart disease, hypercholesterolaemia and depression) as noted in earlier studies (Rosen et al., 2004). In another large-scale multicentric male health survey carried out in the United States, Europe, Mexico, and Brazil, it was found that the prevalence of ED increased with age and comorbid medical conditions (e.g., hypertension, hypercholesterolemia, heart disease, and diabetes) were higher in men admitting to ED than in the overall sample. The researchers also found that in subjects with ED, the most frequent barriers to medical evaluation were the intermittent nature of ED, with the belief that the ED was temporary, as well as the embarrassment brought on by discussing the condition (Niederberger & Lonsdale, 2002). Some studies have also studied the prevalence of ED in subjects with lower urinary tract symptoms (LUTS). The MSAM-7 study investigated the association between LUTS and ED in men aged between 50 and 80 years. The researchers found that the prevalence of ED in men with no LUTS was 24.8%, compared to 43.3, 65.8 and 81.9% ED in men with mild, moderate and severe symptoms, respectively (Rosen et al., 2003). Other researchers have also reported a similar association between LUTS and sexual dysfunction (Tubaro et al., 2001; Namasivayam et al., 1998; Boyle et al., 2003). Other sociodemographic and clinical factors, which have been linked with the increase in prevalence of erectile dysfunction, include education (Nicolosi et al., 2003; Akkus et al., 2002), smoking (Shiri et al., 2004), alcohol use (Gambert, 1997) obesity and sedentary life style (Shiri et al., 2004; Chung et al., 1997). Further a number of studies have suggested that ED may be a harbinger of more serious, underlying medical conditions, such as diabetes, hypertension, sleep disorders, and vascular disease (Meuleman, 2002; Carbone & Seftel, 2002; Braun, 2000).

Incidence rates of ED were lacking until the recent availability of follow-up data from Massachusetts
Male Aging Study. The data suggests that incidence rate of ED is approximately 26 cases per 1000 man-years, which increased with each decade of life and was higher for men with diabetes, treated heart disease, or hypertension at baseline (Johannes et al, 2000).

**Premature ejaculation:** Premature ejaculation is the most common male sexual dysfunction (Metz et al, 1997). Several surveys among different populations estimate its prevalence at 29%, with a range between 1% and 75% depending on the population and criteria used to define the condition (Cooper et al, 1993; Laumann et al, 1994).

**Other male sexual dysfunctions:** It is generally estimated that more than 15% of adult men have hypoactive sexual desire (DSM-IVTR). The disorder of orgasm is relatively rare, occurring in 3–10% of patients presenting with sexual dysfunction (Rosen & Leiblum 1995).

**Female sexual dysfunctions:** There are relatively few available studies regarding the prevalence and, particularly, incidence of female sexual dysfunction. Despite consideration as a vastly underreported entity, female sexual dysfunction remains highly prevalent, affecting 30%–50% of women in modern society. In the National Health and Social Life Survey in United States (Laumann et al 1994 & 1999), a large epidemiological study of 1,622 women between the ages of 18 and 59, approximately 42% of women complained of one or more sexual problems, compared with about 30% of men, in the preceding year. The most common concern was lack of sexual interest (reported by 33% of women), followed by difficulty reaching orgasm (24%) and problems with lubrication (19%). Dunn et al (1999) conducted a large population based survey in UK and found that 40% of the women who participated in the survey reported a current sexual problem. The most common complaints were difficulty achieving orgasm and vaginal dryness. In another survey of Swedish women, aged 18 to 74 years, Fugl-Meyer (1997) reported that 48% of women had a sexual dysfunction, defined according to DSM-IV criteria. The most common problem was hypoactive sexual desire disorder, followed by orgasmic and arousal disorders.

It has been found that age and relationship status are significant predictors of sexual satisfaction, with older women and singles more frequently reporting sexual difficulty. In fact, studies suggest that 60%–80% of women over the age of 60 experience some form of sexual dysfunction (Laumann et al, 1999). Study by Lewis et al (2004) also found that prevalence of low levels of sexual interest varies with age. Approximately 10% of women up to age 49 have a low level of desire, but the percentage climbed to 47% among 66 to 74 year-olds. Other sociodemographic factors, which have been associated with sexual dysfunction in females, include low socioeconomic status, race (blacks reported to be more likely to have sexual problems than whites or Hispanics) (Laumann et al, 1999).

Population surveys also indicate a high concordance of female sexual dysfunction with marital discord and symptoms of anxiety and depression. A population-based survey by Lindal et al (1993) found that 57% of patients with a lifetime prevalence of a psychosexual disorder had a lifetime prevalence of another psychiatric disorder. The most common life-time diagnoses associated with sexual disorders were anxiety disorders and dysthymia.

Sexual dysfunction in females is also associated with poor quality of life. The National Health and Social Life Survey study found strong association between problems of sexual desire, arousal, and pain with decreased physical satisfaction, emotional satisfaction, and overall life satisfaction. Arousal disorders in women, in particular, were strongly predictive of diminished relationship satisfaction and overall life satisfaction (Laumann et al, 1999).
ETIOLOGY OF SEXUAL DYSFUNCTIONS

The etiology of psychosexual disorders is complex and varies greatly. They are rarely caused by a single factor, although one may predominate. The question is not "Is this problem physical or psychological?" but "How much of each kind of factor operates in this case?" Similar causative factors operate in men and women, but their manifestations are more obvious in men. It is easy to overlook women's problems unless special inquiry is made. According to the predominant etiology sexual dysfunction are classified as Primary and secondary; Psychogenic or organic; and Temporary/ situational and permanent. Primary sexual dysfunction is a condition, which is present since the subject became capable of functioning sexually (i.e. postpuberty). Secondary sexual dysfunction is a condition that begins in an individual who previously experienced an acceptable level of sexual functioning.

It is important to remember that efficient sexual function requires anatomical integrity, intact vascular and neurological function, and adequate hormonal control. Peripheral genital efficiency is modulated by excitatory and inhibitory neural connections that mediate psychological influences and which, in turn, are affected by environmental factors. Accordingly etiology of most of the sexual disorders can be classified as biological, psychological and environmental. Table 4 and 5 depicts some of the common causes/ risk factors of various sexual disorders in male and female (Swerdloff and Kandeel, 1992; Butcher, 1999a; Butcher 1999b; Fazio & Brock, 2004; Ralph & McNicholos, 2000; Levine, 2000).

Biological factors: These occur often in the course of chronic physical mental illnesses. As discussed above sexual dysfunction can occur due to neurological causes, vascular causes, hormonal causes and infective causes. Another important cause of sexual dysfunction is use of various medications. Spinal cord injury, disease of the central or peripheral nervous system, and complete upper motor neuron injuries that affect the sacral area may lead to sexual dysfunction. The levator ani, bulbocavernousus, and ischiocavernosus muscles contribute to sexual arousal and orgasm and dysfunction of any of them may lead to sexual problems.

Cardiac diseases (high blood pressure, hyperlipidemia), smoking, and diabetes are associated with sexual dysfunction in men and women. Diminished genital blood flow secondary to atherosclerosis of the iliohypogastric-pudendal arterial bed may result in erectile dysfunction in males and clitoral and vaginal vascular insufficiency syndromes in females. Iliohypogastric-pudendal arterial bed trauma from pelvic fractures, surgery, or chronic perineal pressure (e.g., bicycle riding) can also diminish vaginal and clitoral blood flow and may impair sexual functioning. Hormonal imbalance due to menopause, hypothalamic-pituitary axis dysfunction, surgical or medical castration, or premature ovarian failure is some of the endocrine causes of female sexual dysfunction. Menopausal women often complain of vaginal dryness; decreased desire or arousal; or dyspareunia, often secondary to decreased levels of estrogen and testosterone (Butcher 1999b). Female androgen insufficiency is associated with decreased libido, sexual receptivity, and pleasure (Butcher 1999a). Similarly hormonal imbalance due to hypothalamic-pituitary axis dysfunction, surgical or medical castration, diabetes mellitus etc will cause decrease sexual desire and erectile dysfunction in males (Levine, 2000). Multiple medications (for details see Crenshaw & Goldberg, 1995) have been associated with sexual dysfunctions especially with changes in desire, arousal, and orgasm (See table-6 & 7). Pelvic inflammatory disease and vaginitis can lead to dyspareunia, affecting sexual function. Although these infections are easily treated, they should be part of the differential diagnosis for female sexual dysfunction (Butcher 1999b).
<table>
<thead>
<tr>
<th>Clinical features</th>
<th>Etiology</th>
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<tbody>
<tr>
<td><strong>Disorders of desire</strong></td>
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<tr>
<td>Hypoactive sexual desire (HSD)</td>
<td>• Psychogenic (e.g., depression, marital discord leading to desire deficiency, performance anxiety leading to excitement inhibition)</td>
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<td></td>
<td>• CNS disease (partial epilepsy, Parkinson's, poststroke, adrenoleukodystrophy)</td>
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<td></td>
<td>• Androgen deficiency (primary or secondary), androgen resistance</td>
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<td></td>
<td>• Drugs (antihypertensives, psychotropics, alcohol, narcotics, dopamine blockers, antiandrogens)</td>
</tr>
<tr>
<td>Hyperactive sexual behaviors</td>
<td>• Psychogenic (obsessive-compulsive sexuality, excessive sex-seeking in association with affective disorders, addictive sexuality, sex impulsivity)</td>
</tr>
<tr>
<td><strong>Disorders of arousal</strong></td>
<td></td>
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<tr>
<td>Erectile dysfunction</td>
<td>• Psychogenic</td>
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<tr>
<td></td>
<td>• Drugs (antihypertensives, anticholinergics, psychotropics, estrogens and antiandrogens, digoxin, cigarette smoking, substance abuse)</td>
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<td></td>
<td>• Systemic diseases (cardiac, hepatic, renal, pulmonary, cancer, metabolic, postorgan transplant, pelvic irradiation)</td>
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<td>• Diabetes mellitus</td>
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<td></td>
<td>• Androgen deficiency (primary or secondary), androgen resistance, other endocrinopathies like hyperprolactinecternia, hyperthyroidism, hypothyroidism</td>
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<td>• Vascular insufficiency (atherosclerosis, pelvic steal, penile Raynaud's, venous leakage)</td>
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<td>• Neurological disorder (Parkinson's, Alzheimer's, Shy-Drager, encephalopathy, spinal cord or nerve injury, peripheral neuropathy, pudendal nerve injury)</td>
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<td>• Penile disease (Peyronie's, priapism, phimosis, smooth muscle dysfunction, trauma)</td>
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<td>• Renal failure, hypertension, chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td><strong>Disorders of orgasm</strong></td>
<td></td>
</tr>
<tr>
<td>Premature ejaculation (Primary or secondary)</td>
<td>• Psychogenic (neurotic personality, anxiety/depression, partner discord or other situational factors)</td>
</tr>
<tr>
<td></td>
<td>• Organic (increased central dopaminergic activity, increased penile sensitivity)</td>
</tr>
<tr>
<td></td>
<td>• Drugs</td>
</tr>
<tr>
<td>Clinical features</td>
<td>Etiology</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Absent ejaculation (anejaculation)</td>
<td>• Neural (spinal cord injury, cauda equine lesions, retroperitoneal lymphadenectomy, aortoiliac surgery, colorectal surgery, irradiation, diabetes, multiple sclerosis)</td>
</tr>
<tr>
<td></td>
<td>• Drugs (Antihypertensive, antidepressants, antipsychotics, alcohol)</td>
</tr>
<tr>
<td></td>
<td>• Androgen deficiency (primary or secondary), androgen resistance</td>
</tr>
<tr>
<td>Postejaculation pain</td>
<td>• Psychogenic</td>
</tr>
<tr>
<td>Delayed ejaculation</td>
<td>• Neural (spinal cord lesions, penile nerve lesions)</td>
</tr>
<tr>
<td></td>
<td>• Drugs (Antihypertensive, antidepressants, antipsychotics, alcohol)</td>
</tr>
<tr>
<td>Orgasmic dysfunction</td>
<td>• Drugs (selective serotonin reuptake inhibitors, tricyclic antidepressants, monoamine oxidase inhibitors, substance abuse)</td>
</tr>
<tr>
<td></td>
<td>• CNS disease (multiple sclerosis, Parkinson's, Huntington's chorea, lumbar sympathectomy)</td>
</tr>
<tr>
<td></td>
<td>• Psychogenic (performance anxiety, conditioning factors, fear of impregnation, hypoactive sexual desire)</td>
</tr>
<tr>
<td>Failure of detumescence</td>
<td>• Structural penile disease</td>
</tr>
<tr>
<td>Priapism (primary or secondary)</td>
<td>• Penile structural abnormalities (Peyronie's, phimosis)</td>
</tr>
<tr>
<td></td>
<td>• Primary priapism: idiopathic</td>
</tr>
<tr>
<td></td>
<td>• Priapism secondary to disease: hematological (sickle cell anemia, leukemia, multiple myeloma), infiltrative (Faber's disease, amyloidosis), inflammatory (tularemia, mumps), and neurologic diseases, solid tumors, trauma</td>
</tr>
<tr>
<td></td>
<td>• Priapism secondary to drugs: phenothiazines, trazodone, cocaine, intrapenile vasoactive injections</td>
</tr>
</tbody>
</table>
Psychological factors: Despite the presence or absence of organic disease, emotional and relational issues significantly affect sexual arousal. Issues such as self-esteem, body image, relationship with her partner, and ability to communicate sexual needs to her partner all impact sexual function. In addition, psychological disorders (e.g., depression, obsessive compulsive disorder, anxiety disorder) are associated with sexual dysfunction.

During development, people acquire from their experiences of caregivers and others personal models of what people are like. Traumatic experiences with adults during childhood may contribute to later sexual and relationship preferences. However, there is no specific connection between particular experiences of early abuse and later problems, and it is remarkable how often people with awful early experiences emerge relatively intact. Nevertheless, the responses of an adult to a prospective sexual partner are framed by expectations of how “a person like that” will behave. Further, cognitions (thoughts) and moods (emotions) shape each person's experience of sexual arousal and behaviour. Attentional processes are important, in the common experience of spectating, people focus on their own performance, often expecting failure, rather than on the sensuality of lovemaking. Pain, ruminations, and worries divert attention. Other psychological factors like anger directed toward the partner; fear of the partner's genitals, of intimacy, of losing control, of dependency, or of pregnancy; guilt after a pleasurable experience; depression; anxiety due to marital discord, stressful life situations, aging, ignorance of sexual norms (e.g., frequency and duration of intercourse, oral-genital sex, or sexual practices); and belief in sexual myths (e.g., the supposed deleterious effects of masturbation, hysterectomy, or menopause) also have strong impact on sexual functioning. In some cases the subjects may have only selective impotence, i.e., they are not able to perform well with only a specific partner. In such cases relationship issues should be carefully evaluated.

Environmental factors: Inanimate and animate aspects of the environment profoundly affect sexual arousal and response and, of course, determine whether intimate behaviour will take place at all, as well as its efficiency and enjoyability. This includes where and when sex takes place, the ambient temperature, who else is present or nearby, light or darkness, clothing, and so forth. Whether particular circumstances are excitatory or inhibitory is largely culturally determined.
<table>
<thead>
<tr>
<th>Clinical features</th>
<th>Etiology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypoactive sexual desire (HSD)</strong></td>
<td>• Gynecological disorders causing pain on sexual intercourse</td>
</tr>
<tr>
<td></td>
<td>• Obstetric disorders causing pain on sexual intercourse</td>
</tr>
<tr>
<td></td>
<td>• Urological disorders causing pain on sexual intercourse</td>
</tr>
<tr>
<td></td>
<td>• Alcohol and substance misuse</td>
</tr>
<tr>
<td></td>
<td>• Stress and chronic anxiety</td>
</tr>
<tr>
<td></td>
<td>• Endocrine disorders - Androgen deficiency syndrome, Hyperprolactinaemia</td>
</tr>
<tr>
<td></td>
<td>• Neurological disorders</td>
</tr>
<tr>
<td></td>
<td>• Psychiatric disorders - Depression</td>
</tr>
<tr>
<td></td>
<td>• Stress and fatigue</td>
</tr>
<tr>
<td></td>
<td>• Drugs</td>
</tr>
<tr>
<td></td>
<td>• Secondary to poor sexual arousal and lack of orgasm</td>
</tr>
<tr>
<td></td>
<td>• Desynchronization of sexual aspiration and motivation</td>
</tr>
<tr>
<td></td>
<td>• Boredom or unhappiness in a long-standing relationship</td>
</tr>
<tr>
<td><strong>Arousal disorders</strong></td>
<td></td>
</tr>
<tr>
<td>Subjective sexual arousal disorders</td>
<td>• Relationship issues</td>
</tr>
<tr>
<td></td>
<td>• Sexual trauma in childhood</td>
</tr>
<tr>
<td>Genital sexual arousal disorder</td>
<td>• Stress</td>
</tr>
<tr>
<td></td>
<td>• Fatigue</td>
</tr>
<tr>
<td></td>
<td>• Diabetes, endocrine or hormonal problems</td>
</tr>
<tr>
<td>Combined subjective &amp;</td>
<td>• Neurological disorders</td>
</tr>
<tr>
<td>Genital sexual arousal disorder</td>
<td>• Certain medications (possibly oral contraceptives, antidepressants and tranquilizers)</td>
</tr>
<tr>
<td>Persistent genital arousal disorder</td>
<td>• Poor sexual self-image</td>
</tr>
<tr>
<td></td>
<td>• Guilt about sexual pleasure</td>
</tr>
<tr>
<td></td>
<td>• Fear of intimacy or feeling anxious</td>
</tr>
<tr>
<td>Orgasmic disorder</td>
<td>Strong fear of losing control over feelings and behaviour</td>
</tr>
<tr>
<td>Vaginismus</td>
<td>• Involuntary muscle spasm</td>
</tr>
<tr>
<td></td>
<td>• Physical or sexual abuse</td>
</tr>
<tr>
<td></td>
<td>• Frightening medical procedure experienced during childhood</td>
</tr>
<tr>
<td></td>
<td>• Painful first sexual intercourse</td>
</tr>
<tr>
<td></td>
<td>• Problems with a relationship</td>
</tr>
<tr>
<td></td>
<td>• Fear of pregnancy</td>
</tr>
<tr>
<td></td>
<td>• Religious orthodoxy</td>
</tr>
<tr>
<td></td>
<td>• Poor sexual education</td>
</tr>
<tr>
<td></td>
<td>• Sexual inhibition</td>
</tr>
<tr>
<td></td>
<td>• Fear of intimacy</td>
</tr>
<tr>
<td></td>
<td>• Belief that one's vagina is too small</td>
</tr>
<tr>
<td></td>
<td>• Psychological conflict</td>
</tr>
<tr>
<td>Medication</td>
<td>Type of sexual dysfunction</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>Antihypertensive medications</td>
<td></td>
</tr>
<tr>
<td>Diuretics (thiazides, spironolactone)</td>
<td>Erectile dysfunction, decreased libido</td>
</tr>
<tr>
<td>Sympatholytics</td>
<td>Erectile dysfunction, ejaculatory dysfunction, decreased libido</td>
</tr>
<tr>
<td>Central agents (methyldopa, clonidine)</td>
<td>Erectile dysfunction, ejaculatory dysfunction, decreased libido</td>
</tr>
<tr>
<td>Peripheral agents (reserpine)</td>
<td>Erectile dysfunction, ejaculatory dysfunction, decreased libido</td>
</tr>
<tr>
<td>Alpha blockers</td>
<td>Erectile dysfunction, ejaculatory dysfunction</td>
</tr>
<tr>
<td>Beta blockers (particularly nonselective agents)</td>
<td>Erectile dysfunction, decreased libido</td>
</tr>
<tr>
<td>ACE inhibitors</td>
<td>erectile dysfunction</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>erectile dysfunction</td>
</tr>
<tr>
<td>Psychotropics</td>
<td></td>
</tr>
<tr>
<td>Antipsychotic agents</td>
<td>Decreased desire, erectile dysfunction, orgasmic inhibition,</td>
</tr>
<tr>
<td></td>
<td>anorgasmia, retarded ejaculation, decreased ejaculatory volume,</td>
</tr>
<tr>
<td></td>
<td>orgasm without ejaculation</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Decreased libido, erectile dysfunction, orgasmic inhibition,</td>
</tr>
<tr>
<td>Tricyclic antidepressants</td>
<td>ejaculatory dysfunction</td>
</tr>
<tr>
<td>Trazadone</td>
<td>increased sexual desire, sustained erection, delayed ejaculation</td>
</tr>
<tr>
<td>Monoamine oxidase inhibitors</td>
<td>Decreased libido, erectile dysfunction,</td>
</tr>
<tr>
<td>Selective serotonin reuptake inhibitors</td>
<td>orgasmic inhibition, retarded ejaculation,</td>
</tr>
<tr>
<td></td>
<td>delayed ejaculation, orgasmic inhibition, anorgasmia,</td>
</tr>
<tr>
<td></td>
<td>spontaneous orgasm</td>
</tr>
<tr>
<td>Other Psychotropics</td>
<td></td>
</tr>
<tr>
<td>Buspirone</td>
<td>Increased sexual desire, Premature ejaculation</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>Decreased libido, erectile dysfunction</td>
</tr>
<tr>
<td>Zolpidem</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Lithium</td>
<td>Decreased desire, erectile dysfunction</td>
</tr>
<tr>
<td>Disulfiram</td>
<td>erectile dysfunction</td>
</tr>
<tr>
<td>Other Drugs</td>
<td></td>
</tr>
<tr>
<td>Digoxin</td>
<td>Decreased libido, erectile dysfunction</td>
</tr>
<tr>
<td>Histamine H2-receptor blockers</td>
<td>Decreased libido, erectile dysfunction</td>
</tr>
<tr>
<td>Alcohol (long-term heavy use)</td>
<td>Decreased libido, erectile dysfunction</td>
</tr>
<tr>
<td>Ketoconazole</td>
<td>Decreased libido, erectile dysfunction</td>
</tr>
<tr>
<td>Niacin</td>
<td>Decreased libido</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>Decreased desire, erectile dysfunction</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Decreased desire, erectile dysfunction</td>
</tr>
<tr>
<td>Allopurinol</td>
<td>erectile dysfunction</td>
</tr>
<tr>
<td>Gemfibrozil, clofibrate</td>
<td>erectile dysfunction</td>
</tr>
</tbody>
</table>

(157)
<table>
<thead>
<tr>
<th>Medication</th>
<th>Type of sexual dysfunction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Antihypertensive medications</strong></td>
<td></td>
</tr>
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</tr>
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</tr>
<tr>
<td>Alpha blockers</td>
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</tr>
<tr>
<td>Beta blockers (particularly nonselective agents)</td>
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</tr>
<tr>
<td>Calcium channel blockers</td>
<td>Decreased libido</td>
</tr>
<tr>
<td><strong>Psychotropics</strong></td>
<td></td>
</tr>
<tr>
<td>Antipsychotic agents</td>
<td>Decreased desire, orgasmic inhibition, anorgasmia, dyspareunia</td>
</tr>
<tr>
<td><strong>Antidepressants</strong></td>
<td></td>
</tr>
<tr>
<td>Tricyclic antidepressants</td>
<td>Decreased libido, dyspareunia, anorgasmia</td>
</tr>
<tr>
<td>Trazadone</td>
<td>Increased sexual desire, decreases dyspareunia</td>
</tr>
<tr>
<td>Monoamine oxidase inhibitors</td>
<td>Decreased libido, anorgasmia</td>
</tr>
<tr>
<td>Selective serotonin reuptake inhibitors</td>
<td>Decreased libido, orgasmic inhibition, anorgasmia, spontaneous orgasm, dyspareunia</td>
</tr>
<tr>
<td><strong>Other Psychotropics</strong></td>
<td></td>
</tr>
<tr>
<td>Buspiron</td>
<td>Increased sexual desire</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>Decreased libido, anorgasmia</td>
</tr>
<tr>
<td>Zolpidem</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Lithium</td>
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</tr>
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</tr>
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<td>Alcohol (long-term heavy use)</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Ketoconazole</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Niacin</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Decreased desire</td>
</tr>
<tr>
<td>Danazol, GnRH agonists, Oral contraceptives</td>
<td>Decreased desire</td>
</tr>
</tbody>
</table>
ASSESSMENT OF SEXUAL DYSFUNCTIONS

Evaluation of patients with sexual problems requires not only the thorough understanding of the anatomical and the physiological bases of human male sexual dysfunction but also the ability of the physician to collect and properly interpret the patient's history and physical findings. The evaluation of sexual problems in men and women includes history taking (sexual, medical and psychosocial), focused physical examination, laboratory tests (routine and specific) and consultation with appropriate specialists. Careful attention should always be paid to the presence of significant comorbidities or underlying etiologies (e.g., cardiovascular disease, diabetes, depression). It should be noticed that some sexual dysfunction might become the reason to unmask previously undiagnosed medical conditions, even life-threatening in some cases.

History taking

The medical, sexual and psychosocial histories are the most essential, and frequently the most revealing aspects of the assessment process. A good history may be extremely helpful in providing clues to the underlying cause of the dysfunction and can reduce the need for an expensive investigation to rule out all possible etiologies. An important aspect of assessment is that it should be conducted in comfortable surroundings, with privacy assured. Essential to the development of confidence and rapport is an accepting atmosphere and nonjudgmental attitude on the part of the physician. In obtaining a history with men or women with sexual problems, special attention should always be paid to personal, social or cultural sensitivities. The major goals of history-taking are: (i) To differentiate between potential organic and psychogenic causes in the etiology of a patient's sexual problem; (ii) To evaluate the potential role of underlying or comorbid medical conditions; (iii) To assess the use of concomitant medications.

Sexual history: A comprehensive sexual history is essential in confirming the patient's diagnosis, as well as in the evaluation of the patient's overall sexual function. The basic principles of sexual history taking are given in table-8 (Lue et al, 2004; Basson et al, 2004; Gregoire, 1999; Kandeel et al, 2001; Butcher, 1999a). The patient should be asked to describe his problem, the time and manner of onset, its course, its current status, and any associated medical or psychological problems. Decreased libido should alert the clinician to three probable causes: endocrinopathy, affective disorder, or relationship discord. A history of frequent strong erections under any circumstances (during foreplay, fantasy, or masturbation, with another partner or upon awakening) indicates that the endocrine, vascular, and neurological systems are probably intact and that the erectile dysfunction is predominantly psychogenic. Conversely, historical data indicating the presence of decreased erectile turgidity in noncoital activities are highly suggestive of an organic etiology. Moreover, a report of firm sustained erections during foreplay that are lost after intromission or upon initiation of pelvic movements might suggest either a psychogenic etiology or a vascular problem (pelvic steal syndrome). In case of premature ejaculation (PME), one needs to focus on whether PME is lifelong (i.e., primary) or acquired (i.e., secondary) and assess the severity of the problem. If the patient has always experienced PME from the time he began coitus, then he has primary PME. If he had successful coital relationships in the past, yet began experiencing PME with the current relationship, then he has secondary PME. In most cases, secondary PME is easier to treat and has a better prognosis. A history of delayed or
Retrograde ejaculation is suggestive of a neuropathy or an adverse drug effect. Absence of orgasmic sensations in patients with normal erectile and ejaculatory functions is almost always due to psychogenic etiology, whereas failure of detumescence is usually organic in nature, which should direct the investigations toward ruling out local penile, neurological, and hematological etiologies (Lue et al, 2004; Gregoire, 1999; Kandell et al, 2001). Table-9 lists other historical events most useful in differentiating predominantly psychogenic from predominantly organic sexual dysfunctions (Hengeveld, 1991). Table-10 shows the historical events, which helps in distinguishing psychogenic erectile dysfunction from organic (Swerdloff & Kandeel, 1992; Ralph & McNicholos, 2000). But, it is important to note that, in many cases, organic and psychogenic factors may coexist, particularly in individuals or couples with long-standing or chronic sexual dysfunction. In such cases, clinicians should assess the independent and interactive role of both organic and psychogenic factors, and these should be reviewed with the patient during the final stages of assessment.

It is also useful to ask the subjects views about sexuality and the influences that have played a part in the development of sexuality. Many misunderstandings and myths can be acquired during learning about sexuality, such as that in sex as elsewhere it is performance that counts, a man is always ready and able to have sex, sex is natural and spontaneous, and that sex equals intercourse (Butcher, 1999a).

Similarly while obtaining history of sexual dysfunction from a female; a through history helps in clarifying the type of dysfunction and probable cause. Occasionally women with emotionally traumatic pasts reveal that their sexual interest occurs only when emotional closeness with a partner is absent. In such cases, there is inability to sustain that interest when and if emotional intimacy with the partner develops. This is a fear of intimacy and is not strictly a sexual dysfunction. It is often difficult to disentangle organic possibilities from psychogenic variables that occur in women at different life stages and the effect that these may have on how women see sexuality fitting into their lives. It is important to ask for the site of pain in subjects complaining of dyspareunia. Traditionally, it was thought that superficial dyspareunia (at or around the vaginal entrance) is likely to have a psychogenic origin, whereas deep dyspareunia is likely to have an organic cause. These explanations are no longer considered helpful. It is important to try to identify the history of the pain, its site, sort, severity, onset, duration, and any other associated factors. Further it is important to remember that repeated sexual pain can set up a cycle of pain, in which fear of pain leads to avoidance of the sexual activity that produces it, in turn leading to lack of arousal, failure to achieve orgasm, and loss of sexual desire. This can progress to total avoidance of sexual activity and difficulties in the relationship. The role of orgasm for women is not well defined. For some it is extremely important and sought at every sexual encounter. However, for others it seems less important and sometimes of little relevance; many women can be quite content without it. A woman may have a strong sexual desire with good arousal and enjoy the sensation of the penis in the vagina, but she then holds back even though the stimulation should be sufficient for orgasm. These women often have a strong fear of losing control over feelings and behaviour. Historically, orgasm in females has been equated with loss of control leading to death and has been described as the "mini-death." Most women coming for help feel that having an orgasm will dramatically change their lives. Education and rational discussion is important in disassociating orgasm from symbolic qualities (Butcher, 1999a & 199b).

(160)
Table 8: History taking of sexual disorders

<table>
<thead>
<tr>
<th>Components</th>
<th>Basic Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basics of sexual history-taking</td>
<td>• Allow the patient to feel in control</td>
</tr>
<tr>
<td></td>
<td>• Provide explanations for answers</td>
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<td></td>
<td>• Help the patient feel less abnormal (destigmatize)</td>
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<td></td>
<td>• Provide encouragement and positive support</td>
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<td></td>
<td>• Initiate the discussion of sensitive topics</td>
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<td></td>
<td>• Defer sensitive questions</td>
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<td></td>
<td>• Be aware of patient's cultural background</td>
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<td></td>
<td>• Ensure confidentiality</td>
</tr>
<tr>
<td></td>
<td>• Avoid judgmentalism</td>
</tr>
<tr>
<td>Basic questions in assessment of</td>
<td>LIBIDO/INTEREST</td>
</tr>
<tr>
<td>sexual functioning for a male</td>
<td>• Do you still look forward to sex?</td>
</tr>
<tr>
<td></td>
<td>• Do you still enjoy sexual activity?</td>
</tr>
<tr>
<td></td>
<td>• Do you fantasize about sex?</td>
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<tr>
<td></td>
<td>• Do you have sexual dreams?</td>
</tr>
<tr>
<td></td>
<td>• How easily are you sexually aroused (turned on)?</td>
</tr>
<tr>
<td></td>
<td>• How strong is your sex drive?</td>
</tr>
<tr>
<td></td>
<td>AROUSAL/PERFORMANCE</td>
</tr>
<tr>
<td></td>
<td>• When was the last time you had a satisfactory erection?</td>
</tr>
<tr>
<td></td>
<td>• Was the onset of your problem gradual or sudden?</td>
</tr>
<tr>
<td></td>
<td>• When was your last normal erection?</td>
</tr>
<tr>
<td></td>
<td>• Do you have morning or night time erections?</td>
</tr>
<tr>
<td></td>
<td>• With sexual stimulation can you initiate an erection?</td>
</tr>
<tr>
<td></td>
<td>• With sexual stimulation can you maintain an erection?</td>
</tr>
<tr>
<td></td>
<td>• Is your erectile dysfunction partner or situational specific?</td>
</tr>
<tr>
<td></td>
<td>• Do you lose erection before penetration, or before climax?</td>
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<tr>
<td></td>
<td>• Do you have to concentrate to maintain an erection?</td>
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<tr>
<td></td>
<td>• Is there a significant bend in your penis?</td>
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<tr>
<td></td>
<td>• Do you have pain with erection?</td>
</tr>
<tr>
<td></td>
<td>• Are there any sexual positions that are difficult for you?</td>
</tr>
<tr>
<td></td>
<td>EJACULATION/ORGASM/SATISFACTION</td>
</tr>
<tr>
<td></td>
<td>• Are you able to ejaculate when you have sex?</td>
</tr>
<tr>
<td></td>
<td>• Are you able to ejaculate when you masturbate?</td>
</tr>
<tr>
<td></td>
<td>• You ejaculate before you want to?</td>
</tr>
<tr>
<td></td>
<td>• How frequently you ejaculate before you want to?</td>
</tr>
<tr>
<td></td>
<td>• You ejaculate before your partner wants you to?</td>
</tr>
<tr>
<td></td>
<td>• What is the reaction of your partner if you ejaculate before your</td>
</tr>
<tr>
<td></td>
<td>partner wants you to?</td>
</tr>
<tr>
<td></td>
<td>• You take too long to ejaculate?</td>
</tr>
<tr>
<td></td>
<td>• You feel like nothing comes out?</td>
</tr>
<tr>
<td></td>
<td>• Do you have pain with ejaculation?</td>
</tr>
</tbody>
</table>

(161)
<table>
<thead>
<tr>
<th>Components</th>
<th>Basic ingredients</th>
</tr>
</thead>
</table>
| Basic questions in assessment of sexual functioning for a female | • Do you see blood in your ejaculation?  
• Do you have difficulty reaching orgasm?  
• Is your orgasm satisfying?  
• What percentages of sexual attempts are satisfactory to your partner?  |
| LIBIDO/INTEREST | • Do you still look forward to sex?  
• Do you still enjoy sexual activity?  
• Do you fantasize about sex?  
• Do you have sexual dreams?  
• How easily are you sexually aroused (turned on)?  
• How strong is your sex drive? |
| AROUSAL/PERFORMANCE | • Do you feel subjectively excited when you attempt intercourse?  
• Does your vagina become sufficiently moist?  |
| ORGASM/SATISFACTION | • Are orgasms absent and/or very delayed and/or markedly reduced in intensity?  
• Is there adequate and acceptable stimulation with partner and/or with masturbation?  
• Is the degree of trust and safety, you feel you need, present?  
• Is there fear of letting go of control?  
• What do you fear may happen that could be negative?  |
| PAIN /VAGINISMUS | • Where does it hurt?  
• How would you describe the pain?  
• When does the pain occur (with penile contact, once the penis is partially in, with full entry, after some thrusting, after deep thrusting, with the partner’s ejaculation, after withdrawal, with subsequent micturation?)  
• Do you find your body is tensing when your partner is attempting, or you are attempting to insert his penis?  
• What are your thoughts and feelings at this time?  
• How long does the pain last?  
• Does touching cause pain?  
• Does it hurt when you ride your bicycle or when you wear tight clothes?  
• Do other forms of penetration hurt (tampons, fingers)?  
• Do you recognize the feeling of pelvic floor muscle tension during sexual contact?  |
Components | Basic ingredients
---|---
• Do you recognize the feeling of pelvic floor muscle tension in other (non-sexual) situations?
• Do you feel subjectively excited when you attempt intercourse?
• Does your vagina become sufficiently moist?
• Do you recognize the feeling of drying-up?

Another important aspect of sexual history taking in females is to remember that women play different roles at different times in their life. Many women have several roles—the professional or worker, housewife, mother, daughter, friend, and lover. It is often seen that the role of a lover fades away as the demands of other roles increase. Looking at these issues can be quite revealing, and an easy way to give structure to this is to undertake a process called the "timetable of life." Both partners in the relationship are asked to fill in a timetable representing a typical week. They are then asked to look at the week in terms of time spent in different categories: family time (that is, with children and partners), work time (both at work and work in the house), extended family time (with parents and relations), social time, personal time, and relationship time (time spent together alone, as a couple). This last category is, of course, the time when sexual activity is more likely to be realised successfully. A timetable almost always shows the elements missing to be relationship time and personal time. Repeating the "timetable" for different times in life and comparing it during courtship, when sexual desire was probably good, with the timetable for a time when sexual desire was low is useful and shows how priorities change and how this can influence desire for sexual activity. Looking at what happens in a sexual situation often gives much information about the defences erected when a patient engages in sexual activity. One can look at what turns a patient on and off, how absorbed she becomes in the sexual experience, and whether loss of desire occurs on every occasion or whether it is situational. Areas such as sexual fantasy, masturbation, genital functioning, and contraception should be explored as it can give great insight into the problem (Butcher, 1999a & 199b).

Table - 9: Differentiating features between psychogenic and organic sexual dysfunction

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Organic</th>
<th>Psychogenic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Older</td>
<td>Younger</td>
</tr>
<tr>
<td>Onset</td>
<td>Gradual (except trauma or surgery)</td>
<td>Acute</td>
</tr>
<tr>
<td>Circumstances</td>
<td>Global</td>
<td>Situational</td>
</tr>
<tr>
<td>Symptom Course</td>
<td>Consistent or progressive</td>
<td>Intermittent</td>
</tr>
<tr>
<td>Desire</td>
<td>Normal</td>
<td>Decreased</td>
</tr>
<tr>
<td>Organic risks</td>
<td>Present</td>
<td>Absent, variable</td>
</tr>
<tr>
<td>Partner problem</td>
<td>Secondary</td>
<td>At onset</td>
</tr>
<tr>
<td>Anxiety and fear</td>
<td>Secondary</td>
<td>Primary</td>
</tr>
</tbody>
</table>
Table - 10: Differentiating features between psychogenic and organic erectile dysfunction

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Psychogenic</th>
<th>Organic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onset of disorder</td>
<td>Situational with defined onset (onset associated with specific emotional event)</td>
<td>Insidious</td>
</tr>
<tr>
<td>Precipitating event</td>
<td>Psychogenic condition</td>
<td>Debilitating disease, vascular insufficiency or CNS abnormality, penile trauma or interfering drugs</td>
</tr>
<tr>
<td>Erectile function before intromission</td>
<td>May be present</td>
<td>Usually absent except in patients with pelvic steal phenomenon</td>
</tr>
<tr>
<td>Erectile function after intromission</td>
<td>Variable with different partners</td>
<td>Usually absent</td>
</tr>
<tr>
<td>Erectile response to other sexual stimuli</td>
<td>Usually present</td>
<td>Usually absent</td>
</tr>
<tr>
<td>Nocturnal or morning erections</td>
<td>Initially present and full, lost in longstanding Dysfunction</td>
<td>Absent or reduced in frequency and intensity</td>
</tr>
<tr>
<td>Course of disorder</td>
<td>Episodic or transient loss of erection</td>
<td>Persistent and progressive erectile Dysfunction</td>
</tr>
<tr>
<td>Associated ejaculatory disorder</td>
<td>Premature ejaculation and intermittent loss of Ejaculation</td>
<td>Retrograde or absent ejaculation</td>
</tr>
<tr>
<td>Nocturnal penile tumescence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total time</td>
<td>&gt;90-180 min/night</td>
<td>&lt;60 min/night</td>
</tr>
<tr>
<td>Circumferential change</td>
<td>0.2 cm</td>
<td>2 cm</td>
</tr>
<tr>
<td>Penile-brachial index (PBI)</td>
<td>&gt;0.70</td>
<td>&lt; 0.60</td>
</tr>
<tr>
<td>Bulbocavernosus reflex latency</td>
<td>&lt;35 sec</td>
<td>&gt;40 sec</td>
</tr>
</tbody>
</table>

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Psychosocial history: Psychological factors associated with sexual dysfunction can be classified into three categories: predisposing factors, precipitating factors, and maintaining factors (See table-11). Just as psychological problems and organic problems can co-exist, the three groups of factors can co-exist with each other. Evidence for the presence of any of these psychological or situational conditions should be carefully assessed. Moreover, it should not be forgotten that the existence of an organic disease does not preclude the possibility of a coexisting psychogenic factor. Conversely, the presence of psychogenic conditions, such as anxiety, anger, guilt, or marital discord, should not be construed as evidence for a sole primary causation. Initial evaluation can be done by administering a detailed sexual history questionnaire exploring current sexual interactions, social and sexual discords, history of sexual abuse or trauma, gender identity conflicts and preferences, state of mood and affect, and cultural and religious influences. Such questionnaires are helpful in identifying psychological contributions to sexual dysfunction. The questionnaires can also provide indicators for problematic personality features, comorbid affective disorders, poor sexual knowledge and marital discord. A well structured psychosocial interview with the patient alone, and if possible conjointly with his partner, should follow the administration of any sexual questionnaire to ensure the most complete understanding of all possible predisposing, precipitating, and/or maintaining psychological factors (Hawton, 1985; Tiefer & Schuetz-Mueller, 1995).

The current psychological state should be assessed with special attention to symptoms of anxiety or depression, altered self-esteem and coping skills, past and present partner relationships, history of sexual trauma/abuse, occupational and social stresses, economic status, and educational attainment. Sexual dysfunction may affect the patient’s self-esteem and coping ability, as well as his or her social relationships and occupational performance. These aspects should be assessed in each case. It is also important that the physician should not assume that every patient is involved in a monogamous, heterosexual relationship.

Given the interpersonal context of sexual problems in men and women, the clinician should carefully assess past and present partner relationships. Another important aspect of psychosexual history is inquiring specifically about the quality of the relationship between the couple with respect to nonsexual factors. Do the partners get along on most issues, or is there conflict? Who is dominant in the relationship, or is there general equality? While interviewing the couple together it is important to note the dynamics between the partners. Relationship problems may be due to intrinsic philosophic differences between the two, and expectations about sexual fulfillment may also vary. Occasionally, the level of commitment to each other differs. Stresses may be present strictly because of performance anxiety or because of work problems, financial worries, or perhaps problems with children or other relatives. Oftentimes, inadequate communication between the couple, which may be attributable to embarrassment, may be mistaken for lack of caring.

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Table-11: Psychological factors associated with sexual dysfunctions

<table>
<thead>
<tr>
<th>Factors</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>**Predisposing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>factors</td>
<td>• Restrictive upbringing</td>
<td>• Restrictive upbringing</td>
</tr>
<tr>
<td></td>
<td>• Disturbed family relationships</td>
<td>• Disturbed family relationships</td>
</tr>
<tr>
<td></td>
<td>• Traumatic early sexual experience</td>
<td>• Traumatic early sexual experience</td>
</tr>
<tr>
<td></td>
<td>• Inadequate sexual information</td>
<td>• Inadequate sexual information</td>
</tr>
<tr>
<td></td>
<td>• Insecurity in the psychosexual role</td>
<td>• Insecurity in the psychosexual role</td>
</tr>
<tr>
<td>Precipitating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>factors</td>
<td>• Unreasonable expectations</td>
<td>• Childbirth</td>
</tr>
<tr>
<td></td>
<td>• Random failure</td>
<td>• Poor emotional intimacy</td>
</tr>
<tr>
<td></td>
<td>• Discord in the relationship</td>
<td>• Discord in the relationship</td>
</tr>
<tr>
<td></td>
<td>• Dysfunction in the partner</td>
<td>• Infidelity</td>
</tr>
<tr>
<td></td>
<td>• Infidelity</td>
<td>• Expectation of negative outcome</td>
</tr>
<tr>
<td></td>
<td>• Reaction to organic disease</td>
<td>• Reaction to organic disease</td>
</tr>
<tr>
<td>Maintaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>factors</td>
<td>• Performance anxiety</td>
<td>• Depression or anxiety</td>
</tr>
<tr>
<td></td>
<td>• Guilt</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Poor communication</td>
<td>• Expectation of negative outcome</td>
</tr>
<tr>
<td></td>
<td>• Loss of attraction between partners</td>
<td>• Guilt</td>
</tr>
<tr>
<td></td>
<td>• Impaired self-image</td>
<td>• Fear of intimacy</td>
</tr>
<tr>
<td></td>
<td>• Restricted foreplay</td>
<td>• Impaired self image</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sexual myths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Poor communication</td>
</tr>
</tbody>
</table>

Another important aspect of psychosocial evaluation is the identification of patient/couple needs, expectations, priorities and treatment preferences, which may be significantly influenced by cultural, social, ethnic and religious perspectives. Patient education about the problem is also important in fostering a therapeutic relationship, facilitating patient physician communication and enhancing patient compliance. Partner involvement is important. Although not always possible on the first visit, effort should be made to involve the patient's partner early in the process. When psychosocial assessment reveals the presence of significant psychological distress or partner conflict, further evaluation and management may be necessary either prior to, or in conjunction with treatment of sexual dysfunction. Table-12 depicts the broad areas to be covered in psychosocial history taking (Tiefer & Schuetz-Mueller, 1995).
### Table-12: Psychosocial assessment of sexual disorders

<table>
<thead>
<tr>
<th>Variables</th>
<th>Areas covered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background variables</strong></td>
<td>• Marital history</td>
</tr>
<tr>
<td></td>
<td>• Children</td>
</tr>
<tr>
<td></td>
<td>• Educational level</td>
</tr>
<tr>
<td></td>
<td>• Social class</td>
</tr>
<tr>
<td></td>
<td>• Occupation</td>
</tr>
<tr>
<td></td>
<td>• Religious beliefs</td>
</tr>
<tr>
<td><strong>Life style factors</strong></td>
<td>• Alcohol</td>
</tr>
<tr>
<td></td>
<td>• Smoking</td>
</tr>
<tr>
<td></td>
<td>• Opioids</td>
</tr>
<tr>
<td><strong>Psychiatric history</strong></td>
<td>• Depression</td>
</tr>
<tr>
<td></td>
<td>• Anxiety</td>
</tr>
<tr>
<td><strong>Sexual History</strong></td>
<td>• Childhood and adolescent sexual learning and activities</td>
</tr>
<tr>
<td></td>
<td>• Masturbation history</td>
</tr>
<tr>
<td></td>
<td>• Interpersonal sexual activity</td>
</tr>
<tr>
<td></td>
<td>• Breadth and flexibility of sexual script with all partners</td>
</tr>
<tr>
<td></td>
<td>• “Time table of life”</td>
</tr>
<tr>
<td><strong>Current sexual functioning</strong></td>
<td>• Current masturbatory and interpersonal sexual activities</td>
</tr>
<tr>
<td></td>
<td>• Nature of the problem, onset, course, frequency</td>
</tr>
<tr>
<td></td>
<td>• Spontaneous sexual experiences (morning erections)</td>
</tr>
<tr>
<td></td>
<td>• Current “Time table”</td>
</tr>
<tr>
<td><strong>Relationship with partner</strong></td>
<td>• Harmony</td>
</tr>
<tr>
<td></td>
<td>• Communication</td>
</tr>
<tr>
<td></td>
<td>• Partner’s health</td>
</tr>
<tr>
<td><strong>Life stresses</strong></td>
<td>• Recent life stress</td>
</tr>
<tr>
<td></td>
<td>• Current life stress</td>
</tr>
<tr>
<td></td>
<td>• Losses</td>
</tr>
<tr>
<td><strong>Expectations from treatment</strong></td>
<td>• Need, Expectations, Priorities</td>
</tr>
<tr>
<td></td>
<td>• Treatment preferences</td>
</tr>
</tbody>
</table>

Medical history: Historical events related to the presence of chronic disease (e.g., diabetes, hepatic failure, renal failure, cardiac failure, advanced pulmonary disease, tabes dorsalis, multiple sclerosis, cerebrovascular accident), use of pharmacological agents (e.g., antihypertensives, antihistamines, antipsychotics, anticholinergics), endocrine disorders (gonadal failure, pituitary tumors, thyroid disease, adrenal disease), prior surgeries (prostatectomy, proctectomy, vascular surgery, hysterectomy, salpingo-oophorectomy), and trauma (temporal lobe and spinal cord lesions, blunt pelvic trauma) should all be carefully evaluated. Loud snoring should prompt an evaluation for sleep disorders. Conditions such as sleep apnea, nocturnal myoclonus, or restless legs may directly affect the higher
sexual centers or cause secondary hypogonadism. CVA or seizure disorders (and seizure medications) are occasionally associated with sexual dysfunction from central nervous system mechanisms. Any severe debilitating disease can be a potential cause of sexual dysfunction.

Excessive consumption of alcohol or use of other recreational drugs may cause sexual dysfunction, either by a direct effect on the penile neurovascular system or by causing increased prolactin, decreased testosterone production, or both (Lue et al., 2004; Basson et al., 2004).

Further, for erectile dysfunction, vascular risk factors such as family history of cardiovascular disease, hypercholesterolemia, hypertension, diabetes, cigarette smoking, and pelvic radiation therapy should be inquired about, and, if present, vascular etiology should be highly suspected. Potentially irreversible pathology should be anticipated in patients with evidence for other microvascular disease (peripheral neuropathy, retinopathy, and nephropathy). Patients with neurological disease should be questioned about the temporal relationship between the development of the sexual dysfunction and that of the neurological disorder. Patients suspected for hypogonadism should specifically be assessed for family history of the disease, deviation of adolescence from normality, recent changes in secondary sexual characteristics, symptoms of pituitary dysfunction, history of orchitis, testicular trauma, infertility, or exposure to radiation or cytotoxic agents. Patients should also be assessed for symptoms of thyroid and adrenal diseases (Lue et al., 2004). Table-13 shows the basic areas to be covered while taking medical history.

Similarly while evaluating women careful medical history should be obtained about any health problem that might affect sexual anatomy, the vascular system, the neurological system, and the endocrine system. Indirect causes i.e, factors that cause chronic pain, fatigue, and malaise may interfere with the vascular and neurological pathways can cause dyspareunia (Basson et al., 2004).

**Physical Examination**

The physical examination is an essential component of sexual dysfunction evaluation in every case. Every effort should be made to ensure the patient’s privacy, confidentiality and personal comfort while conducting the physical examination. The physical examination is not only used to corroborate aspects of the medical history but may sometimes reveal unsuspected physical findings (e.g., decreased peripheral pulses, vaginal atrophy, atrophic testes, penile plaque).

In most cases, the physical examination will not identify the specific etiology or cause of sexual dysfunction; however, a focused examination should be performed on every patient with sexual problems. The physical examination should include a general screening for medical risk factors or comorbidities that are associated with sexual dysfunction, such as body habitus (secondary sexual characteristics), assessment of the cardiovascular, neurological and endocrine system (Hatzichristou, 2002; Hatzichristou, 2004; Anastasiadis, 2002).
<table>
<thead>
<tr>
<th>Components</th>
<th>Basic ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical History</strong></td>
<td>• Hypertension&lt;br&gt;• Heart disease (heart attack, chest pain with exercise or sex)&lt;br&gt;• Diabetes (high blood sugar)&lt;br&gt;• Hyperlipidemia (elevated cholesterol or triglycerides)&lt;br&gt;• Vascular disease (stroke, mini-stroke, blockage of arteries, aneurysms)&lt;br&gt;• Hormone problems (testosterone, thyroid, steroids)&lt;br&gt;• Kidney disease&lt;br&gt;• Neurological problems (Parkinson’s, multiple sclerosis, spine injury)&lt;br&gt;• Trauma or injury to: penis, pelvis, perineum, testes, uterus or rectum&lt;br&gt;• Prostate problems (enlargement, BPH, elevated PSA, infection)&lt;br&gt;• Urinary problems (urgency, frequency, hesitancy, weak stream, infection)&lt;br&gt;• Cancer (bladder, prostate, uterus, cervix, rectum or other)&lt;br&gt;• Radiation of the bladder, prostate, uterus or rectum&lt;br&gt;• Sleep apnea (severe snoring, daytime sleepiness)&lt;br&gt;• Chronic fatigue or weakness&lt;br&gt;• Unexplained weight loss&lt;br&gt;• Joint pains (severe or chronic problems moving or changing positions)&lt;br&gt;• Sexually transmitted diseases</td>
</tr>
<tr>
<td><strong>Physical examination</strong></td>
<td>• General physical examination to look for evidence of cardiovascular, neurological diseases&lt;br&gt;• Complete genital exam&lt;br&gt;• Secondary sexual characteristics (e.g., gynecomastia)&lt;br&gt;• Body hair, fat distribution&lt;br&gt;• BP, heart rate, peripheral pulses, edema&lt;br&gt;• Vibratory sensation&lt;br&gt;• Lower extremity strength and coordination</td>
</tr>
<tr>
<td><strong>Investigations</strong></td>
<td>• Hemogram&lt;br&gt;• RFT, LFT&lt;br&gt;• Fasting blood sugar&lt;br&gt;• X-ray spine for spina bifida&lt;br&gt;• Lipid Profile</td>
</tr>
<tr>
<td>Components</td>
<td>Basic ingredients</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Indications for specialist</td>
<td>• Patient request</td>
</tr>
<tr>
<td>referral</td>
<td>• Primary ED (poorly sustained erections, lifelong)</td>
</tr>
<tr>
<td></td>
<td>• Anatomic penile deformities - Peyronie's Disease, hypospadius, chordee, Phimosis, Short penis, buried penis</td>
</tr>
<tr>
<td></td>
<td>• Pelvic/perineal trauma</td>
</tr>
<tr>
<td></td>
<td>• Endocrinopathy</td>
</tr>
<tr>
<td></td>
<td>• Complex vascular problems</td>
</tr>
<tr>
<td></td>
<td>• Complex neurologic problems</td>
</tr>
</tbody>
</table>

General chronic diseases, if present, state of disease control must be determined. Physical signs of muscular atrophy, pallor, and/or loss of hair growth of the lower extremities are also consistent with vascular pathology. Neurologically, the patient should be evaluated for the presence of motor deficits, changes in deep tendon reflexes, loss of sphincter tone, or decrease in light touch or pinprick sensations, particularly in the genital area.

In addition to the general and systemic evaluations, detailed assessment of gonadal function, vascular competence, neurological integrity, and genital organ normalcy should be performed on every patient. Patients suspected of hypogonadism should be assessed for evidence of muscle development, size and structure of the penis (normal adult penis is 6 cm in length in the unstretched flaccid state, 3 cm or more in width, has normal urethral opening, and no evidence of hypospadias) and size and consistency of the testes and the prostate. Penile temperature sensation testing could also be performed with the use of alcohol swabs. In addition, the bulbocavernous reflex should be elicited by squeezing the glans penis and assessing the evoked contractions of external anal sphincter or bulbocavernosus muscles. This reflex response is clinically detectable in 70% of normal males. The penis should also be examined for evidence of masses or plaque formation, angulation, unprovoked persistent erection, or tight unretractable foreskin.

Similarly in females genital exam is often highly informative, especially in cases of dyspareunia, vaginismus, with a history of pelvic trauma and with any disease potentially affecting genital health. When the history indicates, the opportunity for Pap smear/STD investigation should be taken (Hatzichristou, 2002; Hatzichristou, 2004; Anastasiadis, 2002; Butcher, 1999b; Kandeel, 2001)

**Recommended Laboratory Testing**

Recommended laboratory tests for men and women with sexual problems typically include fasting glucose, cholesterol, lipids hormonal profile and X-ray spine for spina bifida. Additional laboratory tests (e.g., thyroid function) may be performed at the discretion of the clinician, based on the medical history and clinician's judgment. When an infective etiology for dyspareunia remains possibility vaginal, cervical and vulval discharge microscopy/cultures should be performed (Hatzichristou, 2002; Sadovsky, 2000; Earle, 2003; Seidman, 2003; Guay, 2004; Butcher, 1999b)

**Specialist Consultation and Referral**

Patients with history of medical problems should be referred to appropriate speciality to evaluate the severity and state of disease control. Some times there may not be a need for referral, but if patient requests for the same, it should be done. Further diagnostic evaluation should also be conducted in case of lifelong or primary sexual dysfunction, in the presence of specific anatomic or endocrine
factors and failure of initial therapy. Patients with Hyposexual desire and absent or retarded emission or anorgasmia may need to be evaluated for the presence of CNS disease. Patients with prolonged or painful erection should be evaluated for the possibility of primary penile disease, hematological disorder, or other systemic diseases associated with penile complication.

**Selective investigations for male sexual dysfunction**

A broad array range of specialized diagnostic tests and procedures are available, particularly for assessing erectile dysfunction. These tests may be used to separate organically-based from purely psychogenic cases (e.g., nocturnal penile tumescence and rigidity testing) or to tailor specific treatment options (e.g., surgery). In the majority of cases, however, the diagnostic evaluation has little impact on the selection of therapeutic options. However, before commencement of such detailed investigations, patients with a clear evidence of chronic organic disease should be evaluated and treated for their primary illness. Those on drug therapy that is likely to be responsible for their erectile problem should have their medications changed or discontinued for a trial period while assessing for the return of potency. Discontinuation of substance abuse before a full diagnostic workup is also required (Hatzichristou et al., 2002; Sadovsky, 2000; Broderick, 1999).

**Estimation of hormonal levels:** Patients with a history of decreased libido, diminished secondary sexual characteristics, developmental disorder, anosmia, headache, visual disturbance, and drug ingestion, or patients with physical signs consistent with hypogonadism or androgen resistance, such as abnormal secondary sexual characteristics, decreased testicular size, or abnormal testicular consistency, should have bioavailable serum testosterone and LH measured (Handelsman & Swerdloff, 1985; Giagulli, 1994).

**Investigation of structural abnormalities of penis:** Several techniques are available for evaluation of structural and functional integrity of the penile tissue. These include penile imaging, penile biopsy and cavernosal electrical activity. Penile imaging may be helpful in delineating peyronie’s disease and its effect on penile vascular competence, arteriovenous malformations and lymphohemangiomas, penile ruptures and tears of the tunica albuginea (Amin et al., 1993; Fedel et al., 1996, Forstner, 1995). Biopsy may be helpful in case where corporeal fibrosis is suspected (Hussain, 1998). Single potential analysis of cavernous electrical (SPACE) activity can be measured in patients who had pelvic surgery (including prostatectomy), spinal cord injury, and long-standing insulin-dependent diabetes with presumed autonomic neuropathy, as well as smooth muscle dysfunction (Stief, 1994).

**Penile tumescence monitoring:** A variety of procedures are available to assess the involuntary, unconscious penile tumescence that occurs during the REM stage of sleep or the cognitively induced erection that occurs during the exposure to sensual (audio, audiovisual, or fantasy) and/or local tactile (penile vibration) sexual stimuli, which can be used to differentiate between organic and psychogenic erectile dysfunction. *Nocturnal penile tumescence (NPT) monitoring* evaluates the presence or absence of the involuntary unconscious erections, which normally occur during the REM stages of sleep, during 1–3 nights. Normal nocturnal tumescence has been defined as a total night erection time greater than 90 min and an increase in penis circumference in excess of 2 cm. A change in circumference of 16 mm or 80% of a full erection is thought to reflect a sufficient degree of penile rigidity for vaginal intromission. A penile buckling pressure of 100mmHg using the manual tonometer can provide a more accurate assessment of the degree of penile rigidity required for
vaginal penetration than the percentage change in circumference. A buckling pressure less than 60 mm Hg is thought to be inadequate for vaginal penetration. Formal NPT testing is performed in a sleep laboratory and includes monitoring the penile circumference and axial rigidity at or near the time of maximum tumescence, and should be reserved to investigate difficult cases, e.g., males in whom psychological factors are strongly suspected but in whom organic factors are questionable or the intake of pharmacological agents are not identified. An electronic home device (Rigiscan monitoring device, Timm Medical Technologies) has been developed to provide continuous recording of NPT and rigidity. (Karacan et al, 1978; Wein et al, 1983; Levine & Lenting, 1995; Krane, 1986; Kaneko S, Bradley, 1986; Bradley et al, 1985; Frohrib et al, 1987). Several pitfalls are associated with NPT monitoring, which limit the value of using this investigation as an initial screening test. These include 1) the paucity of NPT norms for men older than 65 yr; 2) the lack of validation by an independent method other than NPT monitoring itself for the basic assumption underlying this investigation; 3) the lack of clear objective measures to relate the quality of sleep-associated penile erections to those occurring during usual sexual activity; 4) the presence of psychological factors (e.g., anxiety, depression, or loss of sexual desire) or dreams with anxiety content may influence the occurrence of NPT; 5) the first-night effect that may occur on the first night of sleep laboratory monitoring; 6) sleep abnormalities such as apnea, periodic leg movement, and nocturnal myoclonus can adversely influence the quality of NPT recording; 7) the identification of NPT events is dependent on the arbitrary criterion of the minimum erection time required for an erection episode; and 8) the formal sleep laboratory testing is very costly and involves waking the patient when he has 80% of a full erection to measure the buckling pressure of the penis (Levine & Lenting, 1995; Schiavi RC 1994).

**Vascular investigations:** Patients suspected of having vascular lesions, based on history, physical signs, and those with abnormal tumescence monitoring, may undergo more detailed vascular evaluation of the penile vasculature to determine whether a surgically correctable factor underlies the dysfunction. Tests, which can directly evaluate penile inflow and outflow vasculatures, include pharmaco-penile duplex ultrasound (PPDU), penile angiography, radionuclear scintigraphy and measurement of cavernous oxygen tension (Fitzgerald, 1992; Montorsi et al, 1993; Patel et al, 1993; Meuleman & Diemont, 1995; Mueller et al, 1990; Choi, 1992; Aoki et al, 1986).

**Neurological investigations:** As we know that sexual functioning is controlled by autonomic nervous system several neurological assessments have been developed to assess the role of autonomic disorders in the development of sexual dysfunction. These include biothesiometry (assesses vibration perception threshold), dorsal nerve conduction velocity, bulbocavernous reflex (sacral reflex arc) latency, Pudendal nerve somatosensory (genitocerebral)-evoked potential and Perineal electromyography. Pudendal nerve somatosensory (genitocerebral)-evoked potential test allows the evaluation of the peripheral and suprasacral afferent pathways by stimulating the pudendal nerve at the penis. The evoked waveforms are recorded at various sites within the CNS, but most typically over the conus medullaris and parietal cortex (3, 152). Patients with sacral lesions (distal to the sacral recording electrodes) caused by multiple sclerosis, spinal cord trauma, or tumor may demonstrate prolonged peripheral and total conduction times. However, patients with suprasacral lesions (cephalic to recording electrodes) caused by transverse myelitis, cervical disc disease, tumor, or trauma may have prolonged total conduction time and central conduction time, but normal peripheral conduction time (Padma-Nathan, 1986).
TREATMENT OF SEXUAL DYSFUNCTIONS

Principles of management

Treatment of sexual dysfunction should involve patient centered care and wherever possible, application of common management approaches. Patient-centered care involves consciously adopting the patient's perspective and respecting his or her ideas, feelings, expectations and values. The physician should enter the patient's world, to see the illness through the patient's eyes. Some of the basic principles of patient centered approach are given in Table-14 (Ralph & McNicholas, 2000).

Table-14: Principles of treatment

- For most patients, the final selection of treatment should be according to their choice.
- The role of the professional is to inform the patient & help him to make a reasoned choice.
- The professionals should provide unbiased information on all suitable treatment options, their merits, and known significant risks, in a form that the patient (and partner) can assimilate and from which it is sufficient for them to evaluate the options. The final choice of treatment is tailored to the needs and preferences of the patient.
- At times clinicians are faced with situations when patients are not able to bring a partner for the treatment. In such cases no patient should be denied treatment because of the absence of a current partner.
- Agreed treatment goals should be established at the start of treatment
- Appropriate information should be given on management of the chosen treatment, including advice on what to do & whom to contact in case of problems and complications.

Formulation:

After complete assessment, the first step in the management is to provide the patient/couple a brief and simple account of the nature of their problems and possible contributory factors. The aims of the formulation are threefold. First, it should help the couple to understand their difficulties. This can be a source of encouragement, especially if the therapist also explains how common such problems are. Second, the therapist should point out the likely contributory factors, particularly the maintaining factors which will be the focus of therapy, and thus establish a rationale for the treatment approach. Finally, providing a formulation also helps to check that the information obtained during the assessment has been correctly interpreted. So the couple should always be asked to give a feedback of the formulation (Hawton, 1989).

It is important for the therapist to strike a balance between individual partners contribution to the problem, and thus emphasize the need of collaboration between the partners for the success of the therapy. The therapist should also emphasize positive aspects of the couple's relationship.

Treatment options:

Treatments can be broadly classified into general measures and specific measures. The general measures include sex education and relaxation exercises. The specific measures can be either pharmacological measures, non-pharmacological measures or a combination of both. Among the non-pharmacological measures, many types of psychotherapies like psychodynamic, interpersonal, rational emotive therapy, Master Johnson's behavioural therapy or its modifications, systematic desensitization, ban on sexual intercourse and skill training in communication of sexual preferences
etc have been used. Unfortunately there are no well designed studies which have evaluated the effectiveness of these psychotherapies. Most of the studies done have used convenience, don't describe their sample adequately, have not used standard definitions for various disorders and are silent about the therapist variables. Hence the results cannot be generalized. Among all the techniques, which have been used, cognitive behavioural measures of Master Johnson or its modifications are the most popular and have been found to be most useful. In the following sections we will describe the modified Master Johnson's techniques for couples and single males.

In the recent time there is lot of research on the pharmacological measures for treatment of sexual dysfunction, especially erectile dysfunction. Now many pharmacological options are available for treatment of sexual dysfunctions in both males and females and well designed studies have shown that they are efficacious.

Selection of treatment:
As discussed earlier, the final selection of treatment should be according to their choice. The therapist should inform the patient about the available modalities and help him to make a reasoned choice. Agreed treatment goals should be established at the start of treatment. The treatment can be broadly classified as general behavioural measures, specific behavioural management and pharmacotherapy. The general measures include providing sex education and relaxation training. The specific behavioural measures involve nongenital sensate focus, genital sensate focus and vaginal containment for the couples (for single males the steps are different and are discussed later). These steps are common for most of the disorders. Further specific behavioural measures for the specific disorders are usually based on the type of disorder. Selection of pharmacological agents should take into consideration associated psychiatric comorbidity, physical comorbidity and age of the patient.

SEX EDUCATION:
The first step in the treatment of any sexual dysfunction is education. The aims of education are to normalize the individual's experiences (i.e., help the individual realize that there are many others who have the same needs, problems, and experiences), reduce anxiety about sex by providing accurate information about arousal and normal sexual response, dispel sexual myths, dispel unrealistic expectations. Material used for the sex education should cover information about the anatomy of the sex organs, menstrual cycle, pregnancy, puberty, masturbation, formation of semen, night falls, types of sex, stages of sexual intercourse, normal male and female sexual response cycle. The basic areas to be covered in sex education are outlined in table-15. Although all the areas should be covered, special emphasis should be given to those areas, which are directly related to the illness. Where ever possible figures and diagrams should be used for reference and illustrations. There are many manuals available for providing sex education. Avasthi & Banerjee (2002) developed one such manual in for the indian patients. In some cases the reading material can also be provided to the couple/patient. Sex education and teaching relaxation should be carried out over the four sessions.

Table -15: Components of Psychoeducation for sexual dysfunction

1. Discuss about anatomy of the sex organs
2. Discuss about menstrual cycle, pregnancy, puberty, masturbation, formation of semen, nightfalls, types of sex, stages of sexual intercourse, normal male and female sexual response cycle.
3. Educate the patient/couple about the wide variation in the extent and frequency of feelings of sexual desire from one individual to the next.
4. Educate patient/couple about the importance of the timing of sex. The time of day that suits one partner may not suit the other. Help the couple plan their time so that they have regular blocks of time alone in which to relax, enjoy each other’s company, and engage in sexual play if desired.

5. Educate partners about how to refuse sex diplomatically.

6. Educate patient/couple that sex will sometimes be refused and that the refusal is not necessarily an insult or a personal rebuff.

7. If culturally appropriate, encourage partners to accept the use of masturbation or manual stimulation if sexual advances are refused. Remind couples that masturbation does not represent a lack of love or desire for one’s partner.

8. Assist shy or reluctant partners with learning to initiate sex more frequently. Clear communication between partners will be necessary.

9. Educate patient/couple about the fact that sexual desire levels fluctuate over the life span.

10. Encourage patient/couple to communicate their needs for desire and sexual arousal.

11. Encourage patient/couple to show each other what sort of stimulation is required for orgasm to occur (e.g., manual or oral stimulation).

12. Educate males that some females may be able to have multiple orgasms (especially if a vibrator is used) and hence may sometimes find it pleasurable if genital stimulation is continued after the initial orgasm.

13. Encourage patient/couple to talk about what kinds of caresses they do and do not like immediately before, during, or after orgasm (e.g., genital stimulation after orgasm may be unpleasant).

Understand and clarify sexual myths: For some individuals, inappropriate sexual beliefs or myths can cause problems within a relationship. Individuals acquire expectations about what sex should be like and how they or their partner should behave. One of the components of sex-education should be to help the individual and his or her partner alter any sexual beliefs that interfere with the individual’s enjoyment of sex. Some of these apply equally to both men and women, while others will be more relevant to one gender than the other. Some of the common myths are as follows:

1. The man should be the sexual leader. By being the ‘sexual leader’ and taking responsibility for arousing both oneself and one’s partner, men cheat themselves of much pleasure. Not only do they have the pressure of ensuring that the woman is satisfied, but they also miss out on the extra stimulation that could be given to them by their partner. Therefore, they have all of the pressure and less of the pleasure. It is important for a woman to be able to communicate her sexual needs and interests as well, rather than just waiting for her partner to initiate sex, or expecting her partner to know intuitively what specific sexual activities are enjoyable or desired on a particular occasion.

2. A woman should not initiate sex. As mentioned above, sex is a two-way interaction and it is often more fulfilling for both partners if sexual initiative and ‘leadership’ is shared. A lot of men wish their female partners would initiate sex more often.

3. Men should not express their emotions. Some men find that they can only express their feelings through sex. In many cases, a heart-to-heart chat, or a warm cuddle, may be more appropriate.
4. A woman should always have sex when her partner makes sexual approaches. It is not a woman's 'duty' to have sex with her husband. A woman should feel able to say no to sex when she does not feel like it.

5. All physical contact must lead to sex. As some men express their feelings through sex, they may believe that all touching must lead to sex. Touching and cuddling one's partner can be very fulfilling and does not have to lead to sex.

6. Good sex leads to a wild orgasm. This myth holds that sex involves increasing and unaltering arousal up to the point of orgasm, at which time one or both partners is wild with passion and the thrusting is hard and uncontrolled. In reality, concentration and arousal can be extremely difficult to maintain for lengthy periods and more typically they wax and wane throughout a sexual encounter. A more relaxed approach to sex, in which both partners take the time to talk, laugh, and communicate, can be equally or more satisfying.

7. A man feels like sex at any time. While men accept that women do not always feel like sex, some men hang onto the myth that they should feel like having sex whenever the occasion arises. However, the fact is that life is often hectic, stressful, and tiring, and that man do not always feel like sex at any time of the day. While they may be capable of having sex at any time, they may not necessarily want to have sex at any time and should not feel obligated to have sex at any time. It is all right for a man to say, "Not tonight, darling. I'm feeling a bit too tired. Let's just cuddle."

8. Sex equals intercourse. Intercourse can certainly be a pleasurable and important aspect of a sexual relationship; however, sex does not necessarily require intercourse. Manual and oral stimulation can be equally pleasurable and may provide a slightly different and novel sensation, either physically or emotionally.

9. Sex happens automatically. This myth asserts that we should not have to learn about sex or ask our partner about what they like because sex is something we should instinctively know about. Most of what we know about sex is learned from the media, our parents, and our friends. Much of this information promotes biased or unrealistic beliefs that may actually interfere with our enjoyment of sex. Good sex may involve re-learning much of what we know and assume. However, with practice, this new knowledge will become natural and our sex lives and relationships will be enhanced.

10. A 'respectable' woman should not enjoy sex too much and should certainly never masturbate. A respectable woman of any age is a sexual being. She should feel free to experiment sexually in any way that feels comfortable. Enjoyment of sex is healthy, natural, and to be encouraged.

11. All other couples have sex several times a week; have orgasm every time they have sex & orgasm simultaneously. Firstly, this is not a factual statement. Secondly, while this description of sex may hold in the early stages of a relationship, it becomes less true as a relationship progresses. Couples may be left with a set of unrealistic expectations that may trigger/exacerbate sexual problems.

12. There must be something wrong with the relationship if sex is not good. While a bad relationship is unlikely to have good sex, the reverse is not true. A loving couple with a stable
and communicative relationship may have specific sexual difficulties. Remember that good sex does not always happen automatically and that some degree of learning or re-learning may be required.

13. **Formation of Semen.** Semen is formed from blood and loss of it will lead to weakness.

14. **Masturbation is wrong.** It is commonly believed that too much of masturbation is wrong and leads to mental illness, physical weakness and decreases potency. It should be clarified that there is no scientific evidence to support this.

15. **Role of ‘Physical strength’ or ‘Muscle power’ in sexual performance.** It is a common belief that muscular men can perform better than averagely built men. It should be clarified that there is no relation between muscle power and sexual performance and what matters is the motivation and proper knowledge about sex.

16. **Size of the penis.** Very often males are preoccupied with the fact that larger penis are more effective. This myth should be address by discussing about the size of normal penis in flaccid and erect position and the minimal length of penis required satisfying a female. Also discuss that the sensory endings are present only in the lower one third of vagina.

17. **Circumcision and sexual performance.** Many persons tend to belief that circumcision is helpful in prolonging coitus by delaying the ejaculation time.

18. **Bending of Penis.** Some males are very much distressed with the curvature of penis. It should be clarified that slight curvature of the shaft of penis is perfectly normal and does not harm the sexual intercourse.

19. **Vasectomy/tubectomy decreases sexual potency.** Many of our patients believe that these operations decrease the sexual potency. The couple should be explained that use of contraception or such operations ensure prevention of fertilization and possible chance of pregnancy and hence allows them to enjoy sex more freely.

20. **Drugs enhance sexual potency.** It is a common belief that alcohol and/or Opioids or other drugs improve potency. It should be clarified that these drugs temporarily increase a men's sexual desire, but they definitely decrease the sexual performance.

**RELAXATION**

Relaxation therapy should be thought to patient using Jacobson's Progressive Muscular Relaxation Technique. This can be combined with the biofeedback Machine so as to facilitate objective evidence and mastering of anxiety by the patient.

**NON-PHARMACOLOGICAL TREATMENT OF SEXUAL DYSFUNCTION:**

Non-pharmacological management involves some of the general measures and specific measures. The general measures include sex education, relaxation exercises, home work assignments, preparing the patient/couple for relapse, termination of treatment and follow-up. The specific measures of sex therapy for each dysfunction will be discussed in the following section. It is important to remember that many of these measures are carried out simultaneously.

**HOME WORK ASSIGNMENTS FOR COUPLE**

The homework assignment should provide a structured approach, which allows the couple to rebuild their sexual relationship gradually. It should also aid in identification of specific factors, which are
maintaining the sexual dysfunction. These include cognitions and attitudes, especially those that are not apparent at the outset. The homework assignments should also provide the couple the specific techniques to deal with particular problems. Various therapists use the basic programme of homework assignments, which is applicable to treatment of majority of the couples. The stages of this programme are labeled using the terminology introduced by Master and Johnson (1970) is: Nongenital sensate focus, genital sensate focus and vaginal containment. There are some basic principles of giving and carrying out the homework assignments as shown in table -16.

Table-16: Principles of giving and carrying out the homework assignments

1. The instruction must be detailed and precise.
2. The therapist should always check that the couple have fully registered and understood the instructions before the treatment session ends.
3. When giving instructions the therapist should ask the couple how they feel about the instructions and do they anticipate any difficulty. If problems are anticipated, the therapist should endeavor to resolve their fears before they attempt the assignment.
4. A couple should not be asked to move to next stage of the programme until they have mastered the current assignments.
5. A couple should never be left with the option of moving from one stage to the next between treatment sessions depending on how they progress, because uncertainty can be detrimental.
6. The couple should be informed that the therapist will be asking for the detail feedback on the progress at the next treatment session.

Nongenital sensate focus: This assignment is particularly helpful for a couple to establish physical intimacy in a comfortable and relaxed fashion, and allows open communication about feelings and desires. Before describing the assignment the therapist should explain the aims of this stage i.e. to help the partners develop a sense of trust and closeness, to become more aware of what each one likes and to encourage communication. The couple is first requested to refrain from sexual intercourse and touching of each other's genitalia and the women's breast. It should be explained that this is to ensure that they are not continually confronted by those aspects of sexuality that is most likely to cause anxiety, and to enable them to concentrate on rebuilding their physical relationship by first learning to enjoy general physical contact. The couple is instructed that during the following week one partner, when ever he or she likes it to be, should invite the other partner for a homework session by giving explicit invitation and the other partner should accept the invitation if he or she is feeling either positive or neutral about it. If the feeling is negative, it is important that the partner conveys the same with explanation about such feeling. These instructions open up the communication and avoid partners feeling pressurized by each other. After the first session of caressing the pattern of inviting then alternates, so that the onus is on the other partner to invite next time. Clinician should not impose a too rigid schedule, nut should make it clear to the couple that they should at least practice 3 sessions of homework per week.

The caressing session can occur wherever the couple wishes, as long as they feel comfortable, warm and there is no risk of them being disturbed. The eventual aim may be for the partners to be naked during the sessions, with some low lighting in the room. Non-genital sensate focus should begin with one partner exploring and caressing the other partner's body all over, except for 'no-go'
areas. The partners should do this in a way that gives pleasure to both of them. The other partner should focus on the sensations elicited by the caressing and should provide feedback on what he/she likes and dislikes and how things could be improved. During the early sessions this exercise should be like a massage. The partners should swap round when they wish to, so that the passive partner now takes over caressing. The session can go on as long as the couple wishes to but they should avoid becoming bored. If any of the partner becomes sexually aroused during this stage, they should enjoy this but should not go beyond the agreed limits of caressing. There should be no restriction to self-masturbation if any partner wishes to, for relieving the sexual tension, but should not be done in presence of the partner.

Initial reactions to these sessions vary according to the nature of the couple's problem. Some couple's may find this enjoyable and others may react negatively. In some cases it will be appropriate for the therapist to just acknowledged the problem and reassure and encourage the couple. In some cases therapist have to explain that this is understandable and expected, but that in order to overcome a sexual problem like theirs it is necessary to approach it in a systemic fashion and with due course of time they will begin to get pleasure out of their sessions and these would come as spontaneous behaviour.

Some couples will have more serious difficulties in the form of negative responses to homework assignments, persistent breaking of the ban on sexual intercourse, or cessation of homework assignments. A cognitive model as shown in figure-1 can be useful in making the couple understand their problem. In some cases extensive therapeutic work may be necessary before progressing further. In such cases the focus of therapy might have to be changed temporarily and sessions may be required to help the partners express their feelings and anxieties. In occasional cases no progress can be made in developing understanding of why couple is encountering difficulties. In such cases it is worth seeing the partners separately to find out whether important information is being withheld by one of them (Hawton, 1989).

Figure -1: Cognitive model for explaining the difficulties during homework assignments

```
Previous or other current experiences
   ↓
Attitudes
   ↓
Thoughts (often automatic) or images
   ↓
Homework assignments  ➔  Negative responses  ➔  Avoidance
/ Non-agreed behaviour
```
**Genital sensate focus:** The aim of this assignment is to make the couples caressing more sexual and arousing and also to encourage them to continue discussing their feelings and desires. To begin with, the couple is asked to continue their pattern of alternate inviting and taking turns at caressing, but to extend this to include both partner's genitalia and women's breast. This should be initially gentle and exploratory, without sexual arousal being the objective. If any of the partners becomes sexually aroused during this stage, they should enjoy this. The therapist should explain the couple in detail about the type of caressing that the couples usually like. And should emphasize the need for this stage to be added to the previous one, and not to replace it. Guiding the partners hand can again be a useful means of helping the partner learn what is enjoyable. Lotions can also be used if the couple wishes. When this stage is progressing well the couple should be instructed to include mutual caressing and taking turns of being active and passive. If either partner wish to experience orgasm they should feel free to do so, but this should not be the goal of the session. Some of the techniques for dealing with specific dysfunctions also should be introduced at this stage (Hawton, 1989).

As with the nongenital sensate focus, some couples immediately find these sessions pleasurable while others would react adversely. This stage is particularly likely to generate anxiety, especially about sexual arousal or intimacy, so it very important that the therapist specifically encourages partners to focus on pleasurable sensations.

**Vaginal Containment:** This stage is an intermediate one in the introduction of sexual intercourse to the therapy programme. It is relatively minor stage for couples whose difficulties have by now largely resolved. For others it is extremely important, especially when vaginal penetration is the key step (e.g. ED, PME, and vaginismus). The couple is instructed that when they both are feeling relaxed and sexually aroused the women should introduce her partner's penis into her vagina and the partner should then lie still, concentrating on any pleasant genital sensations. The best position to attempt vaginal containment is female superior position or a side to side position. The couple should be asked to maintain containment as long as they wish, and then they should return to genital and non-genital pleasuring. The couple can repeat the containment up to three times in any one session. Once this stage is well established the couple should introduce movement during containment, with preferably women starting the movements first. With this the general programme of sex therapy is completed and now the treatment should include superimposition of treatment for specific sexual dysfunctions (Hawton, 1989).

**HOME WORK ASSIGNMENTS FOR SINGLE MALE**

Management of sexual dysfunctions in single males also involves same principles. The subject should be provided with sex education and thought relaxation exercises. The homework assignments for single male with erectile dysfunction involve advising the subject to read erotic material, or see erotic material in books/movies and to note the sense of sexual pleasure out of the same and to focus on it. Patient is advised not to look for the erection and also should not note the extent of erection if any. In subsequent sessions patient is asked to be alone and imagine about the content of the read erotic material. This should be done after relaxation exercises and before going to sleep or immediately before getting up from sleep. Patient also should be asked to visualize, as far as possible, of being involved in the same erotic/sexual activity. Patient also should note and focus on the sexual pleasure derived from such activities but he should be asked to refrain from checking the degree and duration of erection. If patient perceives erection, he shouldn't get anxious or excited about the same and should continue to concentrate on the erotic stimuli and related pleasure. In subsequent sessions
patient is advised to combine reading of and seeing erotic material with his fantasy and to focus on himself in foreplay and later, intercourse. This should be combined with fondling of penis and additional masturbatory hand movements on the penis by using non-dominant hand. Again it should be emphasized that patient shouldn’t concentrate on the quality of erection. As the patient masters these steps he is encouraged to indulge more frequently in masturbation with active fantasy of him indulging in intercourse with a female. However, he should be instructed to terminate masturbation before the desire for ejaculation. At the end of the therapy the patient is instructed to fantasize about himself indulging in sexual intercourse with the process of ejaculation and orgasm. During the whole therapy feedback should be taken after every session and any doubts/misconceptions should be clarified.

At the end the patient should be counseled and reassured that he can now indulge in heterosexual experience without difficulty. However, he should be cautioned that it should be done after few days, not in a hurry, and to be carried out in familiar surroundings without guilt or fear and anxiety.

In case of premature ejaculation at the onset patient should be strictly instructed to abstain from heterosexual intercourse and not to experiment during these sessions. Patient is advised to read erotic material, or see erotic material in books/movies, to visualize it and note the sense of derived sexual pleasure with subsequent erection of penis. Then he is advised to imagine himself in the same situation. This is to be combined with gentle touching of the penis or the testicles/groin region to enhance pleasure, but he shouldn’t stroke the penis or indulge in masturbation. As patient masters this he is asked to combine the imagery with fondling of penis so as to build up sexual pleasure and can even indulge in masturbation. During this when he has the feeling of imminent ejaculation, he should be instructed to immediately stop masturbation and practice squeeze technique, discussed below. At the end of the therapy the patient is instructed to fantasize about himself indulging in sexual intercourse with the process of ejaculation. During the whole therapy feedback should be taken after every session and any doubts/misconceptions should be clarified. At the end the patient should be counseled and reassured that he can now indulge in heterosexual experience without difficulty. However, he should be cautioned that it should be done after few days, not in a hurry, and to be carried out in familiar surroundings without guilt or fear and anxiety (Avasthi & Gupta, 2002).

Non Pharmacological Treatment for specific sexual dysfunctions

Premature Ejaculation

It is considered that behavioural management should be the first line of therapy where ever possible. The specific behavioural techniques for PME involves stop start or squeeze techniques, which are usually introduced during genital sensate focus.

The squeeze technique was first developed by Semans in 1956, but was popularized by Masters and Johnson in 1970. The stop-start technique developed by Masters and Johnson has been found to be highly effective for the treatment of premature ejaculation. Success rates of up to 90% have been reported. The technique aims to increase the frequency of sexual contact and increase the sensory threshold of the penis. This technique is best carried out in the context of sensate focus exercises because some males ejaculate so rapidly that direct stimulation of the penis of any kind can trigger ejaculation straight away. Starting with non-genital caresses will allow the male more time to identify the sensations that occur immediately prior to ejaculation.

The stop-start technique consists of the man lying on his back and focusing his attention fully on the
sensation provided by the partner's stimulation of his penis. When he feels himself becoming highly aroused he should indicate this to her in pre-arranged manner at which point she should stop caressing and allow his arousal to subside. After a short delay this procedure is repeated twice more, following which the woman stimulates her partner to ejaculation. At first the man may find himself ejaculating too early, but usually control gradually develops. Later a lotion can be applied to the man's penis during this procedure, which will increase his arousal and make genital stimulation more like vaginal containment.

The **squeeze technique** is an elaboration of the stop-start technique, and probably only needs to be used if the latter proves ineffective. The couple proceeds as with the stop-start procedure. When the man indicates he is becoming highly aroused his partner should apply a firm squeeze to his penis for about 15-20 seconds. During applying the pressure, the forefinger and middle finger are placed over the base of the glans and shaft of the penis, on the upper surface of the penis, with the thumb placed at the base of the undersurface of the glans. This inhibits the ejaculatory reflex. As with the stop-start technique this is repeated three times in a session and on the fourth occasion the man should ejaculate. Both procedures appear to help a man develop more control over ejaculation, perhaps because he gradually acquires the cognitive techniques associated with ejaculatory control, or perhaps because he gradually becomes accustomed to experiencing sexual arousal without getting anxious (Hawton, 1989).

**Erectile dysfunction:**

Men with psychogenesis erectile dysfunction will usually start experiencing erections during either non-genital or genital sensate focus. If the therapist suggests that during the initial phase the man tries not to have an erection this can have the opposite effect. As noted earlier, men with erectile dysfunction often have difficulty attending to erotic stimuli, especially when an erection develops, tending instead to think about the quality of their erection or whether they will be able maintain it. The therapist should specifically encourage the man to focus his attention on the pleasurable sensations he experiences during this partner's genital caressing (the use of a lotion can often heighten these sensations), areas of his partner's body that he finds arousing, and the pleasure of witnessing his partner's sexual arousal.

**Impaired sexual interest in men or women:**

Besides the general measures, no particular procedures are used in the treatment of this problem. The main emphasis is on setting the right circumstances for sexual activity, reducing anxiety, establishing satisfactory fore play, focusing attention on erotic stimuli and cognitions and resolving the general issues of relationship between the couple. But it is generally agreed that desire disorders have a substantially poorer response to psychotherapy (<50%) than other forms of sexual dysfunction (= 70%). In addition, the course of therapy tends to be more difficult and the conventional sex therapy techniques (e.g., sensate focus) have generally been inadequate. Hence a more flexible and individualistic approach to treatment is required. Many authors have tried approaches like cognitive-behavioral therapy, systems approach, script modification, clinical hypnosis, guided fantasy exercises, and sexual assertiveness training. Cognitive-behavioral therapy emphasizes the role of thought patterns and beliefs in perpetuating maladaptive behavior and is useful when beliefs held by the patient or couple about norms or responses is contributing to the sexual problem. The “systems” approach; targets couple dynamics and allow sex therapists to assess the extent of using sexual dysfunction by
the couple to maintain a “sexual equilibrium” within the relationship (i.e., the way sexual dysfunction is used to regulate intimacy or to allow the share of blame between partners for the failure of the relationship).

**Vaginismus:**

It is important to remember that many women who present with vaginismus have negative attitude towards sex and quite a few are victim of sexual assault. Some may also have the belief that premarital sex is wrong or sinful. This belief may be so ingrained that, even when intercourse is sanctioned by marriage, it may be difficult to relax physically or mentally during sexual intercourse. Some times the cause of vaginismus may be a fear that is instilled by friends or family by suggesting that the first experience of intercourse is likely to be painful or bloody. Another important cause of vaginismus is fear of pregnancy.

The sex education should focus on clarifying normal sexuality and reducing negative attitude for sex. Besides the use of general relaxation exercises, the relaxation procedure should also focus on teaching the women to relax muscles around the inner thigh and pelvic area.

The specific management involves the following stages:

1. **Helping the woman develop more positive attitudes towards her genitals.** After the therapist has fully described female sexual anatomy, the woman should be encouraged to examine herself with a hand mirror on several occasions. Extremely negative attitudes (especially concerning the appearance of the genitals, or the desirability of examining them) may become apparent during this stage, possibly leading to failure to carry out the homework. Some women find it easier to examine themselves in the presence of the partners; others may only get started if the therapist helps them do this first in the clinic. If this is necessary a medically qualified female therapist should be involved.

2. **Pelvic muscle exercises.** There are intended to help the woman gain some control over the muscles surrounding the entrance to the vagina. If she is unsure whether or not she can contract her vaginal muscles she should be asked to try to stop the flow of urine when she next goes to the toilet; the pelvic muscles are used to do this. The woman can later check that she is using the correct muscles by placing her finger at the entrance to her vagina where she should be able to feel the muscle contractions. Subsequently she should practice firmly contracting these muscles for an agreed number of times (e.g. 10) several times a day.

3. **Vaginal penetration.** Once the woman has become comfortable with her external genital anatomy she should begin to explore the inside of her vagina with her fingers. This is partly to encourage familiarity and partly to initiate vaginal penetration. Negative attitudes may also become apparent at this stage (e.g. concerning the texture of the vagina, its cleanliness, fear of causing damage, and whether it is “right” to do this sort of thing). The rationale for any of these objections must be explored. At a later stage the woman might try using two fingers and moving them around. Once she is comfortable inserting a finger herself, her partner should begin to do this under her guidance during their homework sessions. A lotion (e.g. K-Y or baby lotion) can make this easier. Graded vaginal dilators can be used. However, clinical experience has shown that the use of fingers is just as effective.

4. **Vaginal containment.** When vaginal containment is attempted the pelvic muscle exercises and the lotion should also be employed to assist in relaxing the vaginal muscles and making
penetration easier. This is often a difficult stage and the therapist therefore needs to encourage the woman to gain confidence from all the progress made so far. Persisting concerns about possible pain may need to be explored, including how the woman might ensure that she retains control during this stage.

5. ** Movements during containment:** Once containment is well established the couple should introduce movement during containment, with preferably women starting the movements first. With this the general programme of sex therapy is completed and now the treatment should include superimposition of treatment for specific sexual dysfunctions.

**Dyspareunia:**

Besides the general measures and sensate focus, treatment of dyspareunia involves sex education focusing on importance of adequate arousal and the couple may also be aided by specific suggestions regarding modification of their usual intercourse positions. In particular, it may be helpful for the couple to avoid positions that lead to deep penetration (such as vaginal entry from the rear) and to adopt positions in which the woman is in control of the depth of penetration (woman on top) or in which penetration is not too deep (side by side or 'spoons' position). Another important aspect of treatment of dyspareunia due to psychological causes is helping the woman become aroused by teaching the sensate focus programme. In addition to discussing the importance of adequate arousal, the couple may also be aided by specific suggestions regarding modification of their usual intercourse positions. In particular, it may be helpful for the couple to avoid positions that lead to deep penetration (such as vaginal entry from the rear) and to adopt positions in which the woman is in control of the depth of penetration (woman on top) or in which penetration is not too deep (side by side position).

- Woman those who have repeatedly experienced pain on intercourse, it is likely that they will tense up on future occasions in anticipation of further pain. Such tension may act to increase pain since the muscles may be more resistant to penetration. For this reason, relaxation exercises prior to or during intercourse may be helpful. **Progressive muscle relaxation prior to sexual activity** may allow the women to decrease her general bodily levels of tension, while more specific relaxation exercises immediately prior to intercourse may help to relax the muscles around the pelvic region and may enhance arousal. Once a woman has acquired a number of coping techniques for minimising the likelihood of pain, **positive self-talk** may be helpful. Such self-talk can involve the woman reminding herself that she is in control of the situation and that she will be the one to determine when penetration is to occur and how deep penetration will be (Hawton, 1989).

**PHARMACOLOGICAL TREATMENT OF SEXUAL DYSFUNCTION**

**DISORDER OF AROUSAL (ERECTILE DYSFUNCTION)**

Besides the psychological measure various treatment options are available for ED. Current therapeutic options for erectile dysfunction includes Medical therapy, Constriction ring, Vacuum constriction devices, Intracavernosal injections – ICI, Intraurethral medication devices, Penile prosthesis and reconstructive surgery.

Pharmacological treatment of erectile dysfunction (ED) has taken central importance amongst therapeutic approaches for this increasingly recognized and widely prevalent disorder. Researchers in the last decade or so have tried to find a pharmacological agent that fulfills the criteria of a first line therapy for ED. A first line therapy is one which is easy to administer reversible, non-invasive, low risk and which is appropriate for a broad range of patients (Padma- Nathan, 1999). Since erection is a
vascular event, an intact endothelium is necessary for erection. The regulation of penile tumescence inside the corpus cavernosum (CC) involves the balance between contracting and relaxing factor, which regulate the functional state of smooth muscle cells. The molecular machinery of the cellular component of the corpus cavernosum (CC) has been widely investigated (Aversa et al, 2004) in the last few years. Recent studies have highlighted the importance of local factors (i.e. phosphodiesterases, rho-kinases and endothelins) and that most pharmacological agents modulate the function of these mediators of erection (Chitaley et al 2001). Researchers in the last decade or so have tried to find a pharmacological agent that fulfills the criteria of 1st line therapy for ED. Currently various erectogenic agents are available, which are as follows:

**Oral erectogenic agents**

Oral therapy with vasoactive agents has emerged as the first line treatment and has transformed the manner in which the general public views erectile dysfunction and even the way health care professions deliver care.

**a) Efficacy of PDE (Phosphodiesterase) -5 inhibitors in ED.**

Sildenafil citrate is the first oral PDE-5 inhibitor approved by FDA for treatment of ED. PDE-5 inhibitors are competitive and selective inhibitors of cGMP specific phosphodiesterase type 5, thus inhibiting cGMP hydrolysis (Sadovsky et al, 2001).

However, sexual stimulation (CNS or sensory) is necessary for the non-adrenergic non-cholinergic neurons (NANC) to produce nitric oxide (NO). This nitric oxide activates the guanylate cyclase in vascular smooth muscle cell causing smooth muscle relaxation (Viagra 1999).

**Short-term efficacy trials:** Result in all the 21 placebo controlled, flexible dose-escalation studies done so far showed that PDE-5 inhibitor Sildenafil produced greater improvement in erectile dysfunction than placebo when evaluated on International Index of Erectile Function (IIEF) regardless of the cause, baseline severity and age of the patients (Levine, 2000).

In all the 2nd and 3rd phase trials, sildenafil was found to be safe and well tolerated. The overall discontinuation rates caused by adverse effects were low and statistically non-significant when compared to placebo (Levine, 2000). All side effects were mild to moderate and related to sildenafil’s vasodialatory property.

**Long-term efficacy trials:** The earliest open-label, long-term trial (1 year) found 88% of patients of ED to show significant improvement (Guiliano et al, 1997). Subsequently, two long-term (2 years) randomized double-blind, placebo controlled trials of sildenafil found that it had good safety and tolerability (Hackett & Gingell 1999; Padma-Nathan et al 1998). Post FDA approval field experience update in Nov 1998 showed efficacy rates similar to the short and long term trials.

In three retrospective studies of ED in comorbid cardiac disorder patients, it was seen that the incidence of Myocardial Infarction/Instable angina in sildenafil group and the placebo group was comparable (Conti et al. 1999; Jackson et al 1999; Herrman et al 2000). In a meta-analysis on tolerability of sildenafil, incidence rate of MI was found to be 1.7 and 1.4 per 100 patient years with treatment in sildenafil and placebo group respectively (Kloner & Jasow 1999; Kloner et al 2001).

In a recent meta-analysis of 27 trials (6659 men) where results were pooled from 14 parallel-group, flexible as-needed dosing trials, sildenafil was more likely than placebo to lead to successful sexual intercourse. Efficacy appeared slightly greater at higher doses. (Fink et al 2003). In another recent
meta-analysis (Moore et al 2002) of 10 randomized controlled trials which fulfilled the inclusion criteria where 2123 men were given sildenafil and 1131 placebo, the results were similar to the Fink et al study. Sildenafil has also been found to be efficacious in ED following radical prostatectomy (Zagaza et al 2000; Montorsi et al 2004), spinal cord injury (Derry et al 1998), ED with diabetes mellitus (Rendelli et al 1999; Hirsh et al 1999) ED with chronic renal failure (Chen et al, 2001), Parkinson’s disease (Hussain et al 2001; Zeseiwics et al 2000) in elderly males (Wagner et al 1998), and in ED with mild to moderate depression.

There are other PDE-5 inhibitors under various stages of development (Pryor & Redman, 2000) like vardenafil, which is highly selective PDE-5 inhibitor. In a recently conducted meta-analysis of trials on the efficacy and safety of vardenafil in the treatment of male erectile dysfunction (ED), 9 trials (6809 men) met the inclusion criteria. In results pooled from both the fixed-dose trials (7 trials) and flexible 'as needed' dose escalation trials, vardenafil increased the erectile function domain of the International Index of Erectile Function Questionnaire. There was also significant improvement in the vardenafil group in the percentage of erections firm enough for penetration and also percentage or sexual attempts that were successful per participant. These efficacy variables appeared greater at higher doses. Although, there are no significant differences between 10 and 20 mg dose, vardenafil was not significantly associated with serious cardiovascular events or death (Markou et al 2004).

Another recent retrospective study of men from general population, where pooled subgroup analysis of randomized, double-blind, placebo controlled studies was done, vardenafil group scored higher on all domains of IIEF and also generated positive Global Assessment Questionnaire (GAQ) responses as compared to placebo in all three groups of men aged < 45, 45-64 and > 65 years (Giuliano et al, 2005).

Another PDE-5 inhibitor tadalafil’s clinical trials have shown it to significantly enhance erectile functioning across a wide range of ED cases including those with psychogenic, organic and mixed etiologies (Kloner et al 2003; Padma-Nathan, 2003). However, no head to head trials have been undertaken to compare these newer generation PDE-5 inhibitors with sildenafil.

Other oral erectogenic agents

**Trazodone:** One of the earliest drugs used in erectile dysfunction was trazodone. Trazodone and its active metabolite mCCP both have antagonistic effect on 5HT₂C receptors and may also have adrenoceptor antagonistic action (Monsma et al 1993; Krege et al 2000). A systematic review and meta-analysis of 6 trials of trazodone treatment of ED proved that trazodone was more efficacious than placebo in mixed and psychogenic ED (Fink et al 2003).

**Yohimbine:** It is a α₂ - adrenergic blocker. Before introduction of sildenafil, yohimbine was the most widely used oral treatment of ED. Two initial studies (Vogt et al 1997; Mann et al 1996) produced inconsistent results, which prompted American Urological Association for Erectile Dysfunction Guidelines (1996) to declare Yohimbine as ineffective in treatment of erectile dysfunction (Padma-Nathan, 1999; Montague et al 1996). Later a meta-analysis of 7 randomized controlled trials by Ernst and Pittler (Ernst & Pittler, 1998) found Yohimbine to be superior to placebo. Some researchers now recommend yohimbine to be reasonable initial treatment option as its benefits out weigh its risks (Ernst & Pittler, 1998).

**Apomorphine:** Apomorphine is a dopamine agonist (D1 & D2 receptors) and its sublingual form (Apo-SL) is a new central initiator of erection and has been found to be effective in various types of
ED (Dula et al 2000; Heaton et al 1997). When used in conjunction with psychosexual counseling strategy, it can prove as an effective and safe pharmacological therapy for ED (Costa, 2003). Recent studies show Apo—SL has a safe cardiovascular profile and thus making it a new treatment option for patients with concomitant disease including CVS disorder and diabetes mellitus (Montorsi, 2003).

**Phentolamine**: Oral phentolamine mesylate (Vasomax), which has a faster onset, readily absorbed drug, is a competitive inhibitor of α-adrenergic receptor. Two double-blind placebo-controlled multicenter trials (Mitka, 1998; Goldstein et al, 2001) showed better penetration rates and successful intercourse rates in the test group. It also has the advantage of lack of interaction with nitrates and hence has been suggested as an alternative to treatment of ED with cardiac illness (Padma – Nathan et al 2002).

**Delaquamine**: Delaquamine, a newer α₂-adrenoceptor antagonist, is 100 times more selective for α₂ receptors than Yohimbine. Unfortunately, although the compound has good oral bioavailability and pharmacokinetic properties, early clinical data are discouraging with little or no significant benefit placebo being observed (Carson 1999).

**L-arginine**: L-arginine is the precursor of NO (Nitric Oxide). A placebo–controlled trial involving the administration of large doses of L-arginine (2800 mg/day) for 2 weeks has shown to result in improved erections in 40% of patients (Zorgniotti & Lizza 1994; Melman 1997).

Other oral pharmacological agents like opioid antagonist Naltrexone (endogenous opioids modulate orgasmic response and peripheral intensity of sexual arousal and orgasm) (Van Ahlen et al 1995; Sathe et al 2001), Adrenocorticotropic hormone, melanocorticotropin receptor agonists (Wessells et al 1998; 2000) and antihypertensive agent Losartan (Llisterri et al 2001) are also under study for treatment of ED and inhibited sexual desire.

**Vasoactive Intracavernosal Injections (ICI)**

Since early 1980s, until advent of sildenafil intracavernous injections were the mainstay of the treatment of erectile dysfunction (Brindley, 1983; Virag, 1982). Phentolamine mesylate, an α-adrenoceptor antagonist acts via increasing cAMP and decreasing intracellular Ca²⁺ and also possibly via nitric oxide synthase (NOS) activation (Traish et al 1998). Clinical efficacy and safety of intracavernosal mesylate has been well documented (Anderson, 1995).

Papavarine is a non-selective inhibitor of phosphodiesterase (PDE) and acts by increasing cAMP thus decreasing intracellular smooth muscle. It is used in PIPE test (Papavarine induced Penile Erection) to distinguish between psychogenic and organic ED. However, it has limited efficacy so it is used with other agents such as phentolamine (Bimix) and with phentolamine and prostaglandin E1 (Trimix) (Padma-Nathan, 1999).

Vasoactive intestinal peptide [VIP] (Dinsmore & Alderdice, 1998; Macmohan, 1996) and Forskolin (Mulhall et al 1997) which increase cAMP, have been found to be efficacious in moderate to severe ED resistant to monotherapy and polypharmacotherapy. No pain at site of infection has been reported with VIP, which is an advantage to patients.

Alprostadil- a synthetic prostaglandin E1 is an adenylate cyclase activator and is now the drug of choice of intracavernosal pharmacotherapy (Padma-Nathan, 1995). Due to its synergistic action, it is often used with phentolamine and papavarine (Govier et al 1993). Some studies demonstrated that patients of erectile dysfunction preferred Trimix (Phentolamine + Papavarine + Prostaglandin E1) to sildenafil, regardless of the etiology (Bella & Brock, 2004; Sommer & Engelmann, 2004).
A meta-analysis of 25,000 patients (Steers, 2000) showed that the advantage of mixing above agents is that lower doses of drugs are required thus leading onto synergistic effects with lesser side effect. Prominent side effects are pain, priapism, corporal fibrosis and scar tissue formation. Also, being an invasive procedure, many patients find it inconvenient to inject repeatedly (Linet & Ogrinc, 1996). Procedural complicacy, bleeding and injury to urethra (Porst, 1995; Purvis et al, 1999) caused higher attrition rates at 1 year follow-up of patients being treated with intracavernous vasoactive drugs.

**Intraurethral therapy**

Medicated urethral system for erection (MUSE), which contains 500-1000 mg of alprostadil, has shown success rates varying from 43%- 69% in efficacy studies (Porst, 1997; Padma-Nathan et al 1997). It has advantages that it can be self-administered and has little systemic and local side effects.

**Topical therapy (Transdermal delivery)**

This option minimizes both systemic exposure and tissue traumatization and involves administration of vasoactive substances across skin of the penis. This has added benefit from the patient’s perspective in being a less invasive option. Pilot studies using Soft Enhanced Percutaneous Absorption (SEPA) technology, give ground for optimism. At the American Urological association meeting in San Diego, PGE1 SEPA was reported to be effective in 80-90% of the 114 patients recruited. Nevertheless, this option requires more intensive research before approval by regulatory authorities (McVary et al 1999).

Testosterone therapy for ED is indicated only in confirming cases of endocrinopathies and should be reserved for patients with documented hypogonadism. Transdermal administration has been developed recently. One to two patients containing 2.5-5.0 mg of testosterone-applied daily to the abdomen, back, thighs or upper arms have shown to produce normal plasma testosterone levels. Patients using testosterone skin patches have reported improvements in libido, sexual function, energy and mood. Adverse skin reaction (9% of cases) can be treated with topical hydrocortisone or antihistamine cream. Serum prostate specific antigen (PSA) levels should be measured before testosterone therapy is started (Kirby, Carson, Goldstein 1999; Yap & McVary 2002).

Nitroglycerine, a nitric oxide donor (Cavallini, 1994) and minoxidil ointments (Cavallini, 1994) have met with only minimal success. Although still under investigation, but these agents could acts as another tool in the armamentarium of physicians treating erectile dysfunction.

**Vacuum constriction devices (VCD)**

Vacuum devices work by exerting a negative pressure on the penis, which results in an increase in corporeal blood flow and erection (Gilbert & Gingell 1992). A constriction ring placed around the base of the penis prolongs the erection by decreasing corporeal drainage. The erection obtained with a vacuum device is different from that obtained normally as there is no relaxation of the trabecular smooth muscle. Instead blood is trapped in the intra and extracorporeal regions of the penis. The time taken to achieve an erection varies, but is generally around 2-2.5 mins. The band should not be left in the place for more than 20 mins. Majority of the vacuum devices currently marketed use either a battery or a hand pump to generate vacuum.

One study quoted an overall clinical success rate of around 90%, with more than 80% of patients continuing with the device. Another study quoted that 53% reported satisfaction with only 23% continuing with the device (Lewis & Witherington 1997, Graham et al, 1998)

Drawbacks to the vacuum devices include pain, petechiae, obstruction of ejaculation, penile pivoting,
numbness and slight bluish colouration due to cyanosis. Almost all patients of ED can use vacuum devices. The vacuum devices are not recommended for certain patient groups e.g. severe Peyronie’s curvature (Lue, 1995).

**Penile Prosthesis**

Since their introduction about 3 decades ago, penile implants are still a widely chosen treatment option, mostly after failure of all forms of therapy for ED. There are various forms of penile prosthesis. These are:

- Semi-rigid rod prosthesis consists of two rod like cylinders that are implanted into corpora cavernosum.
- Mechanical rods (Dura II)
- Malleable rods
- Inflatable penile prosthesis (Unitary, two – piece, and three piece devices)

Postoperative complications of penile implants include infection and mechanical malfunction. Periprosthetic infection requires immediate antibiotic therapy and removal of prosthesis (Mulcahy et al 2004).

**Reconstructive surgery**

a) Venous leakage – Surgery for venous leakage involves penile venous ligation or embolization. Venous ligation restores spontaneous erections in only 50% of patients.

b) Arterial leakage – Arterial revascularization is an experimental procedures used for treatment of vasculogenic ED. Upto 65% of patients report return of erectile function following arterial revascularization, but careful patient selection is necessary. Generally, good results are obtained only in young men with pure arteriogenic ED. There are number of complications associated with arterial revascularization including arterial haemorrhage, glans-penis hyperemia, anastomotic occlusion, diminished penile sensation and fibrosis. (Lewis 1995; Padma-Nathan, 1995).

**B) Disorders of Orgasm**

Ejaculation disorders are uncommon but important causes of infertility. Disorders of orgasm can be divided into:

1. Premature ejaculation (Primary or secondary)
2. Absent ejaculation (anejaculation)
3. Postejaculation pain
4. Delayed ejaculation
5. Orgasmic dysfunction (organic, psychogenic, drug induced)

Premature (rapid) ejaculation (PME) has been described as the commonest form of male sexual dysfunction and implies that a man is unable to exert voluntary control over the ejaculation reflex, with the result that once he is sexually aroused, orgasm is achieved rapidly, which leads to dissatisfaction of patients and partner. This condition is frequently seen in young adults and men who lack sexual experience. In its severe form it can lead to erectile dysfunction (Abdel – Hamid, 2004). Treatment of PME is primarily focused on:
- Behavior therapy
- Topical anesthetic agents
- Tricyclic antidepressants and selective serotonin reuptake inhibitors.

However, an approved treatment regime does not exist. A study comparing fluoxetine monotherapy with fluoxetine and local lidocaine ointment application found the latter group to have longer orgasmic latency (Atan et al 2000). Three trials using newer SSRIs like paroxetine have found it to be more efficacious in both long-term as well as on demand trial (Ludovico et al 1996; MacMohan & Touma, 1999; Balachandra, 2001). In a recent systematic review and meta-analysis of treatment of PME with SSRIs (Waldinger et al 2004), it was found that paroxetine appeared to be more effective in increasing the intravaginal ejaculatory latency time (IELT).

Recently, a number of clinical trials have studied the potential effectiveness of phosphodiesterase (PDE-5) inhibitors sildenafil in treatment of PME and have found it to be beneficial as a single agent (Abdel- Hamid et al 2001; Lobik et al 2002) or in combination with SSRIs like paroxetine (Salonia et al 2002; Chen et al 2003) and Sertraline (Lozano & Castane, 2003). Chinese herbs like S-S cream, which are used as topical agents, have claimed good efficacy and favorable side effect profile (Choi et al 1999; 2000).

In review of 51 available articles on the outcome of PME with pharmacotherapy by the American Urological Association (Montague et al, 2003) it was concluded that a meta-analysis was inappropriate due to the disparate outcome measures and populations in the existing studies.

1. Drug Treatment for PME

<table>
<thead>
<tr>
<th>a) Antidepressants</th>
<th>Recommended dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non selective Serotonin reuptake inhibitor - Clomipramine</td>
<td>25-50 mg/day or 25 mg 4-24 hours pre-intercourse</td>
</tr>
<tr>
<td>SSRI</td>
<td></td>
</tr>
<tr>
<td>• Fluoxetine</td>
<td>5-20 mg/day</td>
</tr>
<tr>
<td>• Paroxetine</td>
<td>10-40 mg/day or 20 mg, 3-4 hours pre-intercourse</td>
</tr>
<tr>
<td>• Sertraline</td>
<td>25 to 200 mg or 50 mg 4-8 hrs Pre-intercourse</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>b) Topical therapies</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidocaine / prilocaine cream</td>
<td>Lidocaine 2.5% 20-30 mins. Pre- intercourse</td>
</tr>
</tbody>
</table>

Duration of therapy

Therapy for PME is most likely to be needed on a continuing basis. There is no clear consensus as to whether SSRIs will effect an eventual cure of PME allowing for discontinuation of the medication, or whether SSRIs will be required for life. The general consensus is that PME usually returns upon discontinuation of therapy.
Review of available guidelines

We searched electronic databases as well as did manual search of relevant publications or cross-references. Electronic search included both PUBMED searches and searches using other search engines. We used various terms either alone or in combination. The various terms used were: guidelines, consensus, sexual disorders, sexual dysfunctions, erectile dysfunction, premature ejaculation, female sexual disorders, female sexual dysfunction, dyspareunia, vaginismus, hypoactive sexual desire etc. We also did hand search of the available journals for the available guidelines. In our search we found the following guidelines:


Erectile Dysfunction:

Formulation of a treatment plan

As per the existing guidelines firstly, the erectile dysfunction needs to be diagnosed as per the current definitions. The consensus is that inability to attain and maintain an erection sufficient to permit satisfactory sexual performance for more than 6 months is erectile dysfunction.

Initial treatment planning requires a thorough assessment of the patient, with the following goals:

- Establish diagnosis
- Comprehensive medical and psychological history of the patient & his partner whenever possible is the most important part of the patient's assessment. Physicians should be aware of the causes including medical, surgical, & iatrogenic causes. Genitourinary, endocrinological, vascular and
neurological systems require thorough investigations. In most patients just a regular BP monitoring and detailed examination of the genitalia may be sufficient. Many physicians without background of knowledge may treat people with little or no investigations (Davis Joseph et al 1995; Burnett 1998). This leads the primary cause being undetected. Therefore, a professional competent enough to elicit the minimum standards for history taking and basic examination should carry out assessment.

- Understanding longitudinal history of the patient's illness
- Nocturnal penile tumescence using Rigiscan (NTPR); vascular studies, intracavernous vasoactive drug injections; duplex ultrasound completed with arteriography or caversonography and bulbocavernous reflex latency needed for establishing diagnosis.
- Use of validated questionnaires like IIEF (International Index of Erectile Function) not only for diagnosis but also for impact of specific treatment (Rosen et al 1997).
- Attention to the possible comorbid psychiatric disorders should be paid and treated before the treatment of erectile dysfunction. Therefore, common psychiatric disorders need to be ruled out.

The following subheades describe the different components that should be included in a comprehensive treatment planning for ED

The general guiding principles include, assessment of

- Potential beneficial and adverse effects of available treatment options should be informed to the patient and his partner. Ultimately it is the choice of the patient.
- Patient preferences
- Partners involvement in treatment

First line therapy: Physicians may choose between the 3 initial treatment modalities, including PDE$_5$ inhibitors. Vacuum constriction devices and psychosexual therapy. PDE$_5$ inhibitors are a first line therapy in treatment of Erectile Dysfunction. Psychiatrists may choose between the three PDE$_5$ available i.e. Sildenafil, Vardenafil and Tadalafil. Available dosage of Sildenafil are 25, 50, and 100mg. Starting dose of Sildenafil should be 50mg and doses should be adjusted according to the response and side effects. Vardenafil dosages available are 5, 10 and 20mg. It is effective after 10 mins in the presence of sexual stimulation but its effect is reduced by a heavy fatty meal. Starting dose should be 10 mg. Tadalafil is available in 10 and 20 mg doses. It is effective after 30mins in the presence of sexual stimulation. Its efficacy is not affected with food and alcohol. Its effect lasts for 17.5 hours and starting dose should be 10 mg. Treating physicians are advised to use them cautiously in active coronary ischaemia, congestive heart failure, borderline/low cardiac volume status, complicated multi-drug anti-hypertensive program, and drug therapy that can prolong the half-life of PDE$_5$ inhibitors. PDE$_5$ inhibitors should not be prescribed to patients who take long-acting nitrates or who use short-acting nitrate containing medications. Apomorphine sublingual has the advantage of quick onset of action. It is well tolerated and there is no interactive action with other medications, food and alcohol. This can be prescribed by physicians to patients with psychogenic and a mild organic impotence. It is also used when PDE$_5$ is contraindicated. Vacuum constrictons devices are better accepted by older patients especially who have a stable partner. Penile pain, numbness and delayed ejaculation are some of the side effects that physicians should be aware of. Psychosexual therapy is the other first
Line treatment and it is used in patients with significant psychological problems, though psychological component may be present in all cases of ED. It is used either alone or in combination with other first line therapies. The motivation of the patient is of utmost importance for any psychosexual therapy. The major advantages are that it is non-invasive, it involves the partner, it leads to sustainable improvement in sexual function and satisfaction. However, it takes time, high dropout rates and it is associated with variable results (Rosen et al 1994). Changes in lifestyle like smoking cessation, control of diabetes/cholesterol, weight loss and reduction in stress is of prime importance.

- Second-line therapy includes intracavernosal and intraurethral injections. This includes prostaglandin E1, phentolamine, vasoactive intestinal peptide and papavarine. Patient's comfort and education is very important. Use of an automatic special pen that avoids the needle view can avoid fear of penile puncture. It is helpful in most cases of ED; however, it is contraindicated in hypersensitivity to drug employed & priapism. Erection appears within 5-15 mins. The physicians should be aware of the side effects like priapism, penile pain and fibrosis. In cases where the penile erection lasts more than 4 mins aspiration of blood by a 19 gauge needle has been suggested. If it still does not resolve then 200mg of Phenylepherine intracavernosal injections every 5 mins is recommended. Intraurethral PGE, as semisolid pellets is a less invasive procedure but success rates are lower.

- The third line therapy is the penile prosthesis. The inflatable type is cosmetically better but prosthesis infection is most problematic complication.

- Follow-up plan should be tailor made for the individual and there is no single follow-up regime. However, regular follow-up at 4 weeks to 6 months is usually recommended.

- Main focus on Pharmacotherapy and less on psychosexual therapy. Psychological factors may be present in ED of any origin.

### Premature (Rapid) Ejaculation

#### Formulation of a treatment plan

As per the existing guidelines, firstly the premature ejaculation needs to be diagnosed as per the current definitions. However, most guidelines state that there are no universally accepted definitions of PME. The working diagnosis of PME is ejaculation that is sooner than desired either before or soon after penetration causing distress to either or both partner for more than 3 months.

Initial treatment planning requires a thorough assessment of the patient, with the following goals:

- Common outcome measures are patient and partner satisfaction
- PME is a self-reported diagnosis; a thorough sexual history and partner's opinion (if any) contribute to the diagnosis. Clinical examination of the penis and secondary sexual characters are necessary.
- No specific investigations are required for the assessment of PME.
- Attention to possible Erectile Dysfunction as comorbidity. Treatment of ED is mandatory before the treatment of PME is started. PME may improve in patients when concomitant ED is effectively treated.

The following subheads describe the different components that should be included in a comprehensive treatment planning for PME.
• Risk and benefits of all treatment options should be discussed with patient prior to any intervention. However, the FDA approves none of the medical therapies for treatment of PME.
• Patient preferences
• Patient and partner satisfaction is the primary target outcome for the treatment of PME.
• PME can be treated with several SSRIs or with topical anesthetic agents or with psychosexual interventions, either alone or in combination. Optimal treatment choice should be based on both physician judgment and patient preference. However, dosing is less than those used to treat depression.
• There are two dosing pattern for SSRIs. One is the continuous use and the other is the situational use i.e. pre-intercourse. It is unclear as which of the two is more effective. There is no clear consensus as to whether PME will be treated following treatment.
• Stop-Start technique and Squeeze technique have been documented to have anywhere between 60-95% success rates. However, most initial gains are lost over follow-up with time.

Short comings of most of the research in this area is that:
• Ejaculatory latency time in general populations has not been determined as yet.
• No consensus on diagnosis of PME.
• Standardized, validating instruments to measure outcome variables (patient/partner satisfaction, ejaculatory latency) has not been developed as yet.
• Efficacy studies on Pharmacotherapy are lacking.
• Ideal dosing regimen has not been formulated as yet.
• Efficacy studies on combination therapy are lacking.
• The focus is more on Pharmacotherapy than on psychosexual therapy.
• None of the guidelines has been formulated by the psychiatrists but mainly by urologists and andrologists.

Female sexual Dysfunction

Formulation of a treatment plan

As per the existing guideline, firstly female sexual disorders need to be diagnosed as per the current definitions. Initial treatment planning requires a thorough assessment of the patient, with the goals of support, normalization, permission giving, sex education, stress reduction, symptom alleviation, improve communication skills (sexual & others) and attitude change. The thorough assessment includes a comprehensive medical and psychological history of the patient and her partner. Like in male sexual dysfunction, physicians treating female sexual dysfunction should be aware of the etiology including genitourinary, endocrinological, vascular and neurological systems.

The following subheads describe the different components that should be included in a comprehensive treatment planning for Female sexual disorders.
• Assessment of predisposing, precipitating and maintaining factors needs to be ascertained before any further steps in treatment can be undertaken.
• Evaluation of sexual relationship with partner is important as has been discussed above.
• Comprehensive medical and psychosexual history needs to be taken to ascertain the cause. Therefore, physicians should be aware of all the causes of female sexual dysfunction including medical, surgical, iatrogenic and psychogenic.

• Assessment for sexual abuse, recurrent depression, substance abuse, self-harm and promiscuity is also very important for knowing the etiology of sexual dysfunction in females.

• A multidisciplinary approach is of paramount importance in female sexual dysfunction. Therefore, a focused pelvic examination for pelvic trauma and PAP smear should be done in all cases of sexual dysfunction.

Arousal disorder

• It is very important to rule out comorbid desire disorders before treating arousal disorders. If there is comorbid desire disorders then it should be treated first before arousal disorders are treated.

• Since most often arousal disorders are multi-etiological in origin therefore as discussed above a multidisciplinary approach is required in all cases.

• There is no empirically validated treatment available for arousal disorders due to the fact that this is a less researched area. Approach usually depends on the etiology of the arousal disorders.

• Sensate focusing, CBT, systematic desensitization, individual and couples therapy, directed masturbation and communication skills have been tried in arousal disorders with moderate results.

Desire disorders

• There are no empirically validated treatment approaches in desire disorders as well.

• It is believed that those with better prognosis are the ones where the cause is known.

• Assessment regarding whether primary or secondary needs to be settled. Also, whether the desire disorder is generalized or partner specific needs to be explored.

• Although empirically validated treatments are not available yet, individual/couples therapy and medical/ psychological treatment have been tried in desire disorders in females.

Aversion disorders

• Assessment of abuse or rape, trauma, relationship problem, marital problem can lead to sexual aversion disorder. Therefore, all clinicians treating sexual aversion disorders should be aware of these causes.

• In Aversion disorders also no empirically validated treatment is available however the clinicians usually employ couple / individual therapy.

Vaginismus/ Dyspareunia

• A detailed assessment of pain and patient's fear of pain is very important before any further treatment can be started.

• Dilatation, relaxation exercises, Kegel exercise and partner's involvement are some of the measures that have been employed to treat sexual pain disorders.
Deficiencies in the guidelines on female sexual disorders

- Orgasmic latency time in general populations has not been determined as yet.
- No consensus on diagnosis of various female sexual disorders.
- Standardized, validating instruments to measure outcome variables (patient/partner satisfaction, orgasmic latency) has not been developed as yet.
- Efficacy studies on Pharmacotherapy are lacking.
- Ideal dosing regimen has not been formulated as yet.
- Efficacy studies on combination therapy are lacking.
- Long-term treatment outcomes of psychological therapy lacking; no meta-analysis possible due to above limitations in the studies.
- None of the guidelines has been formulated by the psychiatrists but mainly by urologists and andrologists.

RESEARCH ON SEXUAL DISORDERS IN INDIA

Epidemiology of sexual disorders, attitude and knowledge about sex

Unfortunately there are no systematic studies, which have assessed the sexual dysfunctions, attitude and knowledge about sex from India. In spite of sexual problems being common in our population, yet no methodologically sound community surveys have been conducted in India to know the prevalence of sexual disorders (Bohra et al 1992). Most of the studies have been done in clinic-based population who either present with sexual problems primarily or present with psychiatric disorders. Various researchers have studied the prevalence of sexual disorders in both males and females. Earliest reports of incidence of sexual problems in psychiatric clinics came from Bagadia et al (1972) was 12-14 %. He reviewed the data of more than 10 years. Out of 258 patients seen in a year with sexual problems almost 90% of patients were between 15-35 years. The most common complaint in married males was impotence (48 %) followed by passing semen in urine (44 %). Other frequent complaints were premature ejaculation (34 %), nocturnal emissions (22 %), worries regarding size and shape of genital organ (22 %). Similarly the most common complaint in unmarried males was nocturnal emissions (65%), followed by passing semen in urine (47%), masturbation (26 %), impotence (11%), and complaints regarding size and shape of genital organ (11%) and premature ejaculation (4 %).

Most of the patients felt semen loss (72%) and masturbation (13%) as the cause of illnesses. Kar and Varma (1978) studied 72 married male patients of various psychiatric disorders for their sexual behaviours and compared the same with that of 80 normal married men. Most common cause for being unsuccessful in Wedding night (Suhaag Raat) in patient group was early masturbatory guilt 78.8%, followed by resentment from life (54.5%), premature ejaculation (48.5%), dissatisfaction in marriage (36.4 %), ignorance (30.3%) and lack of erection of penis (27.3 %). In contrast to the patient group the common causes for failure for the control group were early masturbatory guilt (33.3%), premature ejaculation (40%), dissatisfaction in marriage (20%) and lack of erection of penis (13.3%).

About two third (63.4%) of patients, in contrast to only 2.5% of the controls, described current sexual relationship with wife as unpleasant. Various causes reported for unpleasant sexual relationship were loss of semen (71%), religious attitude (36%), hostility, resentment and suspicion to wife (27%) disgust (27%), lack of hardness of penis (24%), social inhibition and restriction (22%) and premature ejaculation (18%). In another study Nakra et al (1978) studied 150 male patients of potency disorder
for their sexual behaviour prior to the onset of the illness. Significant number of subjects reported masturbation (74.4%) and nocturnal emission (95.3%) and 43% and 60.1% had moderate to severe guilt feelings towards masturbation and nocturnal emissions respectively. Masturbation was reported significantly more in those from higher socio-economic strata. About 64% of patients felt that loss of semen is harmful to health. Kumar et al (1983) studied sexual behaviour of 40 married neurotics and 22 matched healthy control males. They found that sexual behaviours were similar before the onset of neurotic illness. After the onset of illness the neurotic patients had significant decrease in frequency of coitus, sexual satisfaction and sexual adequacy compared to their pre-illness behaviour as well as healthy controls. Kumar et al (1984) studied relationship between neurotic illness (hysteria, anxiety state, neurotic depression, obsessive compulsive neurosis and hypochondriasis) and the sexual behaviour in females and found that sexual behaviour of the neurotics was not different to that of healthy control before onset of illness. After the onset of illness neurotics had significant decrease in sexual satisfaction. Banerjee et al (1987) studied 30 patients with sexual dysfunction attending an STD clinic. Ninety percent of the subjects had erectile dysfunction and nearly half (53%) had more than one sexual dysfunction. Agarwal et al (1992) studied sexual behaviour of 75 normal married females and found that most of them had healthy attitude towards sex. Median frequency of weekly sexual activity decreased from 2 (in females of 21-30 years) to 0.5 (in females of 41-50 years). Frequency of coitus did not correlate with socioeconomic status, education or occupation. Nearly 52% had more than 50% satisfactory coitus. Sexual satisfaction was significantly associated with higher economic status and satisfactory marriage. Duration of foreplay did not relate to sexual satisfaction. Most preferred foreplay activities for women were touching the breasts and clitoris. Half (53%) of men ejaculated before the orgasm of their wives but this did not significantly affect the sexual satisfaction of females. Gupta et al (1988) studied sexual practices of 162 unmarried females of 21-25 years age range and found that 73.5% admitted self-abuse, 6.2% were totally indifferent to sex and only 1.2% had heterosexual activities. Rao et al (1997) studied the outpatient attendees with sexual problems and reported that Dhat and psychoaesthetic syndrome formed 50% of the cases. About half (48%) of the outpatient attendees with sexual problems were somatisers and 56% had psychiatric diagnosis. Medical problem was present in 26% men and 32% of women. Sexual satisfaction was reported in 35% of married men and 50% married women. Mathur & Bhardwaj (1998) compared coital behaviour of women with pelvic pain without obvious pathology with that of women with no pain or pain with pathology. The females with pelvic pain without obvious pathology had significantly less satisfaction in coitus; less frequency of coitus compared to patients with obvious pathology group. Those without any pelvic pathology also reported that most of the time their husbands initiated the act and most (90%) got involved in the act as part of the duty. Verma et al (1998) analyzed data on 1000 consecutive patients with sexual disorders attending the psychosexual clinic in North India. The majority of patients were educated males between 21 and 30 years of age, belonging to the middle class. There was a slight preponderance of married patients. Fifty-two percent of patients had premarital or extramarital sexual contact; less than 5% had homosexual contact; 10% had no sexual contact. Most patients had more than one complaint. Premature ejaculation (77.6%) and nocturnal emission (71.3%) were the most frequent problems followed by a feeling of guilt about masturbation (33.4%) and small size of the penis (30%). Erectile dysfunction was reported by 23.6% of the subjects. About one fifth of the subjects reported excessive worry about nocturnal emission. Singh et al (1998) studied 7627 men in Uttar Pradesh and found that they knew little about sexual morbidity conditions. Few husbands reported that they had sexual experience outside of marriage and the majority of these...
said they had such a relationship with more than one partner. Of men who said they had had reproductive morbidity symptoms, many had not sought treatment for the same. Gautam and Batra (1996) reported that sexual factors and sexual dysfunction were related to the divorce seeking behaviour in 22% of the 50 couples who were compared with 30 well adjusted couples. A significantly large number of couples reported a bad honeymoon, unsatisfactory coital experience, lack of cooperation from spouse and variant sexual habits. Six percent of the males reported erectile dysfunction and the common dysfunctions reported were premature ejaculation (6%) and lack or loss of interest (2%). In females lack or loss of interest was found in 22%, followed by orgasmic dysfunction in 6% and anorgasmia in 2%. Maju et al (2003) studied sexual behaviour of 33 English-speaking males and 28 English-speaking females. Among males, 18.2% felt that masturbation was wrong. 6.1% had never masturbated, 9.1% did not have orgasm each time they had sex and 16.1% had premature ejaculation. Among females 17.9% felt that masturbation was wrong, 39.3% had never masturbated, 29.6% did not have orgasm ever, and 8.3% had dyspareunia. Bhargava et al (2002) while studying the Doppler ultrasonography of non-vasculogenic erectile dysfunction found that the incidence of psychogenic impotence was much higher and the mean age of patients presenting with erectile dysfunction was lower as compared to patients from developed countries. Rao et al (2003) surveyed 500 females from south India (Mandya and Mysore) and reported that 40% of the group had no idea about masturbation and only 30% of them had masturbated sometime in their life. Majority of the women considered masturbation as a taboo and harmful to the body. Rao et al (2000) did an analysis of the letters received for 6 months for their column in Relationship and Health Magazine. Majority of the responders were young males (88.5%) and their common concerns included masturbatory guilt, anxiety regarding semen loss, size of penis, erectile problem and premature ejaculation. Amongst females, issues were concerning marital sex, orgasmic problems, concerns regarding breast, fear of pregnancy and dyspareunia. The authors concluded that socio-cultural issues play a very significant role in individual’s sexual concerns. Sharma & Khess (2003) studied the prevalence of sexual dysfunction in drug naive patients. About two-third (63%) of the participants of the study reported sexual dysfunction. Impotence was found in 92 % of the subjects. Most of the males (84.61 %) and nearly half of the females (44.44%) showed sexual dissatisfaction.

Studies on Erectile dysfunction and premature ejaculation

Agarwal & Agarwal (1981) studied 55 patients with sexual inadequacy for libidinous strength and androgyny score. They found that patients with premature ejaculation had significantly higher sex drive than patients with erectile dysfunctions. Patients with primary sexual inadequacy had significantly lower sex drive than those with secondary disorders. Androgyny scores did not differentiate patients with sexual inadequacy compared to normal controls. Avasthi et al (1994) studied the improvement in the short term (one year) and long term outcome of 66 male patients with psychosexual dysfunction. They found that that improvement in the short-term indicated favorable long-term outcome. Subjects those who dropped out of treatment early had chronic and continuous sexual dysfunction. Combination of erectile dysfunction and premature ejaculation was the most common diagnosis. In another study of 325 males with psychosexual dysfunction Avasthi & Singh (1997) found that two-fifth had erectile impotence alone and another two-fifth had combination of erectile impotence and premature ejaculation and only 20% had premature ejaculation only. Combination group had more insidious onset and longer duration of illness. Comparatively, premature ejaculation was more common in married males with worsening course before contact. Secondary sexual problems in hypertensive patients were
found in 76% of the cases, which mainly included decrease in frequency of sex, sexual desire and arousal disorders (Murthy et al 1995).

Dhat Syndrome

Dhat syndrome is a culture bound sexual neurosis, first described by Wig in 1960. The clinical picture included “severe anxiety and hypochondriasis”. The patient was preoccupied with the excessive loss of semen by nocturnal emissions. There was a fear that semen being lost was getting mixed in urine. Later Malhotra and Wig (1975) carried out a study to investigate the cultural basis of the Dhat syndrome. They interviewed 107 respondents from the general public. A large segment of the general public from all socio-economic classes believed that semen loss is harmful. Seminal fluid was considered an elixir of life both in the physical and in the mystical sense, whose preservation guaranteed health, longevity, and supernatural powers. This belief was more frequent in lower socio-economic classes. The susceptible individual would react to the prevalent belief system and to the fears of semen loss. The symptoms usually disappeared if the misconceptions about semen loss were effectively dealt with. It was expected that with increasing literacy and progress in sex knowledge the syndrome would become less common. Over the years various studies have been carried out on Dhat syndrome. Nakra et al (1978) demonstrated that loss of semen was considered positively harmful by patients of Dhat syndrome compared to patients with sexual dysfunction. Behere and Nataraj (1984) studied 50 patients with complaints of Dhat syndrome and described the phenomenology of Dhat syndrome. It was most commonly seen in subjects of younger age (16-25) and from lower socio-economic strata. It was commonly associated with impotency, marked anxiety, general weakness, premature ejaculations and hypochondriasis. Body weakness and hypochondriasis were the commonest complaints. Eighty-eight percent of subjects were sure that the whitish discharge in urine was semen and majority of the subjects had masturbatory guilt. Reassurance and sex education were the major interventions and the authors reported that two-third of the subjects had recovered at the end of one year. Singh (1985) in his sample of patients presenting with complaint of Dhat found that 40% of them fulfilled diagnosis of Dhat syndrome and most of them (80%) had comorbid anxiety and depressive neurosis. Another interesting finding in the study was that 66% of the subjects didn’t attend the clinic after initial visit, which authors hypothesized was because of dissatisfaction with the explanation of disease provided to them. Chadda and Ahuja (1990) studied 52 patients presenting with complaint of passage of Dhat in urine. They reported that only 13.5% had diagnosis of pure Dhat syndrome, and 1.9% had gonorrhea. Most of them had associated psychiatric disorders (Neurotic depression - 40.4%, anxiety neurosis - 36.5%, hypochondriacal neurosis - 5.8%, and psychogenic impotence - 1.9%). They also reported poor follow-up rates. Chadda (1995) studied illness behaviour of 50 Dhat syndrome patients using a Hindi version of Illness Behaviour Questionnaire (IBQ) and compared it with that of 50 controls. Sixty-six percent of Dhat syndrome patients received unspecified diagnoses on DSM-III-R. Patients with Dhat syndrome showed a distinct illness behaviour profile consisting of higher scores on IBQ factors of general hypochondriasis and affective discomfort and lower scores on denial compared with controls, suggesting that the disorder may be a distinct entity. Bhatia et al (2001) examined 48 consecutive male patients of potency disorders, and found that about two-third could be classified as Dhat syndrome with or without impotency and/or premature ejaculation, and only 20.8% had only impotence and 14.6% had premature ejaculation only. The age range of these cases was found to be 20-38 years (mean 23.5) while age of onset was 16-24 years (mean 20.6). Majority of cases were unmarried (54.2%) and primary educated (79.1%). The cases
with Dhat syndrome scored maximally on, neuroticism and depression scales. Neurotic depression was the commonest associated psychiatric illness (39.5%), followed by anxiety neurosis (20.8%).

The common presenting symptoms of Dhat syndrome included weakness (70.8%), fatigue (68.7%), palpitations (68.7%), and sleeplessness (62.4%), etc. Among the four groups on the basis of type of treatment (anti anxiety drug, antidepressant, placebo, psychotherapy), the best response was seen in those receiving anti-anxiety or anti-depressant drugs while those receiving psychotherapy showed minimal response. The dropout rate from treatment was 14.6% and the maximum dropout (40.6%) was seen in psychotherapy group. Bhatia and Malik (1991) reported that 93 of 144 patients with sexual problems complained of Dhat as a major concern. Forty-two percent of cases had diagnosis of Dhat syndrome only and 23% had Dhat syndrome in combination with sexual dysfunction. Bhatia (1999) studied 60 patients presenting with culture bound syndromes and reported that Dhat syndrome was most common culture bound syndrome (76.7%) followed by possession syndrome (13.3%). Depression was the most common associated psychiatric disorder in subjects with Dhat syndrome.

Dhat syndrome has also been described in females. Singh et al (2003) reported a 23-year-old female who attributed her multiple somatic complaints to wetness per vaginum experienced during sexual intercourse.

**Psychosexual clinics data**

Avasthi et al (1998) first reported the socio-demographic and clinical profile of patients attending the special clinic (Marital & Psychosexual Clinic) at PGIMER. Out of the 464 patients assessed over the period of seven years, only 13 were females. Most common complaint was erectile dysfunction (30.45%) followed by a combination of erectile dysfunction and premature ejaculation (26.5%) and premature ejaculation only (21%). Comorbid psychiatric disorders were diagnosed in 47% of the sample. A host of treatment strategies like sex education, relaxation exercises, marital therapy, sex therapy, drugs etc were used for management of the various cases. However, the authors also found high initial dropout rates.

Rao et al (1995) conducted a comparative study of patients with sexual problems attending Department of Psychiatry at J.S.S Medical College, Mysore and 2 private clinics. There were 100 patients in the teaching hospital and 126 patients in the private clinic for the years 1992-93. This constituted 2% and 5% of the total patients attending the respective clinics. More than 50% of the cases in each setting were of Dhat syndrome. Arousal disorders, male and female were the next commonest condition. Sexual pain disorder was seen only in female patients. Though not statistically significant, better follow-up was noted in the clinic group.

**Development of instruments and modules**

Avasthi et al (1992) developed a questionnaire on sex knowledge and attitude questionnaire (SKAQ) in Hindi for North Indian population. It is a 55-item questionnaire with 35 items on knowledge with dichotomous choice of responses and 20 items on attitudes scorable on 3 point Likert scale. Higher scores indicated a better knowledge and a liberal attitude. In their study males and females had poor knowledge and conservative attitude. Normal subjects were not different from patients with sexual problems. Avasthi et al (1992) developed a 62-item (26 knowledge, 36 attitudes) scale for knowledge and attitudes towards condom (SKAC) with satisfactory reliability and validity. Sharan et al (2003) developed a 13-item semi-structured interview schedule for assessment of Dhal syndrome (OSiS), which had high inter-rater reliability. Avasthi & Gupta (2002) prepared a manual for treatment of
single males with sexual disorders. In this manual they gave algorithms for assessment of sexual disorders and algorithms for treatment of erectile dysfunction, premature ejaculation, Dhat syndrome and homosexuality.

Studies on treatment of sexual dysfunction

Non-Pharmacological: Many clinicians have used behavioural treatment strategies to manage sexual dysfunctions and the response rates have been generally good. Agarwal (1970) reported that psychopathology related to impotence was due to culturally held belief and poor intramarital communication. Central features of the therapy were removing the inhibitions of spouses, reducing the guilt of male partner, and transferring sex from mechanical act to an interpersonal experience. Bagadia et al (1983) treated 26 married males with premature ejaculation and secondary impotence with behavioural interventions like relaxation, graded tasks, Semans exercise, squeeze technique, desensitization and thought stopping. About three-fifth (58%) of the patients improved with the above-described treatment. Authors felt those shy, uncooperative, orthodox spouses; noncompliance to abstain from intercourse; expectation of physical (medicinal) treatment, which could not be fulfilled, were some of the reasons for less response. In addition, difficulty in providing behavioural therapy was felt because of concealment of disability from wife, feigning illness, taboos, lack of privacy and inadequate accommodation in the city. Kuruvilla (1984) used behaviourally oriented treatment programme for impotence in single males using sexual re-education, guided imagery and masturbatory conditioning. They reported encouraging immediate and long-term results for those who completed the treatment. Prusty et al (1997) treated 22 subjects with behavioural interventions using in-vivo gradual exposure practicing sensate focus. They reported satisfactory improvement in 46% and moderate improvement in 18% of male subjects of erectile dysfunction and premature ejaculation. Gupta et al (1989) treated 21 men with erectile dysfunction and premature ejaculation by modified Masters and Johnson technique and reported satisfactory improvement in 46% and moderate improvement in 18% of male subjects of erectile dysfunction and premature ejaculation. Gupta et al (1989) treated 21 men with erectile dysfunction and premature ejaculation by modified Masters and Johnson technique and reported 76.2% recovery rate. Success rate was high in cases with previous history of good sexual functioning (83.3%).

Pharmacological: There is a dismal research in relation to use of pharmacological agents for sexual dysfunction from India. Prusty and Rath (2000) in an open clinical study found clomipramine effective for nocturnal emission. Prusty et al (2003) in an open trial, found clomipramine 5 mg along with Sildenafil 50 mg was successful in preventing premature ejaculation of 18 men who had erectile dysfunction also.

Comparative Studies of Non-pharmacological & pharmacological treatment: In their group of patients with Dhat syndrome, Bhatia and Malik (1991) reported use of lorazepam to be more beneficial than counseling. Prusty and Rath (1999) studied the effect of treatment on 180 male subjects with premature ejaculation. Sixty patients were given T clomipramine 10-25 mg/day in single dose 3 to 4 hours prior to coitus for 3 months. Second group of 60 patients was treated with modified behaviour therapy and the third group of 60 patients was treated with combination of clomipramine and behaviour therapy for 3 months. At the end of the study it was observed that patients those who were treated with only clomipramine relapsed after stopping the medication. The patients who were treated with only behaviour therapy showed lasting treatment effect but had poor patient acceptability. The group treated with the combination therapy showed more acceptability and lasting treatment effect.

PROPOSED GUIDELINES FOR INDIAN PATIENTS

India is a multiethnic and multilingual society with wide variations in demographic situations and socioeconomic conditions. People in India practice different religions, and there are numerous cultural
identities. In most of the Indian cultures developing some form of sexual dysfunction is viewed as both disabling and anxiety provoking for the individual. Different socio-cultural settings also greatly influence the development of sexual dysfunction, attitudes of the affected individuals and their corresponding treatment-seeking behaviour. Further, the concept of sexual dysfunction in Indian context is defined differently with reference to the person's socioeconomic and demographic backgrounds. Generally, it is differentiated for men and women, young and old, rich and poor, and able-bodied and disabled persons. Moreover, with the topic of sex being a taboo in Indian society, people generally do not discuss their problems openly with others.

Another important difference in Indian setting is that, substantial percentages of subjects with sexual dysfunction, who visit clinicians, come alone and many of them are single (Avasthi et al, 1994). A significant number of patients also don't possess adequate level of psychological sophistication required for being treated with specialized therapies. Also, in keeping with the sociocultural background of our country, patients also have numerous myths about sexual functioning, sexual illnesses, and its treatment which makes them seek easy avenues of 'drug' treatment or treatments from so-called "sex specialists" thereby propagating ignorance. Another important aspect of treatment is to understand many of these patients have the limitation of financial and/or time constraints, which often hinder the delivery of effective treatment. Clinicians who evaluate and treat the patients presenting with sexual dysfunction should remember this background knowledge.

Here we will present guidelines for evaluation and treatment of patients with sexual dysfunction, but it is important to remember that there are lots of individual differences and the treatment should be patient centered.

Assessment

Although assessment of sexual dysfunction has been presented in detail in the earlier part of this document, we will discuss some of the issues, which are important in Indian context.

Clinician's characteristics: Discussing sex-related issues can be embarrassing for both the clinician and the individual. If the clinician appears to be embarrassed then the patient/couple is likely to sense this embarrassment. Adequate practice and experience on the part of the clinician is highly desirable to take a proper sexual history and management of sexual dysfunction. Hence, an important factor in the clinician's decision about whether to treat a sexual dysfunction is whether he or she feels comfortable talking about sex. The clinician needs to make a professional and ethical decision about whether he or she is qualified to treat the individual or whether it is more appropriate to refer the individual to an expert or specialized agency. This decision should be based on factors like the level of expertise required for the presenting problem, and whether or not the clinician feels comfortable talking about sex and has sufficient knowledge about sexual functioning. It is said that there is no place for the therapist who are themselves not comfortable of talking about sex and are not able to control their own sexual expressions.

Table 14: Important aspects in evaluation of sexual dysfunction

1. Be empathic, non-judgmental, and understanding.
2. Reassure the individual that sexual dysfunction or adjustment problems are common and that treatment is available. For example, "It is common for some people to ..."
3. Explain all behaviours or concepts in plain, clear, specific terms. Some individuals will not understand the language normally used by clinicians and may feel embarrassed to admit this. When introducing new terms, ensure that alternatives or explanations are always provided.
4. Start with general, non-threatening questions first (e.g., “Do you have a regular partner?”) then work up to more specific and potentially embarrassing questions (e.g., “Do you also experience this problem when you masturbate, that is, when you touch or stimulate yourself?”).

5. Never assume anything (e.g., sexual orientation, number of partners, sexual practices).

6. If a couple has presented together, gather the information for a sexual history from each individual separately (i.e., not in each other’s presence).

7. Make sure that the ‘problem’ does not just reflect a lack of knowledge or unrealistic expectations on the part of the presenting individual.

Decrease embarrassment on the part of the individual: Many individuals understandably feel embarrassed about admitting that they have a problem with their sexual responses or behaviours. They may feel that they have failed in some way, or that they are abnormal. Additionally, some individuals, especially the elderly, may be embarrassed to admit that they have sexual desires or that they engage in certain sexual behaviours (e.g., masturbation, oral sex).

Clinicians should pre-empt the individual’s embarrassment and acknowledge that it could be difficult talking about such issues. For example, the clinician may say, “Most people find it difficult to talk about these things and may feel a bit embarrassed. I’d just like to reassure you that everything you say is confidential and that I’d like to help you if I can. The first step is to find out exactly what’s going on so that we can figure out how to make things right again. Please feel free to be open with me and to ask questions when ever you have any doubt.” Some of the other important issues for evaluation are given in Table-14.

Use of language: The clinicians should preferably use the language in which patient is comfortable. Further while talking a sexual history clinicians should use neutral terms (as opposed to vulgar terms) and proper medical terms as long as they are in common usage (e.g., use ‘penis’ and ‘vagina’, but perhaps ‘lips’ rather than ‘labia’).

Sexual Knowledge: As we know, if not always, most of the Indian subjects come from a background of poor knowledge about sex. It is important to assume that the individual has little knowledge of technical terms or of physiological/biological aspects of sex. Make sure the individual understands all the terms clinician is using. If there is any doubt, get the individual to explain his or her understanding of what you mean. The use of anatomical drawings can be very useful. In fact many individuals may only require reassurance that they are normal. Therefore, sex education including anatomy, arousal, and the male and female sexual response should be the starting point of any intervention.

Identify the problem and prioritize: Although sexual dysfunction may occur in isolation, but in many cases there may be co-existing problem is contributing to the dysfunction (e.g., relationship difficulties). Alternatively, the individual may have a psychiatric or physical illness that is interfering with his or her sexual abilities and desire (e.g., a depressive disorder or a sexually transmitted disease). A proper history will guide the clinician to prioritize the goals.

Treatment of Single male patients: As discussed earlier a significant number of patients attend the psychosexual clinics alone. These patients should be assesses from a different perspective. Sexual dysfunction in these patients may simply be one example of a general difficulty the individual experiences in establishing and maintaining a relationship? If an individual has recently lost a partner, either through death or separation, assessment should also cover grief reactions.
Some single male patients who present to psychosexual clinics also have a regular partner but usually feel embarrassed to bring them along. It has been seen that presence of partner in treatment sessions enhances marital and sexual satisfaction. The presence of the partner also allows the clinician to assess how well the couple interact and communicate with each other. The partner may also provide important information about the sexual problem. Furthermore, during the treatment some partners may feel threatened or anxious about an individual's new behaviours, which are taught/ suggested during the treatment (e.g., a tendency to initiate sex more frequently, greater interest and knowledge in sex). Inclusion of the partner in all or some of the treatment sessions will help to reduce potential threat and conflict and increase co-operation and support. So every effort should be made to include the partner into treatment.

In all situations in which the partner does not wish to or cannot attend treatment sessions, it is recommended that, if possible, the clinician should have at least one interview with the partner during the assessment phase. This interview can be helpful for understanding the partner's view of the problem (e.g., attitudes to intervention, the extent of likely cooperation) and the extent of clear communication and conflict between the couple.

**Assessment of Psychological sophistication and motivation:** It is important to understand how patient or couple understands their problem, their attitude towards the problem and what their orientation in relation to treatment is. Also it is important to understand the motivation of the patient for seeking treatment. Quite often an individual seeks treatment because of pressure from his or her partner. If the individual does not share his or her partner's motivation to deal with the sexual dysfunction, the prognosis is likely to be less favourable.

**SELECTION OF TREATMENT**

As discussed earlier, the final selection of treatment should be according to their choice. The therapist should inform the patient about the available modalities and help him to make a reasoned choice.

As discussed earlier the most important aspect of assessment is taking a proper history covering all the areas. By the end of assessment the clinician should be able to answer to the following questions for them to plan management:

1. Does patient/couple actually have sexual dysfunction?
2. Whether the dysfunction is primarily psychogenic or primarily organic?
3. If the dysfunction has organic etiology, then is there a psychological overlay too?
4. If there are more than one dysfunction, then which is the primary?
5. Does patient have any comorbid psychiatric disorder?
6. If subject has a psychiatric disorder, then is the sexual dysfunction secondary to it?
7. If subject has a psychiatric disorder, then how severe it is?
8. Is there a marital discord between the couple, which needs to be addressed?
9. What is the motivation of the patient/couple to seek treatment?
10. What is the level of psychological sophistication?

Figure-1 to figure-3 shows the general outline for management of cases of sexual dysfunction presenting with or without psychiatric comorbidity. Initial evaluation involves detailed psychosexual
history and getting the basic investigations. Besides, taking a proper history screening questionnaires should be used to assess the sexual knowledge and attitude. The initial evaluation will help in ascertaining the type(s) of sexual dysfunction. The next step involves establishing the probable etiological basis of the dysfunction, i.e., whether the dysfunction is organic in origin, psychological in origin or has components of both. If the dysfunction is organic in origin the patient should be referred to the concerned specialists and should investigated and treated accordingly. As discussed it is often seen that some patients may have sexual dysfunction of organic origin, but would also have psychological factors contributing to its maintenance. Such patients are the most difficult to treat and require very good liaison between the physicians.

In patients who have psychological sexual dysfunction, the next step involves evaluation for sexual knowledge, relationship issues, presence of comorbid psychiatric disorder, motivation and psychological sophistication of the patient for treatment.

Assessing the sexual knowledge and relationship issues are important aspect of treatment of sexual dysfunction as many a time the patient/couple may not have any sexual dysfunction but the reported complaints may be arising due to the same. If any of these two factors are found to be contributing to the sexual dysfunction, these should be focused and once they have been adequately addressed, the sexual dysfunction should be reassessed and if present should be treated adequately.

If comorbid psychiatric disorder is present, the next step involves ascertaining – is it primary or secondary (Primary- psychiatric disorder causing sexual dysfunction; secondary – psychiatric disorder is secondary to sexual dysfunction). The patient who have primary comorbid psychiatric dysfunction or those who have prominent psychiatric symptoms (may be secondary in origin), the psychiatric disorders should be treated first and adequately before focusing the treatment of sexual dysfunction. While treating these disorders adequate care should be taken in selecting the pharmacological agent, so that the dysfunction is not worsened. In some cases the side effects of the drugs can in fact help in decreasing/ameliorating the sexual dysfunction, for example, for a case of Depression with PME give SSRIs or TCA; Depression with ED give Trazodone etc. If the sexual dysfunction is secondary and not prominent then the sexual dysfunction should be treated first.

An important aspect of treatment involves understanding the motivation and psychological sophistication. If the motivation for treatment is low or if patient has poor psychological sophistication, then the primary mode of treatment should be pharmacotherapy. Patients who are highly motivated and/or have good psychological sophistication should be treated initially with non-pharmacological therapies, but if they don't respond then pharmacological agents can also be added as required.
Patient presenting with sexual dysfunction

- Detailed psychosexual history
  - Use screening questionnaires to assess the sexual knowledge & attitude
  - Get the basic investigations done

- Ascertain the type of sexual dysfunction
  - Try to ascertain whether it is due to organic or psychological causes

Etiology organic in nature

Refer to concerned specialist (Endocrinologist, Urologist, and Gynecologist)

Etiology- psychological in nature

Assess for comorbid psychiatric disorders

Comorbid psychiatric disorders present

Follow Chart 3

Motivation low/ inadequate psychological sophistication

Manage with Pharmacotherapy

Comorbid psychiatric disorders absent

Assess motivation and psychological sophistication

Motivation high/ adequate psychological sophistication

Manage with non-pharmacological measures

Failure

Manage with combination of pharmacological & non-pharmacological measures

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Figure-2: Selection of mode of therapy for sexual dysfunction

Patient presenting to a Psychiatrist with primary sexual problem

- Treat marital discord prior to treatment of sexual dysfunction
- Ascertain that the sexual dysfunction is not due to poor sexual knowledge or poor relationship between the couple

Yes

Sex Education & reassess for the diagnosis

No

Ascertain the diagnosis

Assess for all possible organic causes

- Establish a proper consultation-liaison with the specialist.
- Get the required investigation in consultation.
- Although organic causes are established look for possible associated psychological component

Yes

Assess motivation and psychological sophistication

Motivation low/inadequate psychological sophistication

Manage with Pharmacotherapy

No Improvement

Motivation high/adequate psychological sophistication

Manage with non-pharmaco-logical measures

Add Pharmacotherapy
Figure-3: Assessment and Management Algorithm for a case of sexual dysfunction with psychiatric comorbidity

Patients presenting with psychosexual dysfunction & comorbid psychiatric disorder

- Assess whether comorbidity is primary (psychiatric disorder causing sexual dysfunction) or Secondary (Psychiatric disorder is secondary to sexual dysfunction)
- Assess the Severity of the comorbid disorder

Primary or Prominent

Secondary But Prominent

Secondary But Not prominent

Intensive therapy based on comorbid diagnosis

Treat psychosexual dysfunction first

Select Pharmacotherapy taking into consideration severity of the disorder & type of sexual dysfunction e.g. for a case of Depression with PME give SSRIs or TCA; Depression with ED give Trazodone

Assess motivation and psychological sophistication

Motivation low/inadequate psychological sophistication

Motivation high/adequate psychological sophistication

Manage with Pharmacotherapy

Manage with non-pharmacological measure ± Pharmacotherapy

GUIDELINES FOR MANAGEMENT OF VARIOUS SEXUAL DYSFUNCTIONS (206)
In the following sections we will discuss guidelines/ algorithms for treatment of common sexual dysfunctions- PME, ED, Dhat syndrome, Hypoactive sexual desire, vaginismus, and dyspareunia. For other sexual disorders the general measures of treatment should be followed.

Premature Ejaculation

The general guideline for selection of mode of treatment is given in figure-4. The first step for treatment involves evaluation for presence of comorbid sexual dysfunctions, comorbid psychiatric disorders and marital discord. If patient has ED or Dhat syndrome along with PME, they should be addressed first. If patient has a psychiatric disorder it should be carefully evaluated – is it primary or secondary to sexual dysfunction, and how severe it is. If the psychiatric comorbidity is primary and/or severe, it should be addressed first. As discussed earlier, sometimes the PME is secondary to the poor interpersonal relationship between the couple, so it should be addressed prior to treatment of PME.

Initial treatment involves providing sex education, clarifying the myths, relaxation and correction of situational factors (if present) contributing/causing the dysfunction and following the sensate focus training. It is considered that behavioural management should be the first line of therapy wherever possible. But some authors suggest that men with lifelong premature ejaculation should be managed with pharmacotherapy, while those with acquired or situational PME can be treated with pharmacotherapy and/or behavioral therapy according to patient/partner preference. The specific behavioural techniques for PME involves stop start or squeeze techniques, which are usually introduced during genital sensate focus. The pharmacotherapy involves use of SSRIs, TCAs, Buspiron and topical agents. If either of the therapeutic measure fails then a combination of both should be tried.
Figure -4: Treatment algorithm for management of patients with Premature ejaculation

Diagnosis is based on sexual history

Evaluate for other sexual dysfunctions
- ED
- Dhat syndrome

Yes
Treat ED, Dhat syndrome first

No
Treat psychiatric morbidity if prominent and severe

• Look for the presence of couple disharmony, depression, anxiety, situational factors
• Discuss the treatment options

Treat marital disharmony before behavioural management

Discuss treatment options with patient and partner
Discuss the efficacy of each treatment options

PHARMACOLOGICAL
Topical anesthetic
Oral medications
Antidepressants SSRIs, TCA
Buspiron
Oral medications + Topical anesthetic

NON-PHARMACOLOGICAL
Reassurance, Sexual education
Relaxation
Sensate focus
Stop and start technique
Squeeze technique

Failure
Combination of Pharmacological & Non-Pharmacological treatment

Failure
Erectile dysfunction:
The selection of treatment strategy for erectile dysfunction is outlined in figure-5. The most important issue in management is evaluation for the organic factors, look for comorbid psychiatric conditions, comorbid sexual dysfunction and marital disharmony. But it is to be remembered that although the cause may be organic, psychological causes can worsen the ED, so treating with behavioural measures in such cases is also an important step in the management. If patient has Dhat syndrome along with ED, it should be addressed first. As discussed in the section of PME, psychiatric disorders and marital harmony should be addressed prior to treatment of ED and a similar protocol should be followed.

Initial treatment involves providing sex education, clarifying the myths, relaxation, and sensate focus training. After assessing coexistent problems, while providing formulation and sex education, education about factors that create a normal sexual response and ED can help patients and their partners cope with sexual difficulties. It is also important to change/remove/reduce the associated modifiable or reversible factors, including lifestyle or drug-related factors. The success of psychosexual therapy depends on the motivation of the patient, because it will require him to work with the therapist to find an understanding of what prevents him from experiencing normal sexual arousal. A review of all outcome studies in psycho-sexual therapy published since 1970 showed successful outcomes in 50-80% of patients (O'Donohue, 1999).

Figure 5: Treatment algorithm for management of patients with ED
Dhat syndrome:

The first step in the management of Dhat syndrome involves evaluation for comorbid sexual dysfunctions, psychiatric disorders and presence of possible urinary tract infection (UTI) and sexually transmitted diseases (STD). Wherever there is a suspicion, local examination, appropriate investigations for infective pathology and phosphaturia should be done and adequate treatment should be provided. Even after appropriate treatment, if the symptoms persist then the subject should be provided adequate sexual knowledge.

Whenever patient has comorbid Dhat syndrome along with PME or ED, Dhat syndrome should be treated first. If the psychiatric comorbidity is primary and/or severe, it should be addressed first.

Figure 6: Treatment Algorithm of Dhat syndrome

The most important aspect of treatment of Dhat syndrome is providing adequate sex knowledge and clarifying sexual myths. Sex education mainly focuses on anatomy and physiology of sexual organs and their functioning with reference to masturbation, semen formation, nocturnal emissions and their functioning with genitourinary system independent of gastro-intestinal tract etc. If there is the presence of associated anxiety or depressive symptoms that impede the process of therapy, anxiolytics or antidepressants can be added for the least possible time and in the lowest possible doses.
Impaired/hypoactive sexual interest in men or women:

The most important issue in management is evaluation for the organic factors, look for comorbid psychiatric conditions, comorbid sexual dysfunction and marital disharmony. But it is to be remembered that although the cause may be organic, psychological causes can decrease the sexual interest. Hence, they should also be focused adequately. Many cases/couples have marital disharmony associated with decrease in sexual interest and treating the same would be the only thing which is required.

Besides the general measures, no particular procedures are used in the treatment of this problem. The main emphasis is on setting the right circumstances for sexual activity, reducing anxiety, establishing satisfactory foreplay, focusing attention on erotic stimuli and cognitions and resolving the general issues of relationship between the couple. More flexible and individualistic approach to treatment is required. The general outline of management is shown in figure - 7.

Figure - 7: Treatment Algorithm of Hypoactive sexual desire
Sexual aversion disorder in men and women:

Sexual aversion disorder is often confused with a lack of sexual desire. It is characterised by "extreme anxiety and/or disgust at the anticipation of/or attempt to have any sexual activity." It is usually associated with a history of sexual trauma or abuse, and it affects more women than men. Other common reasons for sexual aversion are being with the particular partner for the wrong reasons, lack of emotional closeness, dislike for partners smell or looks and difficulty in communicating how one likes to be aroused/touched, faulty thinking, guilt over one's own behaviour.

Aversion to sexual activity is rarely an initial presenting complaint, because patients often seek to avoid any genital contact. They also may avoid talking about their aversion to sex in a therapeutic setting. This syndrome usually presents as a lack of libido, low sex drive, inhibited sexual desire or arousal dysfunction. Aversion may be seen along with other sexual dysfunctions, as a precipitating cause or as a consequence. The diagnosis of sexual aversion is usually made when someone describes avoiding genital sexual contact with his or her partner because of disgust, queasiness, fear or shame. Some people with severe aversion may experience panic attacks with faintness, breathing difficulties or dizziness and feelings of terror on exposure to sexual stimuli. It is important to rule out hypoactive sexual desire disorder because of some overlap of symptoms; the important distinguishing feature is that some patients, but not all, with sexual aversion will have intact libidos and even report pleasure on the rare occasions when they engage in sexual activity.

Treatment of sexual aversion disorder is difficult, largely because patients are often resistant to discussing the disorder. Treatment is aimed at removing the underlying cause when possible. Besides the general measures, main emphasis is on reducing anxiety, establishing satisfactory fore play, focusing attention on erotic stimuli and cognitions and resolving the general issues of relationship between the couple.

The choice of behavioral or psychodynamic psychotherapy depends on the diagnostic understanding. Behavioural treatment includes setting goals and doing at-home exercises. The patient should be progressively exposed to the feared stimuli. Hierarchy dealing with increasing comfort in exploring their own body, and with partner should be drawn. The couple should be allowed to progress at their own pace, staying in control, and taking as much time as needed to become comfortable and reach their own goals. Anxiety/panic attacks can be treated with antidepressants and/or benzodiazepines:
Vaginismus: Treatment should be individualized for each woman and/or partner, whenever possible with their input. Psychological issues as well as interpersonal issues should be first addressed early on with psychotherapy. The sex education should focus on clarifying normal sexuality and reducing negative attitude for sex. Besides the use of general relaxation exercises, the relaxation procedure should also focus on teaching the women to relax muscles around the inner thigh and pelvic area. The specific behavioural management has already been discussed.

Dyspareunia: As with most of the other sexual dysfunctions, the first step is to rule out other causes/factors that can cause pain. Also the assessment should rule out vaginismus and dryness of vagina. Treatment of dyspareunia includes sex education and teaching sensate focus. In particular, it may be helpful for the couple to avoid positions that lead to deep penetration (such as vaginal entry from the rear) and to adopt positions in which the woman is in control of the depth of penetration (woman on top) or in which penetration is not too deep (side by side or ‘spoons’ position).
**Figure 9: Treatment Algorithm of Dyspareunia**

- **Dyspareunia**
  - **Note**: Dyspareunia should only be diagnosed if there is no other sexual dysfunction such as vaginal dryness or vaginismus that is causing the pain.

1. Evaluate for comorbid sexual dysfunction
2. Evaluate for comorbid Psychiatric disorders
3. Evaluate for possible local pathology - UTI, STD, episiotomy scar, endometriosis, ovarian cyst etc.

Investigate & treat appropriately in liaison with specialist

Treat with appropriate Pharmacotherapy, somatic treatment and psychotherapy

Sex education
- Provide information about suitable intercourse positions
- Progressive muscle relaxation prior to sexual activity
- Positive self-talk
- Sensate focus

**TERMINATION OF TREATMENT**

The termination of the treatment must be planned carefully. The various strategies and component of termination are:

**Prepare for termination from the start of treatment**: The patient/couple should be told about the likely duration of therapy at the beginning of the treatment. Setting the time frame will encourage the patient/couple to work on the homework assignments.

**Towards the end of treatment extend the intervals between sessions**: The intervals between the last two to three sessions should be extended to two to three weeks.

**Prepare for relapse**: The therapist should always prepare the couple for relapse. Up to 75% of men will have a recurrence of their problem following treatment. Therefore, an important role of treatment will be to assist men to cope well with relapse. Most recurrences will occur in a temporal pattern (i.e., will occur more at certain times than at others) and will usually improve naturally or with self-initiated recommencement of the treatment techniques described here. The notion that such relapse is normal and to be expected will help to reduce the anxiety and sense of failure that may otherwise prolong erectile difficulties.

**Follow-up assessments**: Follow-up assignments help the therapist to evaluate the short-term effectiveness of treatment (Hawton, 1989).
References:


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