

# Chapter 21

## Sexual desire disorders in women

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### Definition

Hypoactive Sexual Desire Disorder is defined as absent or diminished feelings of sexual interest or desire, absent sexual thoughts or fantasies and a lack of responsive desire. Motivations (here defined as reasons/incentives), for attempting to become sexually aroused are scarce or absent. The lack of interest is considered to be more than that due to a normative lessening with the life cycle and length of a relationship [1].

The complaint of low desire becomes a clinically relevant sexual *disorder* when it causes severe personal *distress* to the woman.

The focus on "sexual fantasies/thoughts and/or desire" stresses the importance of a mental activity dedicated to anticipating and fantasising about the sexual encounter. In women, this is more typical of the first months and years of a relationship. In stable, long lasting relationships, many women report that the leading motivation to have sex is the need for intimacy that may then trigger sexual response, with increased willingness to be receptive to the partner's initiative.

The "personal distress" criterion applied to desire disorders means that the woman herself has to be sufficiently motivated to seek treatment because she is personally disturbed by the problem. However, relationship distress caused by the loss of desire may also affect the perception of the problem and the motivation, or not, to seek treatment.

### Prevalence

Population data indicate a prevalence of low desire in 32% of women between 18 and 59 years of age [2]. A recent European survey of 2467 women, in France, UK, Germany and Italy, indicates that the percentage of women with low sexual desire is 16% in the age cohort from 20 to 49; 29% in the same age cohort, in women who experienced surgical menopause; 42% in postmenopausal women aged 50 to 70 with natural menopause and 46% in the same age cohort, after surgical menopause [3].

The percentage of women *distressed* by their loss of desire, having Hypoactive Sexual Desire Disorder (HSDD), was respectively 7% in fertile women and 16% after surgical menopause, in the age cohort 20 to 49; 9% in women with natural menopause and 12% in those with surgical menopause aged 50 to 70 [3]. The likelihood of low sexual desire increases with age, while the *distress* associated with the loss of desire is *inversely* correlated with age [4].

Surgical menopause, secondary to bilateral ovariectomy, has a specific damaging effect due to the loss of ovarian estrogens and androgens. Ovaries contribute more than 50% of total body androgens in the fertile age. The European survey found that surgically menopausal women were

more likely to have HSDD than premenopausal or naturally menopausal women (OR=2.1; CI=1.4, 3.4,  $p=0.001$ ) [3]. Sexual desire scores and sexual arousal, orgasm and sexual pleasure were highly correlated ( $p<0.001$ ) [3]. Women with HSDD were more likely to be dissatisfied with their sex life and their partner relationship than women with normal desire ( $p<0.001$ ) [3].

## Pathophysiology

Sexual desire/interest, alternatively referred to as sexual appetite, drive and sexual impulse reflects the sexual appetitive feeling that motivates a person to obtain sex and focus her attention on that goal. It has three major dimensions:

- **Biologic.** Basic instinctual (or physical) drive is rooted in the rhinencephalic and limbic brain, which is strongly hormone-dependent and is modulated by different mental states, especially mood, and is neurochemically driven. Dopamine is the key neurotransmitter of the seeking-appetitive-lust system, in the appetitive side; endorphins mediate the final consummatory/satisfactory feelings. This system interacts with and is modulated by three other basic emotions command systems [5]: anger-rage, fear-anxiety and panic-separation-distress. The final sexual behavior expresses the “net” result of this complex neurobiologic interplay between driving and inhibiting forces. Hormones, in their complex interplay, seem to control the intensity of libido and sexual behavior, rather than its direction, which is more dependent on motivational-affective and cognitive factors.

Estrogens contribute to the appearance and the maintenance of secondary sex characters and to central and peripheral aspects of female sexual function including level of sexual interest [6,7,8]. Estrogens affect central sexual desire and central arousal (which are difficult to be differentiated from the research point of view [9], as perception of desire immediately translates into neuronal activation registered as central sexual arousal).

Appropriate levels of androgens also affect sexual interest in women as in men. Whether androgens or estrogens are the primary modulators of female sexuality remains controversial [10]. Androgens also act as conditioners in the cavernosal bodies in both genders. Estrogens and androgens modulate the trophism of sensory organs, which are sexual targets and sexual determinants of libido. When all values of sexual hormones are converted to picogram/ml, androgens appear to be much more quantitatively present in the female body than estrogens [11] (Table 3). Postmenopausal hormone-dependent involution of sensory organs may be an important and often ignored biological contributor of loss of libido in aging women [12].

Prolactin, when supraphysiologic, may inhibit the cascade of events involved in the sexual response, in women as in men. Hypo or hyper function of other endocrine organs (thyroid, adrenal) may also affect sexual desire.

Oxytocin is considered to be the most important neurochemical factor that links the affective and the erotic quality of bonding involved in libido itself, but its clinical usefulness in the diagnosis and treatment of FSD has not yet been adequately assessed.

Alcohol and substance abuse may contribute to sexual disorders and their potential role should be investigated. Psychotropic drugs may further inhibit or excite sexual desire [13].

Quality of health and wellbeing, or severity of diseases, are powerful modulators of the vital energy that nourishes the intensity of sexual drive [14]. Other sexual disorders may cause a

secondary loss of libido and increasing frustration and dissatisfaction. Co-morbidity between different FSD, as mentioned before, is frequent.

- **Motivational.** Emotional and affective meanings and intimacy needs, which seem to be particularly relevant to women, may contribute to and modulate basic sex drive. In our species, motivation for sex may shift from the primary biological goal, reproduction, to recreational sex, where the pursuit of pleasure is key, and/or to instrumental sex, where sex is performed as a means to obtain advantages and express motivations different from procreation and/or pleasure.
- **Cognitive.** Wishes and risks to behave sexually are set against the former two contributing factors in ultimately determining sexual behavior. In recent years, research on sexual desire has grown to include a deeper understanding of its biological roots, both endocrine and neurochemical, of the motivational and relational components and of its vulnerability to personal factors and context-dependent agents. A population based longitudinal study found that relational factors, such as gaining or losing a partner and feelings toward the partner, had greater effects on sexual interest than did hormonal levels [8].

## Clinical history

Loss of sexual desire is multifactorial; it might be caused by biological, motivational- affective and cognitive factors that may partly overlap, leading to a progressive decrease of sexual drive that usually parallels the process of aging, with further decline associated with natural or surgical menopause [15,7,3] (see also chapter on Classification, etiology and key issues on FSD) .

A few appropriate questions may help the clinician to better define the etiology of the complaint, the presence of co-morbidity with other FSD and to determine the need for further information (see also chapter on Classification, etiology and key issues on FSD). A more detailed clinical history is outlined here, as a paradigm for how to investigate different sexual disorders in the health practitioner's office.

*When did you notice that there was a problem? Was it present since the very beginning of your sexual life ("lifelong") or not?*

- If yes (as reported on average by 22-28% of women), check psychosexual factors first, hormonal only when clinically indicated;
- If not, and symptoms have appeared recently ("acquired"), ask what -- in the patient's opinion -- might have caused the problem.

*If acquired, did sexual interest fade slowly?*

- If yes, check for relationship problems or erotic dissatisfaction, partner sexual or general health problems, work stress, chronic problems with children or close relatives, chronic personal illness, natural menopause, etc.
- If not, and sex drive disappeared with a rather sudden loss, check hormonal consequences of surgery, i.e., bilateral ovariectomy; recent and current use of drugs (e.g., antidepressants); relationship problems (e.g., discovery of an affair, severe marital crisis, etc.).

*Is your loss of desire limited to a partner and/or or to a special context ("situational")?*

- If yes, check relationship and context-dependent issues;

- If not, and the loss is present in every context and with every partner (“generalised”), check personal psychosexual issues and biological factors

*What was the average frequency of sexual activity per week (or per month) in the last six months, including with self and/or a partner?*

- If fairly regular activity is reported, were you pleased and responsive, with adequate arousal and orgasm? If yes, this might just be a fairly normal response in a stable couple, where the woman responds to satisfy her intimacy needs in the absence of a high sexual drive.

*If sexual activity is reported, is your partner experiencing low libido or other sexual problems?*

- If yes, the partner could be the “symptom inducer” and the woman the “symptom carrier.” A sexual disorder in the male partner may result in a loss of interest in the female partner as well. If this is the case, it may be his problem that needs to be addressed. Ultimately, both members of the couple should be involved in treatment if they are willing to do so.
- If no, how do you explain this erotic silence on both sides?

*Do you have erotic dreams, sexual daydreams or sexual fantasies?*

- If yes, this usually indicates a good hormonal profile as well as a substantial integrity of the mental sexual processes. The motivational side should then be investigated more thoroughly, as the loss of interest might be more closely related to relationship or other psychological problems.
- If not, this suggests that biologic as well as psychological factors, such as depression, may be at play.

*Do you experience any other sexual problems such as vaginal dryness, difficulty in lubrication or orgasmic difficulties, despite normal foreplay? Do you feel pain during intercourse? Co-morbidity may be the case -- understanding which is the leading disorder is a key to effective treatment.*

- If no other sexual disorder is reported, endocrine, vascular, neurological and muscular problem (levator ani hypertonicity up to defensive vaginismus) can be reasonably excluded (although a careful physical exam is always to be recommended).

*Is there autoerotic (masturbatory) activity, with orgasm?*

- If yes, this indicates good libido, positive body image and lack of inhibition. The loss of libido might therefore be secondary to relationship problems or an inability to have intercourse due to the partner's physical or sexual problems.
- If not, assuming that the patient's value system does not permit masturbation *per se*, sexual inhibition, religious concerns, guilty feelings, poor body image, low self confidence may be the leading inhibitors of a lifelong desire.

*Do you enjoy intercourse?*

- If yes, this indicates heterosexual receptiveness and erotic availability;
- If not, and the woman prefers sexual activity other than intercourse, check two possibilities: a phobic aversive attitude toward intercourse and/or sexual pain related disorder that should be looked for (vestibulitis, vaginitis, vulvitis, vaginismus, post-coital cystitis, clitoralgia, either spontaneous or after arousal and congestion) that may all cause secondary loss of libido. Sometimes sexual pain-related problems may have started years before the consultation and the patient does not recognize this etiological correlation until an accurate medical diagnosis put events in the correct etiological sequence. Some

women enjoy other forms of sexual experiences, not intercourse. Some of these women may have same-sex preferences.

*What made you aware of your sexual desire disorder and led you to look for help (e.g., intolerable personal frustration, fear of losing the partner, partner's complaint, new hope for effective treatment, more self confidence in reporting)?*

- This final question may well address the real motivation for treatment.

**Key point: The clinician should try to become comfortable with these quite intimate questions, choosing ways of asking them that he/she feels at ease with. With time, proper training and familiarity with this issue, this clinical history will be increasingly rewarding in terms of diagnostic accuracy, patient satisfaction and improvement of clinician-patient relationship.**

## Clinical evaluation

If the clinical history suggests a possible biological etiology, the clinician should assess:

- **the patient's hormone levels** (total and free testosterone, dehydroepiandrosterone sulfate, prolactin, 17-beta estradiol, SHBG, with a plasma sample at the 5<sup>th</sup> or 6<sup>th</sup> day from the beginning of menses in fertile women; TSH should be assessed when individually indicated)
- **the trophism of the pelvic floor structures** (that may cause secondary loss of libido), with an accurate gynecological/sexological examination, particularly when co-morbidity with arousal, orgasm and/or sexual pain disorders is reported
- **psychosexual factors and affective state** The clinician should briefly investigate these issues, referring to a sex therapist or couples therapist for a comprehensive diagnosis, if indicated

## Treatment

Sexual desire disorders have the lowest success treatment rate among sexual disorders. Etiologic complexity, the importance of relationship issues, intimacy frustration or low motivation to improve sexual relations with the current partner may explain why the response to treatment is generally so disappointing, particularly in unmotivated patients. Better results may be possible in highly motivated patients, when hormonal loss is the leading etiology (as in surgical menopause) and appropriate hormonal therapy (HT) may restore libido and a satisfactory sexual response.

Based on the etiologic diagnosis, biological, psychogenic/relational or combined treatment by the health care provider may be required. Referral to or collaboration with specialists may be indicated:

- HT, systemic or topical, without or with androgens
- Hypoprolactinemic drug, if high prolactin was diagnosed
- Thyroxine, if hypothyroidism was diagnosed
- Low dose antidepressant, if a mood disorder is a co-factor (Bupropion seems to offer better results) [13]
- Better glycemic control, in diabetic women
- Check and modification of drugs potentially causing iatrogenic loss of libido, such as levosulpiride, because of its hyperprolactinemic effect

- Life-style improvement: smoking and alcohol reduction, weight control and regular physical exercise to improve body image and mood, better diet, sleep improvement to restore vital energy.
- Appropriate counseling and medical support in all patients suffering from a persistent low sexual desire after a serious or chronic illness
- Treatment of any FSD comorbidity, particularly with aversion disorder, vaginismus and/or dyspareunia, with accurate address of pelvic-floor related issues, or orgasmic disorder that would maintain low or absent the sexual motivation to intimacy unless appropriately treated

Optimal referral include:

- the uroandrologist, when the loss of desire appears to be secondary to a male sexual problems
- the couple therapist when the desire disorder reflects relational problems
- the psychiatrist:
  - a) if low desire reflects development traumas such as child abuse or parental loss. Women who have conflict with intimacy or about sexuality should be referred for psychotherapy.
  - b) if the woman is found to have an underlying psychiatric disorder such as Major Depressive Disorder or Generalised Anxiety Disorder.

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