

Sexual arousal: similarities and differences between men and women

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Abstract

Sexual arousal encompasses activation of physiological systems that coordinate sexual function in both sexes and can be divided into central arousal, peripheral non-genital arousal, and genital arousal. Genital arousal leads to erection in men and to vaginal lubrication and clitoral/vulvar (vestibular bulb) congestion in women. Persisting biases in the understanding of the pathophysiology of sexual arousal are exemplified by the current differences in definitions. In men, sexual arousal disorders are identified with erectile disorders. In women, a more sophisticated set of definitions is described. It includes the subjective arousal disorder, the genital arousal disorder, the mixed arousal disorder, and the persistent sexual arousal disorder. Painful arousal, although not officially included in current nosology, should be considered. A preliminary critical consideration of similarities and differences in the definitions of arousal disorders, in the physiology of sexual arousal, in the causes of arousal disorders, and the influence of arousal disorders on satisfaction with the partner and happiness will be presented. In contrast to popular opinion, women's arousal disorders influence their physical (OR= 7.04 (4.71-10.53) more than their emotional satisfaction (OR= 4.28 (2.96-6.20)). Furthermore such disorders are reported to have a greater effect on women's physical satisfaction (OR= 7.04 (4.71-10.53) than erectile dysfunction has on men's physical satisfaction (OR= 4.38 (2.46-7.82)). More research and clinical investigation is needed to increase clinicians' understanding of the similarities and differences between male and female sexual physiology and pathophysiology, promote parallel thinking in sexual medicine, and facilitate clinical diagnoses of arousal disorders.

Key words: sexual arousal, erectile deficit, subjective arousal disorder, genital arousal disorder, mixed sexual arousal disorder, persistent sexual arousal disorder, painful arousal, sexual satisfaction

Introduction

Human physiological sexual arousal encompasses the activation of all the systems that coordinate the sexual function in both sexes. According to Levin [1-3] physiological sexual arousal can be divided into:

- central arousal, involving all the neurobiologically based events within the central nervous system (CNS);
- peripheral non-genital arousal, including all the somatic non-genital responses associated with feeling excited (i.e. salivary secretion, skin vasodilatation and feeling of warmth, nipple erection, heart rate and blood pressure increase), and increase in the general neuromuscular tension;
- genital arousal leading to erection in men, and to vaginal lubrication, clitoral and vulvar (vestibular bulb) congestion in women. The congestion involves an increase in pelvic vascular blood flow and resultant pelvic vasocongestion, vaginal engorgement, swelling of the external genitalia, and clitoral erection [2,3].

Over the last decades, research in men has focused on erection, i.e. the genital aspect of male sexual arousal [4-6]. In women the opposite has been the case, with a systematic dismissal of the biological aspect and hyper-evaluation of the psychological and relational components of female mental arousal [7-9], with a few exceptions [1-3]. The biological components of women's arousal have only recently undergone intense scrutiny in both laboratory and clinical setting [10-20]. Gender-based differences certainly exist in the way men and women process sexual stimuli [11,19] and in the

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meaning they attribute to them [7,8]. However, basic biological mechanisms share more than what is usually credited [1-3,21]. Quantitative differences, further polarized by culturally induced differences in behaviour, have been misinterpreted as substantially biologically based qualitative differences.

The aim of this preliminary paper is to reconsider some of the similarities and differences involved in human arousal, focusing on the physiology of arousal, controversies surrounding the definitions of arousal disorders, causes of arousal disorders and effect of sexual arousal disorders on the quality of life in men and women. The wish is to encourage the clinician to build up a framework aimed to better understand male and female sexual physiology and pathophysiology.

Similarities and differences in the physiology of arousal in men and women

In men and women, sexual desire can anticipate arousal, be concomitant to it, or be secondary to arousal caused by direct genital stimulation [22]. Direct genital stimulation is more powerful and quicker in men than in women. As a result of the reciprocity between desire and arousal and neurobiological overlapping some researchers have propose that as soon as we perceive desire, physiological signs of arousal are already in play [19]. The brain is the central controller of erection, clitoral congestion and vaginal lubrication [4-6, 23-25]. The CNS pathways are central (limbic) and usually overlapping (redundant). Throughout these pathways there is an inherent modulation of pro-erectile/ pro-vaginal congestive and anti-erectile/ anti-vaginal congestive signals controlled by brain and coordinated by the spinal cord, which transmits signals to the genitals. At every level the default state is to inhibit activation of sexual response unless specifically driven to permit sexual intercourse [10]. The central reward pathways, which endow human sexuality with positive reinforcement at a level beyond mere reproductive imperative [7,8,10,24], are also critical, especially with the increasing importance given to pursuit of sexual pleasure by both sexes. In the brain, cortical stimuli including external, e.g. visual, tactile, verbal, smelling, hearing and internal, e.g. erotic phantasies, dreams, sexual day dreams, are modulated by less concrete constructs such as appropriateness, motivation and desire.

The frontal cortex seems to be critically involved in inhibiting control in both sexes, although its efficacy in modulating the seeking-appetitive system and correlated behaviour is higher in women than in men [24]. Biological reasons (stronger testosterone-dependent intensity of sexual drive and arousal in men) [23,24] and psychological (higher socially determined training in control of sexual behaviour in women) may explain differences in prevalence of hypersexual behaviour, either paraphilic or non-paraphilic [26,27]. Hypersexuality of the paraphilic type (formerly defined as "perverted behaviour") is reported with a male: female ratio of 20:1 [27]. Hypersexuality of the non-paraphilic type (with an excess of sexual behaviour within the normative range) is reported with a male:female ratio of 5:1 [27]. Hypersexuality is considered an expression of excessive desire, equivalent to obsessive-compulsive disorders, or of a borderline personality with a defective impulse control [26,27]. However, considering that hypersexuality is judged by the inappropriate sexual behaviours it activates, it is plausible that a strong comorbidity with an excess of mental arousal could be in play. This aspect has not been fully investigated and a deeper understanding of hypersexuality is needed from the pathophysiologic, diagnostic and therapeutic point of view, both for the patient and for the social and ethical implications hypersexual behaviours may imply.

Visual stimuli are more powerfully arousing for men, and tactile (kissing, caressing, fondling) and verbal for women. However, a considerable overlap exists. The more emotionally and physically intensive the sexual experience as in passionate love, the more all sensory organs and emotions are recruited into play by both sexes. The output, integrated by critical centres in the hypothalamus, is translated into largely autonomic messages that send a remarkably selective signal directed to the genitals through the spinal cord. Dopamine, serotonin, oxytocin and nitric oxide (NO) are known to have important roles in this pathway [1-6,23]. Spinal cord centres respond to the central output, integrate the sensory pelvic neural inputs and drive the genital response both in men and women.

Under laboratory conditions, visual sexual stimuli have been associated with massive brain activity in both sexes [12,13]. The occipital region, i.e. the visual cortex, is activated in men and women, with parallel activity in the anterior cingulate

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gyrus and in the amygdala, a key centre of the limbic system, although different levels of activation have been reported in men and women. In both sexes, the amygdala has two major functions:

- as the cross-road of the four basic emotion command system, i.e. seeking-appetitive-lust, anger-rage, fear-anxiety, and panic-separation-distress;
- as having major connections with the memory system [21,24].

The amygdala seems to have a key role in processing the meaning of the ongoing sexual stimulus. If the stimulus is processed as positive, the amygdala will turn on the cascade of neurobiological events leading to full physical sexual arousal. If processed as negative (i.e. it is associated with previous abuse, physical or emotional pain, diminished self-esteem) the amygdala will inhibit or totally block any further physical or emotional arousal, increasing vulnerability to dysfunctions and behavioural problems.

Epidemiological data on predictors of sexual dysfunctions by latent class analysis suggest that previous abuse can impair arousal in both genders [28]. Sexual abuse more than triples the ratio of erectile dysfunctions in men in case of pre-pubertal abuse (OR=3.13 (CI 1.49-6.59), and doubles arousal disorders in women (OR=2.01 (CI 1.31-3.07) [28]. Negative experiences with their associated negative affects and meaning may therefore have a long-lasting negative effect on sexual arousal in both sexes.

Once the amygdala has turned on the cascade of neurovascular events, non-genital peripheral and genital arousal will be activated in both sexes. Neurovascular events have a major role in physical changes. Erections occur as a result of an orchestrated cascade of neural, cellular and vascular events spanning brain initiation to penile rigidification. The clitoris has many of the same characteristics as the penis and responds with similar mechanisms. Overall, this signalling induces coordinated vasodilation (smooth muscle relaxation) in pelvic arteries, the cavernous arteries and the smooth muscle of the penile trabecular tissue. The present understanding is that efferent nerves initiate an increase in local NO concentrations, which then diffuses into smooth muscle cells and activates guanylyl cyclase, thereby generating cyclic guanosine monophosphate (cGMP) [4,6,10]. Sildenafil and the other phosphodiesterase inhibitors make cGMP more available. The cGMP in turn promotes rapid changes in cellular ion fluxes resulting in smooth muscle relaxation coordinated throughout the length of the cavernous tissue through gap junction effects. Alternative pathways are usually held in reserve and include the prostanoid (e.g., PGE1) and vasoactive intestinal polypeptide (VIP) pathway (cAMP) [4,10].

In women, genital arousal is mediated by the very same mechanisms, with nitrergic fibres being predominant in the cavernosal tissues (clitoral and bulbovestibular) and vipergic ones being more represented in the vagina [2,3]. In women testosterone is also the leading permitting hormone for NO and estrogens are the leading ones for VIP [2,3].

Smooth muscle relaxation alone cannot account for penile rigidity. The two other vital components are the availability of sufficient arterial blood supply, at adequate volume flow and pressure, and anatomical mechanisms in the penis [4-6, 10]. Smooth muscle relaxation results in vasodilation that permits increased arterial inflow. This volume load expands the spongy trabecular tissue of the corpora cavernosa. When there is sufficient expansion, the effluent veins are compressed between the trabecular tissue and the tough, fibrous tissue of the tunica albuginea surrounding the cavernous sinuses. This compression of the veins prevents the blood from escaping (veno-occlusion) and converts the high flow of the developing erection into the low flow of a rigid fully erect penis. Detumescence occurs through active adrenergic constriction of the inflow arteries which causes a decrease in inflow, a decrease in trabecular tissue pressure and a consequent increase in run-off from the veins (decreasing the veno-occlusion) that empties the trabecular tissue. Hyperactivation of the adrenergic system, as in performance anxiety, is higher in men, and like fear of pain, more frequent in women, anticipates and accelerates the vasoconstriction. This leads to early detumescence in men and sudden vaginal dryness in women at the moment of starting intercourse, even if lubrication was excellent during foreplay [10]. This is frequent when penetration is feared, as vaginismic women report.

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In women, smooth muscle relaxation leads as well to increased blood flow into the cavernosal tissues. The absence of a continuous equivalent of the thick albuginea surrounding the cavernosal tissues, apart from the clitoral shaft, may explain why genital arousal causes erection in man, and increase swollenness and softness of vulvar congested tissues in women. However, the detumescence process follows the same neurovascular and biochemical mechanisms [1-6].

Controversies over definitions of arousal disorders in men and women

The persisting biases originating from an over-genitalization of the sexual response in men and an over-psychologization of it in women are exemplified in the definitions still currently used. Similarly to previous editions, the Diagnostic Statistic Manual, IV ed, Text Revised, (DSM-IV-TR) [29], the nosography's referral text in psychiatry, does not use the same language to describe (i.e. title) arousal disorders in men and women. Curiously, the general label of the disorder is different, but the content of the three basic criteria is almost identical. The classification for women is "Female Sexual Arousal Disorder", although the text focuses on the lubrication-engorgement response (Box 1). The disorder is classified as an erectile disorder for men (Box 2). If both definitions aim at focusing on the objective genital epiphenomenon of the arousal inadequacy, then erectile deficit is appropriate for men, but the female correlate should be lubrication/congestion deficit or similar. If the definition aims to describe the complex pathophysiology of the impairment, then the expression arousal disorders should be used, with sub-classifications that includes – but should not be limited to – the genital arousal disorders in both sexes. Subtyping, in terms of onset, context and aetiology, is instead maintained perfectly symmetrical, showing the intrinsic discrepancies within the definitions.

The focus on erection as an epiphenomenon of genital arousal disorder is maintained in the urological world. "Erectile dysfunction (ED) is the persistent or repeated inability for at least 3 months to attain, and/or maintain an erection sufficient for satisfactory sexual performance". "ED" is the preferred term for impotence as a result of the deliberations at the Consensus Conference in Impotence held by the US National Institutes of Health in 1992. The definition for ED provided by this conference is "inability to attain and/or maintain penile erection sufficient for satisfactory sexual performance". ED is a less demeaning description than impotence. The exact sexual performance remains appropriately unspecified. Still missing is a clear guidance as to how long the condition should persist before it should be regarded as a problem. No mention is made of the existence and importance of central arousal. The mentioned co-morbidities among Male Sexual Disorders (MSD) were only the desire disorder and the ejaculation disorder. No new definitions of arousal disorders, apart from erection, have been published for men.

The latest published definition of female sexual dysfunction established the different levels of arousal may be impaired in women: mental, genital, or both (Box 1) [30]. The definition also indicates that excess disorders can cause considerable concern. The persistent sexual arousal disorder (PSAD), in absence of desire and not relieved by orgasm, is a rare but extremely distressing entity deserving medical attention [20]. The condition seems to be different from priapism that although triggered by genital arousal in some cases, ends-up as a painful congestion with no pleasure left. In PSAD, the congestion is pleasurable and may lead to multiple orgasms, although distressing by its persistence and by not being relieved by the orgasms. Over time, the pleasure is progressively blunted by the distress, the emotional pain and the impairment it may cause in social life [20]. Painful arousal has not been included in current definitions. However, it is reported by women – to the listening physician – when they suffer from clitoralgia and/or from vulvar vestibulitis syndrome. Even kissing or watching an erotic video, with no genital contact, may cause increase of pain in the vestibular area because of the engorgement associated with psychogenic genital arousal. Painful arousal, overlapping with pain at ejaculation, may be reported by men suffering from La Peyronie's disease. Other arousal disorders, such as excess of mental arousal (possibly in comorbidity with desire disorders leading to hypersexuality), although less frequently reported, should be included in a comprehensive nosology. A tentative symmetrical description of arousal disorders in men and women is summarized in Table 1. Comorbidity between excess of desire and excess of arousal ("I'm always excited") is more frequently reported in men, whereas comorbidity between low desire and low arousal ("I have low

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desire and I do not feel excited”) is more frequently reported in women [10, 28,30], particularly after the menopause [18,31-34]. Similarities in physiology of mental arousal in men and women suggest that a biological and psychological vulnerability to central arousal disrupting factors, either biological or psychological or both, should be present in both sexes. Comorbidity between depression and sexual desire disorder clinically contributes to decreased mental arousability and decreased responsiveness to sexual cues in both sexes. This area deserves further investigation.

Genital arousal disorders, leading to erectile deficits (ED) in men and vaginal dryness/poor clitoral congestion in women clearly correspond [1-6, 10]. Similarly to men, in women the lubrication/congestion disorder may be present at the beginning of the foreplay or appear during the foreplay and be blocked in the course of the intercourse by psychological factors, like performance anxiety, distraction by negative context-dependent factors, like being disturbed during the intercourse, or by biological factors, such as pain, more reported in women, or by vascular factors, more investigated in men. The relative weight of these disturbing factors seems to be different in men and women and should be acknowledged within the complex multifactorial causes of arousal disorders in both sexes.

Causes of arousal disorders in men and women

The basis of the mechanisms of genital arousal is vascular response under neuropsychological control. Central biochemical disturbances or neurotransmitter disorders and correlated affective disorders (e.g. depression and anxiety) can cause ED and female genital arousal disorders. Latent class analysis by risk factors has shown that emotional problems and stress have an OR= 3.56 (CI 2.00-6.34) of causing erectile dysfunction, and an OR = 4.65 (CI 3.22-6.71) of being associated with arousal disorders in women [28]. Sexual abuse, with its correlated post-traumatic stress disorder, as mentioned under in the section “Similarities and differences in the physiology of arousal in men and women” can cause arousal difficulties both in men and women [28].

Neural problems that affect the brain, midbrain, or spinal cord involved in genital congestion (e.g., multiple sclerosis or spinal cord injury) may cause ED and genital arousal disorders with vaginal dryness/lack of clitoral congestion in women. Surgical procedures to parts of the erectile system (pelvic nerves or penis) and diseases that directly affect the penis (cancer and Peyronie's disease) will impair its function [10]. Radical surgery for cervical cancer in women can dramatically impair the arousal response in women as well [33]. Nerve sparing techniques (NST), however, seem more promising in preserving the erectile and bladder function in men. In women, improvement in bladder outcome have been achieved but parallel benefits for the sexual function have not been substantiated so far.

Diseases of the vascular system (e.g., hypertension, heart disease, atherosclerosis, diabetes) can be expected to have serious consequences for the dilation of penile arteries and erectile function. When there is damage to tissue in the cavernosa the complex erectile process will not result in rigidity [4-6,10] . Vascular problems can also cause arousal disorders in women [16].

Hormonal factors can cause arousal disorders affecting the central and peripheral mechanisms in both sexes. The gradual loss of testosterone in aging men renders the process less subjectively perceptible [5,6] when physiological level of testosterone are restored through appropriately tailored testosterone replacement. In women, the relation between the loss of ovarian hormones at menopause and arousal disorders, with vaginal dryness and a “blunted” clitoral response is more clearly reported [18]. The change becomes dramatically evident after the surgical menopause, with increasing negative effects at earlier age. Premature menopause, either spontaneous or iatrogenic, is significantly associated with impairment of both central and peripheral arousal, unless appropriate hormonal replacement therapy is started [31,34].

Pelvic floor disorders and associated pathologies seem to impair the arousal response more in women than in men. The hypertonic pelvic floor, either lifelong as in severe vaginismus [35], or acquired as in dyspareunia where it expresses a defensive response against pain [36], may be associated with a reflex inhibition of arousal through the pain at penetration with which it is associated. The hypotonic pelvic floor may be associated with diminished genital arousal

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because of the lack of vaginal sensation during thrusting that many women do report. Arousal disorders may be associated with lower urinary tract symptoms [28], particularly after the menopause [18,34].

Indeed, sexual and urogenital pain can cause arousal disorders in men and women, although more prevalent in women. Latent class analysis of sexual dysfunctions by risk factors in women indicate that urinary tract symptoms have a RR = 4.02 (2.75-5.89) of being associated with arousal disorders and a RR=7.61 (4.06-14.26) of being associated with sexual pain disorders, [28]. A finding which is of the highest important for the clinicians, urologists, gynaecologists and family physicians.

Multiple factors of a biological, psychosexual and context-dependent nature can interfere with arousal at different levels in every person. Most men with clinical erectile dysfunction have mixed functional impairment and structural damage on a multifactorial basis, e.g. small defects in endothelial function (e.g. from smoking or dyslipidemia) combined with excessive adrenergic (inhibitory, as in anxiety) signalling may block the effects of normal sexual stimulation. In diabetes, loss of genital tactile sensations (from diabetic neuropathy) can impair the sexual response and potentiate the effect of the vascular damage (from diabetic microangiopathy). The same is true in women. Emotional factors do have a negative effect on their arousal and may interact with biological ones. Multiple medical factors, especially if age-related, come increasingly into play and contribute to the progressive increase of arousal disorders in women with aging [31, 32].

Effect of arousal disorders on the quality of life

The effect of arousal disorders on quality of life is deserving of further research in both sexes. Contrary to current opinion, arousal disorders in women affect their physical satisfaction, with an OR= 7.04 (4.71-10.53), more than they affect their emotional satisfaction (OR= 4.28 (2.96-6.20) (28). Also contravening current opinion, analyses of satisfaction with the primary partner and happiness suggests that women's arousal disorders seem to affect their physical satisfaction (OR= 7.04 (4.71-10.53) more than erectile dysfunction affects men's physical satisfaction (OR= 4.38 (2.46-7.82) [28] (Table2).

These data certainly need to be replicated in different countries, given the strong effect of sociocultural factors in contributing to the meaning and relevance attributed to personal events, particularly when they are so important from the emotional, affective and sexual point of view.

Conclusion

Physiology of sexual arousal shows major biochemical and neurovascular similarities in men and women, apart from the obvious anatomic sexual differences. In men and women, sexual desire can anticipate arousal, be concomitant with it, or be secondary to arousal caused by direct genital stimulation. An increasing body of evidence suggests that central arousal overlaps with sexual desire from the neurobiological point of view in both sexes.

Major differences in sexual behaviour stemming from desire and central arousal seem to be due to the interplay between biological and psychosexual/context dependent factors. Quantitative biological differences that are testosterone related seem to prime the seeking-appetitive-lust system, with a different strength in men than in women. Psychosexual factors, associated with a higher training to control sexual impulses in women, potentiated by sociocultural and religious-based gender differences, further polarize the overt sexual behaviour stemming from sexual arousal.

Definitions of arousal disorders differ greatly, even from the conceptual point of view, due to persisting sex biases. A more symmetric evaluation of central arousal disorders, and of the frequency and meaning of their comorbidity, either in excess or deficiency, with desire disorders, could definitely improve our understanding of human sexual behaviour in normal and pathological conditions.

The great influence of arousal disorders on personal happiness in both sexes further supports the need for a thorough investigation of their complex causes to tailor the most appropriate treatment.

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Finally, parallel thinking and a diagnostic framework in diagnosing arousal disorders in men and women could enhance physicians' abilities to correctly diagnose these disorders, and reduce the likelihood of omission mistakes because of sex biases.

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Table 1.

Arousal disorders in men and women: a preliminary parallel classification based on patient's wording and clinical evaluation

Sexual Dysfunction	Men	Women
Inadequate mental arousal disorder	+	+++
Inadequate genital arousal disorder	+++	++
Mixed arousal disorder	+	+++
Excess mental arousal disorder (and hypersexual behaviour)	++	+
Persistent genital arousal disorder	High flow priapism?	+
Painful genital arousal disorder	+	+

Legend: + rare ; ++ relatively frequent ; +++ very frequent; ? distinct from priapism

Table 2.

Quality of life concomitants by latent classes of sexual dysfunctions: satisfaction with primary partner and happiness in women and men

Latent class (and gender)	Low Physical Satisfaction	Low Emotional Satisfaction	Low General Happiness
WOMEN	N=1441	N=1442	N=1462
Arousal disorder	7.04 (4.71-10.03)*	4.28 (2.96-6.20)*	5.17 (3.36-7.95)*
MEN	N=1218	N=1219	N=1238
Erectile Dysfunction	4.38 (2.46-7.82)*	2.40 (1.33-4.33)*	2.48 (1.22-5.05)*

*p<0.05

Data from the National Health and Social Life Survey [37]. Data are presented as adjusted odds ratio (95% confidence interval). Estimated ratio of odds of respondents of each latent class having negative concomitant outcomes. Derived from logistic regression models performed on respondents with at least 1 partner during the 12-month period prior to the survey. The dependent variables are the concomitant outcomes and the predictor variables, modelled simultaneously, include latent classes as well as controls for age, marital status, education, race and ethnicity, religion and place of residence.

From Laumann et Al [28], with permission.

Box 1. Definitions of Women's Arousal Dysfunctions

- Subjective Sexual Arousal Disorder

Absence of or markedly diminished feelings of sexual arousal, (sexual excitement and sexual pleasure), from any type of sexual stimulation. Vaginal lubrication or other signs of physical response still occur.

- Genital Sexual Arousal Disorder

Complaints of absent or impaired genital sexual arousal. Self-report may include minimal vulval swelling or vaginal lubrication from any type of sexual stimulation and reduced sexual sensations from caressing genitalia. Subjective sexual excitement still occurs from non genital sexual stimuli

- Combined Genital and Subjective Arousal Disorder

Absence of or markedly diminished feelings of sexual arousal (sexual excitement and sexual pleasure), from any type of sexual stimulation as well as complaints of absent or impaired genital sexual arousal (vulval swelling, lubrication).

- Persistent Sexual Arousal Disorder

Spontaneous, intrusive and unwanted genital arousal (e.g. tingling, throbbing, pulsating) in the absence of sexual interest and desire. Any awareness of subjective arousal is typically but not invariably unpleasant. The arousal is unrelieved by one or more orgasms and the feelings of arousal persist for hours or days.

From Basson et Al, J. Psychosom. Obstet Gynecol. 2003 [30]

Box 2. Diagnostic criteria for Female Sexual Arousal Disorder

- A. Persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement.
- B. The disturbance causes marked distress or interpersonal difficulty.
- C. The sexual dysfunction is not better accounted for by another Axis I disorder (except another Sexual Dysfunction) and is not due exclusively to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition.

Specify onset:

- Lifelong type
- Acquired type

Specify context:

- Generalized type
- Situational type

Specify etiology:

- Due to psychological factors
- Due to combined factors

From Diagnostic Statistic Manual (DSM)-IV-TR, 2000, p. 544 [29]

Box 3. Diagnostic criteria for Male Erectile Disorder

- A. Persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate erection
- B. The disturbance causes marked distress or interpersonal difficulty.
- C. The erectile dysfunction is not better accounted for by another Axis I disorder (other than a Sexual Dysfunction) and is not due exclusively to the direct physiological effects of a substance (e.g. a drug of abuse, a medication) or a general medical condition.

Specify onset:

- Lifelong type
- Acquired type

Specify context:

- Generalized type
- Situational type

Specify etiology:

- Due to psychological factors
- Due to combined factors

From Diagnostic Statistic Manual (DSM)-IV-TR, 2000, p. 547 [29]