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## Gynecological Endocrinology >

Volume 33, 2017 - Issue 2

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Sexual Dysfunction in Premenopausal Women

# Sexual dysfunction in premenopausal women could be related to hormonal profile

Fabiene Bernardes Castro Vale, Bruna Barbosa Coimbra, Gerson Pereira Lopes & Selmo Geber 

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## Abstract

Female sexual dysfunction (FSD) is a public health problem that affects women's quality of life. Although the relationship between some hormones and the FSD has been described, it is not well established for all hormones. Therefore, the aim of our study was to evaluate the association between hormonal dysfunction and sexual dysfunction in premenopausal women. We performed a cross-sectional study with 60 patients with regular menstrual cycles, with age ranging from 18 to 44 years, with previous diagnosis of FSD. All patients were evaluated using the female sexual function index (FSFI) questionnaire and had the levels of total testosterone, prolactin (PRL), thyroid-releasing hormone and free testosterone index measured. Among the 60 patients, 43 (71.7%) were diagnosed with hypoactive sexual desire disorder (HSDD), 9 (15%) had anorgasmia and 8 (3.3%) had sexual pain dysfunction. Hormonal evaluation, demonstrated that 79.1% of patients with HSDD, 78.4% of patients with anorgasmia and 50% of patients with sexual pain dysfunction had female androgen insensitivity. We can conclude that there is an important association between low levels of total and free testosterone and FSD. This finding offers a new alternative for diagnosis and treatment of HSDD. Moreover, given the potential role of androgens in sexual function,

randomized controlled trials with adequate long-term follow-up are essential to confirm its possible effect.

## Chinese abstract

女性性功能障碍 (FSD) 是一个影响女性生活质量的公共卫生问题。尽管已有研究讨论过一些激素和FSD之间的关系, 但其并非对所有激素均适用。因此, 我们研究的目的是评估激素水平失调与围绝经期女性的性功能障碍之间的关系。我们对60例月经周期规律的已诊断为FSD的患者进行了横断面研究, 患者年龄跨度从18到44岁。所有患者均使用女性性功能指数 (FSFI) 问卷进行评估, 并测量体内的总睾酮、催乳素 (PRL)、甲状腺激素和游离睾酮水平。在60例患者中, 43例 (71.7%) 患者被诊断为性欲减退功能障碍 (HSDD), 9例 (15%) 患者性快感缺乏, 8例 (3.3%) 患者有性疼痛功能障碍。激素水平测量显示79.1%的HSDD患者、78.4%的性快感缺乏患者及50%的性疼痛功能障碍患者对雄激素不敏感。我们可以得出结论, 低水平的总睾酮和游离睾酮与FSD之间有重要联系。这一发现为HSDD的诊断和治疗提供了新的替代方案。因此, 充足的随机对照试验长期随访对于确认雄激素在性功能中的潜在作用是很有必要的。

**Q Keywords:** Female prolactin sexual dysfunction testosterone

## Declaration of interest

The authors report no conflicts of interest.



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# Sexual Response Cycle

The sexual response cycle is one model of physical and emotional changes that happens when you are participating in sexual activity. There are four phases in this cycle. Orgasm is the shortest phase.

## What is the sexual response cycle?

The sexual response cycle refers to the sequence of physical and emotional changes that occur as a person becomes sexually aroused and participates in sexually stimulating activities, including intercourse and masturbation. Knowing how your body responds during each phase of the cycle can enhance your relationship and help you pinpoint the cause of sexual dysfunction. There are several different proposed models of a sexual response cycle. The one that is reviewed here is one of the more commonly quoted.

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## What are the phases of the sexual response cycle?

The sexual response cycle has been described as having four phases:

1. Desire (libido).
2. Arousal (excitement).
3. Orgasm.
4. Resolution.

Both men and women can experience these phases, although the timing may be different. For example, it's highly unlikely that both partners will reach orgasm at the same time. In addition, the intensity of the response and the time spent in each phase varies from person to person. Many women won't go through the sexual phases in this order.

Some of these stages may be absent during some sexual encounters, or out of sequence in others. A desire for intimacy may be a motivation for sexual activity in some individuals. Understanding these differences may help partners better understand one another's bodies and responses, and enhance the sexual experience.

Several physiologic changes may occur during different stages of sexual activity. Individuals may experience some, all or none of these changes.

### **Phase 1: Desire**

General characteristics of this phase, which can last from a few minutes to several hours, and may include any of the following:

- Muscle tension increases.
- Heart rate quickens and breathing gets faster.
- Skin may become flushed (blotches of redness may appear on the chest and back).
- Nipples become hardened or erect.
- Blood flow to the genitals increases, resulting in swelling of the woman's clitoris and labia minora (inner lips), and erection of the man's penis.
- Vaginal lubrication may begin.
- The woman's breasts become fuller and the vaginal walls begin to swell.
- The man's testicles swell, his scrotum tightens, and he begins secreting a lubricating liquid.

It's important to note that everyone sexual experience is different. Some may not consistently experienced the above changes. Not only can this vary between individual persons, but can also vary in an individual between different sexual encounters. Sometimes the desire phase may come after

## Phase 2: Arousal

General characteristics of this phase, which extends to the brink of orgasm, include the following:

- The changes begun in the first phase get more intense.
- The vagina continues to swell from increased blood flow, and the vaginal walls turn a darker color.
- The woman's clitoris becomes highly sensitive (may even be painful to touch).
- The man's testicles are withdrawn up into the scrotum.
- Breathing, heart rate and blood pressure continue to increase.
- Muscle spasms may begin in the feet, face and hands.
- Tension in the muscles increases.

## Phase 3: Orgasm

This phase is the climax of the sexual response cycle. It's the shortest of the phases and generally lasts only a few seconds. General characteristics of this phase include the following:

- Involuntary muscle contractions begin.
- Blood pressure, heart rate and breathing are at their highest rates, with a rapid intake of oxygen.
- Muscles in the feet spasm.
- There is a sudden, forceful release of sexual tension.
- In women, the muscles of the vagina contract. The uterus may also undergo rhythmic contractions.
- In men, rhythmic contractions of the muscles at the base of the penis result in the ejaculation of semen.
- A rush or "sex flush" may appear over the entire body.

## Phase 4: Resolution

During this phase, the body slowly returns to its normal level of functioning, and swelled and erect body parts return to their previous size and color. This phase is marked in some by a general sense of well-being and, often, fatigue. Some women are capable of a rapid return to the orgasm phase with further sexual stimulation and may experience multiple orgasms. Men typically need recovery time after orgasm, called a refractory period, during which they cannot reach orgasm again. The duration of the refractory period varies among individuals and changes with age.

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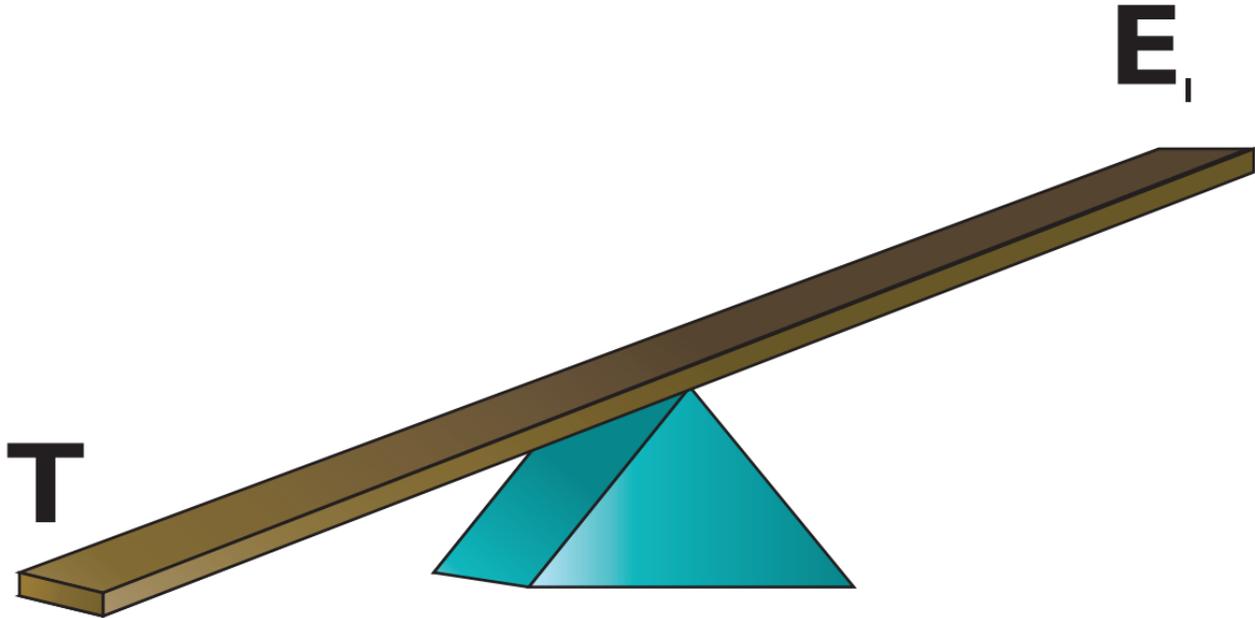
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**When testosterone decreases, estrone increases**

**T** = Testosterone

**E<sub>1</sub>** = Estrone



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## Journal of Obstetrics and Gynaecology Canada

Volume 39, Issue 3, March 2017, Pages 124-130

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Ann Kathryn Korkidakis MD  , Robert L Reid MD[Show more](#) 

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## Abstract

Androgens, both in excessive and depleted states, have been implicated in female reproductive health disorders. As such, serum testosterone measurements are frequently ordered by physicians in cases of sexual dysfunction and in women presenting with hirsutism. Commercially available androgen assays have significant limitations in the female population. Furthermore, the measurements themselves are not always informative in patient diagnosis, treatment, or prognosis. This article reviews the limitations of serum androgen measurements in women suspected to have elevated or reduced androgen action. Finally, we consider when therapeutic use of androgen replacement may be appropriate for women with sexual interest/arousal disorders.

## Résumé

Divers troubles de santé génésique chez la femme découlent d'un taux anormal d'androgènes. C'est pourquoi les médecins demandent souvent un dosage du taux sérique de tes

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les femmes atteintes d'hirsutisme ou souffrant de dysfonctionnement sexuel. L'efficacité des tests commerciaux de dosage des androgènes est toutefois limitée chez la femme, et les résultats ne permettent pas toujours de poser un diagnostic, de planifier un traitement ou de formuler un pronostic. Le présent article se penche sur les limites du dosage des androgènes chez les femmes semblant présenter une activité androgénique anormale et étudie les situations où une thérapie hormonale est appropriée chez les femmes atteintes d'un trouble de l'intérêt ou du désir sexuel.

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## Key Words

Hirsutism; polycystic ovary syndrome; libido; androgen assays

## Abbreviations

11KDHT, 11-ketodihydrotestosterone; DHEAS, dehydroepiandrosterone; DHT, dihydrotestosterone; PCOS, polycystic ovary syndrome; SSE, satisfying sexual episode

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Competing interests: None declared.

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- Slide 49:** "Sexuality in Pompeii Circa 70 AD" featuring a painting of a couple in an intimate embrace.
- Slide 50:** "Beyond the Lecture ... Additional Information".
- Slide 51:** "Anatomic Etiologies of FSD: Diagnosis and Treatment".
  - A GYN consultation is necessary to rule out:
    - Infections
    - Atrophy
    - Perineal scarring
    - Uterine, vaginal and bladder prolapse
    - Retroflexed uterus
    - Masses
    - Vaginal laxity
- Slide 52:** "Testosterone vs Estradiol".
  - A seesaw diagram with "T=Testosterone" on the left and "E=Estroene" on the right.
  - Text below: "When testosterone decreases, estrone increases".
- Slide 53:** "Questionnaire: Current Symptoms".
  - Low or no Sex Drive (Libido)?
  - Infrequent or Absent Orgasms?
  - Difficulty achieving an orgasm?
  - Dry vagina?
  - Lubricant is necessary to have sex
  - I am not getting along with my partner?
  - Painful intercourse?
    - Pain with deep thrust?
    - Pain with vaginal entry?
  - Pain in certain positions?
- Slide 54:** "Questionnaire: Significant Medical and Surgical History".
  - Head injuries
  - Pituitary masses
  - Adrenal Disease
  - Thyroid Disease or Surgery
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  - Pelvic Pain e.g., Endometriosis
  - Chronic Pain