

Chapter 24

Orgasmic disorders in women

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Definition

Orgasm

There are many definitions of orgasm, from Ford and Beach [1], through Kinsey [2], Masters and Johnson [3, 4], Kothari [5] and others, to the Second International Consultation on Sexual Medicine, held in Paris in July 2003. Most of these definitions address subjective sensations and pelvic muscle contractions. Members of the Paris consultation, offer the following definition of women's orgasm, "An orgasm in the human female is a variable, transient peak sensation of intense pleasure creating an altered state of consciousness usually with an initiation accompanied by involuntary, rhythmic contractions of the pelvic striated circumvaginal musculature often with concomitant uterine and anal contractions and mytonia that resolves the sexually-induced vasocongestion (sometimes only partially) and mytonia usually with an induction of well-being and contentment" [6, p 66].

None of these definitions account for the report of orgasms from imagery alone, or in women with complete spinal cord injury. A more comprehensive definition of orgasm would be "Orgasm is a peak intensity of excitement generated by: (a) afferent and re-afferent stimulation from visceral and/or somatic sensory receptors activated exogenously and/or endogenously, and/or (b) higher-order cognitive processes, followed by a release and resolution (decrease) of excitation" [7, p 71]. By this definition, orgasm is characteristic of, but not restricted to the genital system.

Orgasmic disorder

The First International Consensus panel in 1998 defined orgasmic disorder as "the persistent or recurrent difficulty, delay in or absence of attaining orgasm following sufficient sexual stimulation and arousal, which causes personal distress" [8, p 890]. We prefer to use the word, "experiencing" orgasm rather than "attaining" orgasm, because experiencing does not connote sexual response in women as being liner or goal oriented.

In the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), female orgasmic disorder is defined as: "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" [9(302.73)].

The Second International Consultation on Sexual Medicine defined women's orgasmic disorder as "Despite the self-report of high sexual arousal/excitement, there is either lack of orgasm, markedly diminished intensity of orgasmic sensations or marked delay of orgasm from any kind of stimulation"[10, p 10]. This panel developed the new definition because the old definitions ignored the criterion of high or adequate sexual arousal. This current definition incorporates the criterion that the woman has no problem becoming aroused. It is considered to be a disorder only if the woman is distressed by the problem [11].

Prevalence

Anorgasmia is a common problem that is reported to affect an estimated 24-37 percent of women [12]. In a review of 34 studies, the rates of anorgasmia, orgasmic difficulty or orgasmic disorders ranged from below 20 percent to as high as 50 percent [13]. Findings from the National Social and Health Life Survey of 1,749 U.S. women, suggest that orgasmic problems are the second most frequently reported sexual problem in women. In this random sample, 24 percent reported a lack of orgasm in the past year for at least several months or more [14].

With aging, orgasms may be shorter in duration and less intense than when a woman was younger [15]. If sexual arousal is high, none of the data indicate that problems experiencing orgasm increase with age [16].

Anorgasmia can be divided into primary orgasmic disorder, in which a woman has never experienced orgasm through any means of stimulation, and secondary orgasmic disorder, in which a woman is anorgasmic after having been orgasmic. Secondary anorgasmia can be classified as situational (e.g., when a woman can experience orgasm via masturbation but not with a partner) or generalized [11].

Pathophysiology

Biologic

Much of our information about orgasmic disorders comes from studies of side effects of pharmacological agents, endocrine studies in animal models and neurophysiological studies in laboratory animals. (See anatomical and physiological basis of female sexual function, earlier in this chapter.) There is no definitive explanation as to what triggers orgasm in women.

The clitoris has been characterized as the "most densely innervated part of the human body" [17, p 137]. Most women experience orgasm from stimulation of the clitoris [18], and it has been reported that all orgasm follow the same reflex pattern [19]. Sipski and colleagues reported the importance of an intact sacral reflex in order to experience orgasm [20].

However, the most recent studies have demonstrated that genital self-stimulated orgasm in women with complete spinal cord injury above the level of the known genital spinal nerves (ie, pudendal, pelvic and hypogastric nerves) activates the same regions of the brain as orgasm from genital self-stimulation in women without spinal cord injury. The brain regions that were activated, using fMRI during orgasm experienced from vaginal-cervical self-stimulation include, the nucleus tractus solitarii (NTS),

hypothalamic paraventricular nucleus, amygdala, hippocampus, cingulate cortex, insula and nucleus accumbens [21]. During this study, as the women began vaginal-cervical self-stimulation there was no activation in any of the seven brain regions that were activated at orgasm. The amygdala and other regions of the basal ganglia were activated after at least two minutes of cervical self-stimulation, as were the cingulate cortex and insula. The basal ganglia showed intense activation during orgasm. The two brain regions that became activated during orgasm, but not before, were the paraventricular nucleus of the hypothalamus and the hippocampus [21].

Of interest is that in fMRI studies of the brain, the amygdala, is not activated during imagery-induced orgasm, but is activated during genital-induced orgasm in the same subjects [22]. It is tempting to speculate on the basis of this observation that the amygdala is therefore closer to having a genital sensory role, while the hippocampus, accumbens, cingulate cortex and paraventricular nucleus may have a more cognitive role in orgasm, since their activation during orgasm does not depend on physical genital sensory input.

Whipple and Komisaruk postulated the existence of a sensory pathway that bypassed the spinal cord, carrying sensory input from the vagina and cervix directly to the brain. They postulated this to be the vagus nerves, based on nerve transactions and tracer studies in laboratory rats [23]. In women, the sensory vagus nerves carry genital sensory input to the NTS in the medulla, as documented by PET and fMRI [21, 22, 23].

Orgasm is more than simply a reflex. While it may incorporate sensory-motor reflex components, it includes perception, which is not a necessary component of true reflexes. It may be triggered by a number of physical and mental stimuli. It does not even require direct genital stimulation. As stated above, mental (imagery-induced) orgasm has been demonstrated in laboratory conditions [24] and documented with fMRI of the brain [22].

A recent study reported some evidence of a genetic factor playing a minor but significant role in orgasmic response. Based upon a questionnaire study of “sexual problems” in women in England who are twins, and comparing identical with fraternal twins, the authors concluded that there is a significant heritable component for, in their words, “difficulty reaching orgasm during intercourse.” The underlying mechanism is unknown [25].

Psychosocial and context-dependent factors

A number of psychosocial factors have been discussed in relation to a woman’s ability to experience orgasm. Some of these are interpersonal and marital distress, psychological distress, psychiatric disorders, the use of antidepressants, especially selective serotonin reuptake inhibitors (SSRIs), age, education, social class and religion [6, 11]. However, there are no consistent empirical findings that psychosocial factors alone differentiate orgasmic from anorgasmic women [6].

What we do know about some psychosocial factors is that Laumann, Gagnon, Michael and Michaels found that 87 percent of women with an advanced degree reported always or usually experiencing orgasm during masturbation compared with 42 percent of women with a high school education [14]. There is no significant relation between education level and orgasmic ability with a partner [26]. Laumann and colleagues also found a negative relation between experiencing orgasm and high religiosity. That is, 79 percent of women with no religious affiliation reporting experiencing orgasm

during masturbation, compared with 53-67 percent of those having an affiliation with religious groups [14].

In a review article, Mah and Binik reported that orgasm consistency, quality and satisfaction in women have been related to relationship factors, such as marital satisfaction, marital adjustment, happiness and stability [27].

Orgasm and orgasm through vaginal intercourse may be learned rather than a natural biological act, and may have cross-cultural influences. There are cultures in which sexual pleasure has a high value and women are taught to be orgasmic and often multi-orgasmic [28, 29]. In some cultures women are taught to experience female ejaculation such as the Batoro of Uganda [30]. Other cultures assume that women have no pleasure from vaginal intercourse and that orgasm for women does not exist, such as the Arapesh. In this culture orgasm in women does not occur [31].

Therefore, many factors have to be considered when a woman reports orgasmic difficulties that cause personal distress. Usually orgasmic problems involve many factors and a multi-disciplinary approach is usually most effective in treatment. It is important for the clinician to remember that each woman is unique and that woman can not be compartmentalized into one linear way of responding or be labeled with one sexual response pattern. Women need to be aware of what brings them pleasure and what helps them to experience orgasm and to feel good about the various ways that they can experience sensual and sexual pleasure and orgasm.

Clinical approaches

In taking a sexual history in a woman who is experiencing personal distress due to either a lack of orgasm, markedly diminished intensity of orgasmic sensations or marked delay of orgasm from any kind of stimulation, asking the following questions may be helpful.

- Do you feel pleasure and satisfaction without orgasm? Is not experiencing orgasm a concern for you? If it is a concern, the following questions are recommended.
- Is your orgasmic difficulty generalized (in every situation and independent of the partner) or is it situational? If generalized, it may suggest a biological component, particularly if sex drive and arousal is maintained. There also may be nerve damage from surgery or an injury that must be assessed. If situational, there may be relationship issues to be addressed.
- Was the onset gradual or rapid? Gradual orgasmic difficulties are usually age dependent and may be exacerbated by menopause. They are characterised by an increased length of time between sexplay and orgasm, more intense stimulation required, decreased quality and intensity of the orgasmic pleasure and possibly diminished number of orgasmic contractions. Also comorbidity must be considered in both gradual and rapid onset.

If rapid, the use of medications such as amphetamines and related anorexic drug, antipsychotics, benzodiazepines, methyl dopa, narcotics, tricyclic antidepressants and SSRI's should be investigated. Other medications should also be investigated because of their effect on sexual response in women.

- What, in your opinion, is causing your orgasmic difficulty? Check the potential role of worsening incontinence, depression, pain, too rapid or absence of sexplay, loss of sexual drive and arousal, alcohol abuse and relationship problems.
- Do you feel a selective loss in your clitoral sensitivity and pleasure ability and/or a reduction in your coital pleasure? If the complaint is focused on the clitoris, and vulvar involution or dystrophia is present, then topical androgen treatment may be useful. If it is coital, two further questions should be asked.
- Do you have a decreased coital sensation? This latter may suggest a hypotonia of the perivaginal muscles, which may be related to loss of estrogen due to menopause and/or loss of androgens associated with aging. Vaginal pleasure and sensitivity are physically dependent also on the tonus of perivaginal muscles. Biofeedback retraining of the pelvic floor muscles or teaching Kegel exercises may help. Many women experience female ejaculation, an expulsion of about 3-5cc's of fluid from the urethra, which is chemically different from urine and is perfectly normal. It comes from the female prostate gland (G spot), formerly called the paraurethral glands [32]. A differential diagnosis between urinary incontinence and female ejaculation must be made. (see Table 1)
- Do you feel pain during intercourse? Coital pain of whatever origin must be investigated.
- Have you changed positions of intercourse to a position that does not stimulate the anterior vaginal wall (Grafenberg or G spot)?

Based on the information emerging from the clinical history, the health care provider should look for:

- Hormonal balance
- Signs and symptoms of vulvar dystrophia and, specifically, of clitoral and vaginal involution and traumatic consequences of ritual genital mutilation
- Signs and symptoms of incontinence, or of either of hypotonic or hypertonic pelvic floor or female ejaculation (education and permission giving is needed here)
- Iatrogenic influences, when potentially orgasmic-inhibiting drugs are prescribed.

Treatment options

Psychosexual issues are more frequently a cause in lifelong orgasmic difficulties, while biological etiology should be considered with gradual or rapid onset of anorgasmia.

If the history and physical assessment has ruled out any hormonal, neurophysiological or pharmacological related causes, the treatment of orgasmic disorders should then focus on an

assessment of knowledge. Teaching women and their partners about appropriate arousal techniques may be all that is needed.

In addition, socio-cultural factors need to be considered, that is, there may be inhibitions about receiving pleasurable sexual stimuli (usually in generalized primary anorgasmia, but not always). Education can be given about how women become aroused, the amount of time needed for arousal and the types of stimulation commonly needed for orgasm to be experienced. Information that most women are not able to experience orgasm from vaginal intercourse, and that extended clitoral or vaginal (G spot) stimulation may be needed, is also important information to disseminate[33,34]. Referral of the woman and/or couple to a certified sex therapist is helpful here (see www.aasect.org for a certified sex therapist in your geographic area).

The treatment of anorgasmic has been approached from psychoanalytic, cognitive-behavioral, systems theory and pharmacological approaches [35]. According to Meston and colleagues, “cognitive behavioral therapy for anorgasmia focuses on promoting changes in attitudes and sexually-relevant thoughts, decreasing anxiety, and increasing orgasmic ability and satisfaction” [6, p 67].

In the 1970's the small group format was suggested and there were a number of books and videos developed to give women permission to experience orgasm and to share ways in small pre-orgasmic groups that they found helpful to experience sensual and sexual pleasure [36].

Behavioral exercises include directed masturbation, with and without vibrators, which has been shown to be effective in groups and individually. If a woman is able to experience orgasm through masturbation, but not with a partner (if this is her desire), then couple therapy may be recommended, once issues of anxiety, communication, trust and past history have been addressed. Another behavioral approach often suggested is Kegel exercises. Graber and Kline-Graber found a positive correlation between the strength of a woman's pelvic muscles and her orgasmic response. The women with very weak muscles were anorgasmic in their retrospective study [37]. Perry and Whipple found that women who experienced female ejaculation have significantly stronger pelvic muscles than women who did not experience this phenomenon [38, 39]. Sensate focus exercises were developed by Masters and Johnson to reduce anxiety by using a series of body touching exercises, moving from sensual to increasingly sexual [4]. These exercises are used by many health care providers today, although Meston and colleagues note that there has been no reported substantial improvement in orgasmic ability with these exercises [6].

There are no pharmacological agents that have been demonstrated to be effective for treating women with orgasmic disorders. However, a good history will determine if other medical conditions or medications taken may inhibit orgasmic response. A change of medication or taking bupropion with an SSRI or in place of the SSRI may help. More double-blind, placebo-controlled studies are needed here. There is an excellent review of psychosocial and pharmacological treatments for orgasmic disorders in the Annual Review of Sex Research, Volume XV, 2004 [13].

It may be that permission and education are the most important treatment modalities. And since orgasm is not always essential for sexual satisfaction, and the inability to orgasm during intercourse is not abnormal, when would an orgasm difficulty warrant therapy? If it is a problem for the woman and causes her personal distress. It is important for women to know that they are in charge of their own orgasms, that no one can give them an orgasm and they are responsible for their pleasure and satisfaction.

It is also important to remember that each woman is unique, that each woman responds differently and that we can not put women into one linear way of responding sensually and sexually. Women need to be encouraged to feel good about what brings them pleasure, to be aware of this, to acknowledge it and then to communicate it to a partner if they chose.

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Table 1. Differential Diagnosis

Incontinence at orgasm	Female ejaculation
Weak pelvic floor muscles	Strong pelvic floor muscles
Contains: urea, creatinine	Contains: glucose, fructose, prostatic specific androgen, prostatic acid phosphatase
Volume: > 15 ml	Volume: 3-5 ml
Urine characteristics	Clear, pale white liquid with no urine
Associated with daily or night symptoms of incontinence	No symptoms of urgency and/or stress incontinence
Intensity of orgasm may be inhibited for fear of leaking	Is associated with intense pleasure at orgasm
Urodynamic examinations indicate detrusor instability	Urodynamic examination shows a continent bladder

modified from Graziottin, 1996 [40], Belzer, Whipple, Moger, 1984 [41], Addiego et al 1981 [42], Ladas, Whipple, Perry [30], and Zaviacic, 1999 [32]