

# Sexual desire, testosterone and biomedical interventions: managing female sexuality in “ethical doses”

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## **Abstract**

In recent medical events and articles the hormone testosterone has emerged as a resource for treating problems related to female sexuality. This hormone is commonly defined as the “male hormone” and presented as the “hormone of desire”. This observation led to investigate if and how the use of testosterone is found in the realm of doctors’ offices and if it is being applied as a therapeutic resource for women. This article analyzes what types of approaches and treatments have been used by doctors in a large Brazilian city. The methodology involved sought out medical professionals indicated for their specialization in treating female “sexual problems”. Considering the statements of the professionals interviewed, sexual desire is defined emphatically as the presence or absence of a greater or lesser amount of testosterone. This standard is associated to gender differences that are expressed primarily in terms of biology.

**Keywords:** Hormones; gender; sexuality; biomedicalization.

# Desejo sexual, testosterona e intervenções biomédicas: administrando a sexualidade feminina em “doses éticas”

## **Resumo**

Em eventos e artigos médicos recentes, nota-se o surgimento do hormônio testosterona como recurso para o tratamento de problemas relacionados à sexualidade feminina. Este hormônio é comumente definido como o “hormônio masculino” e apresentado como o “hormônio do desejo”. Esta observação levou a investigar se, e como, o uso de testosterona aparece no domínio dos consultórios médicos e se está sendo aplicado como um recurso terapêutico para as mulheres. Este artigo analisa quais tipos de abordagens e tratamentos têm sido utilizados por médicos/as em uma grande cidade brasileira. A metodologia envolveu a busca por profissionais médicos/as que foram indicados/as por sua especialização no tratamento de “problemas sexuais” femininos. Considerando as declarações dos/as profissionais entrevistados/as, o desejo sexual é definido enfaticamente pela presença ou ausência de uma quantidade maior ou menor de testosterona. Este padrão está associado a diferenças de gênero que se expressam principalmente em termos de biologia.

**Palavras-chave:** hormônios; gênero; sexualidade; biomedicalização.

# Sexual desire, testosterone and biomedical interventions: managing female sexuality in “ethical doses”

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## **Treating female sexuality**

New options for technological intervention have led to new reflections about how gender and sexuality are produced in different contexts. While innovative surgical or pharmaceutical possibilities can lead to a wider variety of expressions in terms of gender and sexuality (for example, by allowing the corporal transformations desired by transsexuals), they can also contribute to the revival of certain more traditional norms of femininity, masculinity and heteronormativity (Butler 1990). The field of sexual medicine has been extremely productive for investigations of this kind, to the degree that it is strongly influenced by recently developed resources for treating so-called sexual dysfunctions that are based on an organic or physical perspective of sexuality.<sup>1</sup> In Brazil, as in many other countries, treatments of issues related to sexuality are largely anchored on parameters of biomedicine. The focus of this article is to analyze what types of approaches and treatments have been used by doctors in a large Brazilian city.<sup>2</sup>

Studies have examined the universe of pharmacological interventions in sexuality, especially since the rise of Viagra in the late 1990s. Using a general problematization that articulates sexuality and age as fundamental dimensions of the modern individual, Marshall and Katz (2002) highlight the importance of the lifestyle cultures of the late twentieth century, such as the emphasis on health, activity and on non-aging for the process that would give origin to a vast field of studies and interventions concerning the capacity for erection. Sexual activity came to be emphasized as an indispensable condition for a healthy life and erectile capacity as a definer of virility throughout the entire course of male life (Marshall and Katz 2002; Marshall 2006).

In this new context, according to Loe (2001), Viagra appeared as a material and cultural technology that could provide a new opportunity for intervention in male bodies, in contrast with the traditional history of medical intervention in women’s bodies. This only became possible thanks to the propagation of the idea of masculinity in crisis, best illustrated with the metaphor of the erection. The notion that the erection, the symbol of virility and male identity, is effectively unstable and subject to various types of impediments appears to gain increasing notoriety. It is precisely to combat any lack of control, or unpredictability of the male body that industry offers a resource such as Viagra, which can guarantee the expectation of an always better performance (Grace et al. 2006; Vares and Braun 2006). At the same time, pharmaceutical companies promoted the idea that erectile dysfunction was an important health problem, making it an increasingly acceptable topic of public discourse, which would also lead to greater search for treatment (Lexchin 2006). For Tiefer (2006a: 275), the process of medicalization of sexuality would thus go beyond the phase of the

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<sup>1</sup> According to Loe (2001, 2004), Giami (2004), Fishman (2004), Hartley (2006), Lexchin (2006), Tiefer (2006b), Marshall (2010), Moynihan and Mintzes (2010), Azize (2004) and Rohden (2013).

<sup>2</sup> In respect for ethical determinations, the name of the city as well as the real names of the people interviewed remain classified.

creation of classificatory systems and enter a step of institutionalization and professionalization of sexual medicine with the support of organizations, conferences, training centers, scientific journals, clinics and medical departments. This new sexual medicine would advance side by side with sexual pharmacology.

In relation to women, Loe (2001: 101) suggests that in the mid twentieth century the development of technologies associated to reproduction, mainly the contraceptive pill, were precursors of a new pharmacology of sex. A direct line would link the pill, considered to liberate female sexuality from reproductive consequences, and Viagra, a supposed guarantee of male sexual satisfaction. Giami and Spencer (2004) even argued that three models of sexuality have characterized recent decades: sexuality liberated in the context of the pill; protected sexuality in the realm of the HIV/AIDS epidemic; and the use of condoms and functional sexuality, in the scenario of medications for sexual dysfunction.

In the wake of what took place with Viagra, the creation of feminine sexual dysfunction is presented as a classic case of a tactic to promote a new disease by the pharmaceutical industry and other agents of medicalization such as journalists, health professionals and advertising and public relations companies (Moynihan and Mintzes 2010). U.S. urologists have worked with the category of female sexual dysfunction and journalists began to speak of a “Pink Viagra”, since at least 1997, according to Tiefer (2006b)

An important mark was the article “Sexual Dysfunction in the United States: prevalence and predictors” by E. Laumann, A. Paik and R. Rosen, published in the *Journal of the American Medical Association (JAMA)* in 1999, based on a reanalysis of data from a 1992 survey with 1,500 women who were considered to be suffering from dysfunction if they responded positively to any of the problems mentioned including, loss of desire, anxiety about sexual performance or difficulties in lubrication. The researchers affirmed in this paper that 43 percent of women between 18 and 59 suffered from sexual dysfunction. This number came to be insistently cited in the literature that would promote the new disease (Moynihan 2003; Hartley 2006).

What we see in the creation of the diagnosis of female sexual dysfunction is an articulation between various actors that culminated in the conformation of a new and broad market for treating women’s sexual problems, estimated in billions of dollars per year. For this reason pharmaceutical companies have conducted more than 120 clinical studies on female sexual dysfunction (Shin 2012) based on a series of different products, beginning with Viagra itself, which was tested for women by Pfizer between 1997 and 2004, when the laboratory admitted that the clinical trial did not show satisfactory results.

In recent medical events and articles the hormone testosterone has emerged as a special resource that can be indicated for treating problems related to sexuality (Rohden 2011, 2013; Faro 2016; Faro and Russo 2017; Manica and Nucci 2017). This hormone is commonly defined as the “male hormone” and presented as the “hormone of desire”.<sup>3</sup> This observation led me to investigate if and how the use of testosterone is found in the realm of doctors’ offices and if it is being applied as a therapeutic resource for women.

The research methodology involved interviewing professionals mainly from the field of gynecology, but also from endocrinology and gerontology, who were indicated because they specialize in treating female “sexual problems”. Twelve physicians were interviewed. They were characterized by a certain recognition by their peers and in the field, often established due to a link to universities, hospitals and other teaching institutions, as well as participation in regional and national medical associations, where some held administrative positions. Many of them were often invited to participate on television and radio programs and to give interviews in print newspapers and magazines and on the internet. Some of them have their own website and pages on the internet and social networks. Most of them attend patients in important public services for the general population and in private clinics in wealthy neighborhoods. Their medical education took place at highly regarded educational institutions and most have taken courses in sexuality.

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3 For a history of the so-called sexual hormones, see Oudshoorn (1994), Hoberman (2005), Roberts (2007), Rohden (2008) and Sanabria (2010).

## Testosterone and desire

A central focus of the interviews was on a question about how issues related to sexuality arose in their consultations. The responses pointed to a frequent observation that the main “complaint” raised by women concerned a lack of sexual desire or libido, especially among older women in phases around menopause. There were also references to difficulties in sexual relations or a lack of orgasms among younger women. Nevertheless, in these cases, the doctors interviewed consider that this is a much easier problem to treat. For them it simply requires providing information about one’s own body and sexual practices.

One can affirm, considering all the statements of the professionals interviewed, that sexual desire is produced very emphatically in the presence or absence of a greater or lesser amount of testosterone. This standard is unquestionably associated to differences between men and women that are expressed primarily in terms of biology.

Ivo, a gynecologist, has a conception that emphasizes a radical difference between genders, based on a binary distinction between sexes, expressed in terms of a natural and evolutive order. Asked about the existence of differences between the sexuality of men and women, his response was categorical. In addition, when speaking about the importance of hormones for sexuality, he emphasized the fundamental role of testosterone:

Testosterone is the sex hormone. And it is the primordial hormone of males. Males are always ready to have intercourse as long as they have a testicle. The daily variability in the production of testosterone of males is very small (...). Females produce testosterone, among mammals, whenever they are in heat (...). When they are fertile all females accept the male, because sex was made for reproduction, it was not made for any other thing. So females, when they have a high level of testosterone, have greater desire to have relations (...). What determines this is testosterone. (Ivo).

For this doctor, sexuality is related to reproductive factors materialized in the different phases of a woman’s life and made concrete in the presence or absence of hormones, especially testosterone. This hormone is seen as the most important causal factor, and thus, is also presented as the treatment that will resolve nearly all problems. This appears to involve a vision of gender and of the very existence of humans based on naturalizing and essentialist perspectives.

At another extreme is a statement by Marcelo, whose trajectory is unique among the doctor’s interviewed, due to his work with trans people.<sup>4</sup> Gender should not be discussed in binary terms and it is always necessary to pay attention to individual differences and the realities of concrete cases, according to Marcelo, who is an endocrinologist. Nevertheless, when asked about a possible difference in relation to sexuality between men and women, he answered:

I think that, as a rule, men have greater libido. Testosterone has more libido. And this would be a difference related to sexuality, sexual desire; it appears to me that it is much stronger, intense, in men than in women. As a general rule. A man is much more aggressive, and has greater libido (Marcelo).

And even considering the case of trans people, he continues his line of reflection about the role of hormones in sexuality:

Hormones define libido, we see this clearly because a man has a stronger libido than a woman and the trans man in the same way when he begins to replace testosterone, his libido increases. So the relation between libido and sexuality is obvious.

<sup>4</sup> The term trans/transgender refers to people who do not recognize themselves in the sex to which they were assigned at birth. In parallel, is the term cis/cisgender to refer to people who identify with the sex they were assigned at birth. The discussion around these terms is relevant here particularly because it calls attention to how all the different forms of expression and materialization of bodies, behaviors and identities are arduously elaborated.

What we see with this example is that hormones – especially testosterone – are identified as absolutely essential agents in the existence and degree of sexual desire. Even if this doctor considers that sexuality is a phenomenon that is extremely more complex than its reduction to hormones, as he understands that gender is also much more complex than any reduction to biological sex, he does not question the centrality of testosterone.

### **Multiple agencies of testosterone**

Specifically in relation to the treatment of female sexual problems, hormonal prescriptions were the most important reference. In particular, the doctors attest the recurring presence of testosterone in the field of treatment of sexual problems. They affirm how testosterone treatments are controversial, although this is not a reason for the substance not to be prescribed. Most of them said they prescribed testosterone treatment for older women. Their only consideration was relative to the dosages of the hormone.

In the continuation of this article, I will not address this majority of doctors more favorable to the use of testosterone. Instead, I'll discuss some more controversial cases. In a first place I will privilege the statements of those more opposed to the use of this hormone. And then I will present the comments of the two doctors who also attend transsexual people. It is interesting to discuss what arguments are presented as a target of the polemic and to discover how these professionals administer their practical choices. Even among the interviewed most critical of the use of hormones, these substances and their controversial uses and effects occupy a central place.

Only two of the professionals interviewed were more opposed to prescribing testosterone. Their statements are interesting because they accentuate important aspects of the polemic and different forms of agency attributed to this hormone. Bernardo is a gynecologist with a long career and is certainly more opposed to suggesting its use. Asked about how he addresses the issue of sexuality, what type of treatments he uses and if they include any hormonal treatment, he responded:

Hormones? For the treatment of sexuality, between hormones and nothing, nothing is better (...). Although I know there are people using androgens, for female orgasmic dysfunction, it is a practice that has no scientific basis. Unless you want them to have mustaches, and deep voices.

[Interviewer] You don't prescribe androgens?

I proscribe them. Its absolutely true. In my judgment, unless you want to masculinize women, to use hormones, quote male unquote, there is nothing that proves the action that they intend to obtain. It is true that with the uses of androgens there is a slight increase in a woman's aggressivity, which is an effect of androgen on nearly all women and the equivalent in animals. In the case of animals they become aggressive. In the case of women who have orgasmic dysfunction, frigidity, quotes, they are inhibited. And the increased aggressivity is interpreted as an improvement in the sexual problem, but the effect is transitory.

[Interviewer] Transitory in what sense?

Transitory in time, after some time of use, in general after two or three months, the effect disappears. This effect, let's say, on vitality. And it goes back to what it was before. So, to be clear, serious sex therapists do not use hormones. I want to say serious in two senses. Not that they are not serious, it is that they do not seriously study the issue. This is a discussion that has been going on for three decades, at least. It did not exist before because there were no therapeutically effective or available drugs.

This portion of the interview shows how at the same time in which the doctor takes a position completely against the use in women of hormones considered to be male, he attests that they can have some effect (aggressivity) that is understood in a mistaken form by the doctors who prescribe it, as improved “vitality”. A type of treatment used by professionals that do not have “serious” knowledge about the issue. During the interview, he also draws attention to the fact that “sexual hormones” do not have only a single specific action but at least two dozen effects and it would be impossible to isolate only the desired effect, running the risk of provoking heart attack or stroke, for example. He adds that “there was a time when [the use of hormones] became fashionable” for treating sexual problems and for symptoms associated to menopause, such as hot flashes, about which he commented:

They are very specific symptoms. And if we give estrogen they stop, and when we stop with the estrogen they return. It's that when a woman's procreative function terminates, she no longer menstruates, but she will have hot flashes. The hormones are there for having children. And that phase arrives and the organism removes them and so they go to doctors who apply them again. And then they die of heart attacks and no one sues [he laughs]. When I began to speak badly of hormones prescribed in climacterium, they began to say that I was out of date [laughing again]. Today, since there is enormous pressure from the pharmaceutical industry to sell these products... they hire researchers who do studies proving... not that the work has proved this, but they affirm it. This is violence against women. They should be put in jail. A person who hits a woman, is easy to cure. Don't go close to him, don't let him get close. Not hormones. They're always there.

We can perceive various relevant points here. The first concerns the fact that there is an affirmation of the effect of hormones, at least on hot flashes: they stop with the use of estrogen; if the estrogen is terminated, they return. And an understanding that this is related with the end of the procreative phase, given that these hormones would be for having children. It is not up to doctors, at least without ominous consequences for women, to change this order. The second point that calls attention refers to his position in the field, he affirms that he is discredited by his colleagues but reveals a broader understanding of the process, even denouncing the pressure from the pharmaceutical industry and its consequences as true “violence against women”.

In the same line we also have the statement of Karla, a gynecologist. Not by chance, part of her professional trajectory approximated that of Bernardo. She is also quite critical of the use of hormonal treatments and when questioned about the prescription of testosterone by her colleagues responded:

They use it, but they can be sued. It can only be used in cases of removal of ovaries, but they prescribe it nevertheless and in a much larger dosage (...).

[Interviewer] And is there [a situation] when the use of testosterone is indicated for women?

No, in women, no indication. So... my colleagues want to play God (...). They want to play God. What they do is protect their market, they don't want to send patients to others. There are no studies that prove this.

Upon proceeding in her comments, Karla adds that she is different from other gynecologists, although she is also trained in this field, because she does more specific work with sexual therapy with techniques focused on changing behavior. But it is revealing that when encouraged to speak about the possible effects of testosterone she affirms that it would improve the libido. Moreover, when she comments on her techniques, she believes that they can contribute to improving the levels of endogenous testosterone:

Researchers study what changes with techniques like mine, based on thinking about sex (...). They publish on the effect of thinking of sex to see what changes the hormones. Their research shows what I have already done with my patients, with my technique (...). Things that I have been doing for years with them, they study and prove that they can increase endogenous testosterone.

What is curious here, however, is that although she is critical of the use of treatment based on testosterone, she recognizes that the use of her techniques can increase the levels of this hormone in women's bodies, which would be beneficial, and that this is recognized in the scientific literature about the issue. This is not only an assertion that testosterone increases desire but that increased desire (or thinking about sex) is capable of increasing internal testosterone.

### **The power to increase virility: (un)desired collateral effects**

In the group of specialists interviewed, two reported that they also have transsexual patients. Their statements are especially important in this article because they offer an additional perspective about the relationship between the use of hormones, gender and sexuality. When they were asked to discuss the practices they use in clinical treatments, they combined discussions of cis women and trans men.

In her practice as a gynecologist Janice attends women who come to her for treatment of sexual dysfunctions. She demonstrated affinity with her colleagues, affirming that it is necessary to use different treatments, depending on the case, and that the "hormonal technique" is used especially for a lack of desire in older women. In this case, it is testosterone prescribed in a cream (always prepared to order because she said there is no commercial medication available), or injectable, for which there are a few brands available on the market. She said the official indication that must be used to fill in the forms of controlled prescriptions, according to the International Classification of Diseases (ICD), for the case of testosterone "replacement" would be "ovarian insufficiency". The indication of injectable testosterone would be safer and more often used in patients with hysterectomies who had no risk of endometrial proliferation. The treatment is justified, according to Janice, "because it is testosterone that increases sexual desire and libido. It is testosterone, the male hormone".

Her response to the question about the possible effects of testosterone indicates some ambiguity, between the specific role of the hormone and the more general effects of a treatment seeking to improve sexuality:

It increases the libido. They have more desire. Just coming to the office, a sexology clinic, they are already thinking of sex. I always say to the patients 'I am not going to give you a magic pill, and you are not going to get home today and lie down in bed with a heavenly desire'. But just looking for a doctor, speaking of sex, thinking of sex, brings improvement.

Nevertheless, in another sense, she leaves no doubt about her conviction of the concrete effects of the substance. Referring to transsexual men patients (who initially identified as women) as an exemplary case and contrasting with the patients in "sexual therapy", she affirms:

My patients that use testosterone, they want the collateral effects. They want the virilization. Because testosterone is the male hormone. So they want to have a deep voice, they want to have hairs, be more muscular... But they want to masculinize. And they use it once a month or once every two weeks (...).

These patients in sexual therapy who at times need testosterone, which is to increase the libido, this is the effect that we want... so they use a vial, about three a year, quite spaced out. At times it's just to give a trigger and they stop. Just for them to remember how good it is, and then at times they don't need it any more.

Janice added that this could have the effect of masculinization in these women but this does not take place due to the control of the frequency of use and of the different dosages used. It is clear, therefore, that she does not question the effectiveness or the power of testosterone to produce effects considered to be “naturally” male, such as increased sexual desire and some signs of “virilization”. It all depends, once again, on the quantities used in each situation and to achieve certain ends.

In a similar direction, we have the statement of Marcelo, who was quoted in other section. This endocrinologist is one of the most cautious in highlighting the multiple and unexpected effects of the hormones and the care needed in their use. One of the most interesting points of his interview refers to the fact that he juxtaposed and contrasted the hormonal replacement therapies conducted in conformity with the original gender identity related to the change in condition of trans people. This perspective even emphasizes a series of generalizations that are normally made when referring to “classic” hormonal replacement treatment related to gender. By referring to the latter case, he describes the patients that come to him:

When does a man come to me for hormonal therapy? When he is not producing testosterone, either because he does not have a testicle or because the testicle stopped functioning, so we give testosterone. Hormonal replacement therapy for a woman? When? When she is not producing feminine hormones or stopped producing them, menopause. She does not produce them because she does not have an ovary, the ovary does not function, a thousand reasons. Hormonal replacement therapy. We are speaking of hormonal replacement therapy related to gender identity. This has been done for a long time.

What is new, according to Marcelo, are the new hormonal therapies directed at trans people. The doctor highlights that in practice, the search is quite different for trans men and women. Men more frequently come to the doctor’s office because their treatment would require injectable or transdermic doses of testosterone that must be prescribed specifically. Trans women have easier access to female hormones.

When Marcelo was questioned if he had cisgender women under treatment with testosterone he first said no. He affirmed that he would only do this in very particular situations of androgenic deficiency, “when a woman produces no testosterone”, there would be this possibility for replacement. He made a point of adding that, with the exception of the latter condition, he did not consider it ethical to conduct this type of treatment, although, he said, there are “many people doing it”. Upon explaining why this would not be ethical he emphasized:

It is not ethical because it has some consequences... Endocrinology seeks to mimic physiology as much as possible. This is not physiological, to use testosterone for a woman. So it does not promote health (...). We, doctors, follow medical guidelines defined by consensuses and there is no consensus about this, to the contrary.

Nevertheless, when speaking about testosterone replacement in menopause, to treat low libido, he said this was possible, as long as it involved an “ethical dose”: “There is a dose that is ethical. It is much lower than the dose that is being used today in gyms, and [being sold] on Facebook.” For Marcelo, the doses used by women in gyms seeking physical performance also have the inconvenience of being ingested orally by means of pills, and “oral testosterone is harmful”. Moreover, they are associated to increased hair growth, voice deepening, oily skin and even baldness. These effects that would not be felt by patients who take small doses of testosterone, which he recommends in a few cases:

Not this type of dosage, it will cause much less. It will not cause this, and it is not desired. If you give a cisgender women who wants to improve her libido a bit larger dose and her hair begins to fall out, she goes crazy, she doesn’t want this. She wants to improve her libido, but she doesn’t want her hair to fall out.

And any increase in the dose will have some consequence, so one must be careful. They are very small doses. Now, what do you see in the gyms? The pumped up women, look at their foreheads, they are gigantic. Hair normally begins here [pointing to the top of his head]. They don't care right [laughing]. They even like it I think... I don't know, a bit different style of beauty, right.

Once again we have here the production of a distinction between the suitable or “ethical” doses that can be prescribed by the doctors depending on each situation and the accusation of a certain indiscriminate use of testosterone, which is found in people at gyms. The central line of differentiation appears to be the volume of the doses and the different intentions of these two groups of users. Some need to replace something they lost or are no longer producing while others are seeking an excess that is directly manifest in their bodily transformations.

The interview with Marcelo illustrates a position that presents a sexuality encompassed by a more open point of view, including various facets such as the reference to gender, at the same time in which it affirms the importance of hormones. Nevertheless, he is one of the most emphatic, perhaps because he is an endocrinologist, to affirm that: “When one speaks in ‘hormonizing’, all responses are possible, because people respond in different ways to hormones”. This is, therefore, a quite delicate and complex field of interventions. Moreover, one of the particularities of his statement is, as I said previously, that it highlights proximities and differences between hormonal replacement for cis and trans people. He affirmed:

All endocrinologists conduct hormonal replacement therapy for the same sex as identity [to maintain or reinforce the characteristics of the sex attributed at birth]. They all do. A few do not like to and delegate this to a gynecologist, andrologist, urologist. But in principle they are all qualified to do so because we learn to do this... Now many do not do this other type of treatment, cross sex, because they do not want to, they do not like it... But the endocrinologist is the doctor who works with hormonal replacement.

This statement illustrates how it is “natural” for doctors, endocrinologists and gynecologists in particular, “to conduct hormonal replacement therapy for the same sex as identity”. The problem appears to be, according to Marcelo, when the doctors do not feel comfortable treating trans people. But perhaps this clue also allows us to question why there are different evaluations for cisgender women. It was possible to perceive in various interviews that there is a distinction, particularly expressed in the dosages or quantities and their “masculinizing” effects, concerning what may or may not be admitted in the treatments or, in Marcelo’s terms, what is or is not an “ethical” dosage.

## Conclusion

According to these doctors, sexual desire is conceived as being linked or dependent on the existence of a substance, testosterone, the “male hormone”. It is important to emphasize that although it has been possible to perceive differences between the concepts of the people interviewed, in relation to approval of the use of synthetic testosterone in women, they all attest to the substance’s potency. When Bernardo, who was most against its use, affirmed for example, that testosterone produces virilizing effects and more aggressivity, even in women, and that this is confused with desire, he is problematizing the nature of the effects of the substance but continues to affirm its capacity for agency. In the same line, when Karla, who is also against the pharmaceutical uses, states that her method of behavioral sexual therapy provokes an increase in the rates of testosterone, she reaffirms the association between increased desire and greater presence of this hormone in women. That is, in different ways, testosterone arises as a very powerful material force. In most cases, directly associated to the presence of sexual desire.

The main benefit associated to testosterone by most doctors is precisely the “replacement” of desire. In terms of the “collateral effects” there were recurring mentions of the “exaggerations” of “too high doses” that go beyond the limits considered acceptable. These “excesses” were often described in terms of risks of virilization as growth of undesired hairs, deepening of the voice and increase in the size of the clitoris. Worth noting that in the case of the two professionals who mention attending trans men, these effects even appear as desired or expected effects from the use of testosterone. But in the case of cis women, these corporal indications, interpreted as masculine, are a threat to be avoided.

In this sense, the suitable or “ethical” doses must be monitored so that they do not go beyond established gender borders, as should be correspondingly and binarily evident on the surface of bodies. This would attend to the line indicated by Marcelo that hormonal replacement for people with the same gender identity as that attributed to the hormone has been conducted for a long time. It is interesting that a professional who works with cross sex hormonal therapy can call our attention to this. Hormonal therapy has been used for a long time and perhaps the treatments with testosterone for women should be understood in this scope. That is, as long as the treatment does not place at risk the corresponding presumption between body and gender for women (in the case of Marcelo, defined as cis; and in the case of all the other doctors simply as “women”).<sup>5</sup>

To conclude, it is necessary to remember the important contributions of Butler, especially her understanding of performativity of gender, which is defined by the citational and reiterative practice by which discourse produces the effects that it names (Butler 1993). In keeping with Butler’s proposals, once again we find a recitation, or revised reproduction of norms based on practices involving people’s bodies and subjectivities. The uses of testosterone by women could indicate a break with gender boundaries traditionally anchored in the body. However, it can be suggested that the discourses and practices of the physicians who we interviewed once again reaffirm the limits of gender. And once again the recitation of these borders is based on biological justifications.

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<sup>5</sup> I would like to suggest that other forms, that are much more questionable, of materialization of desire via testosterone also appear today. Preciado (2013), looking for a “pharmacopornographic” use of this hormone, reports on her/his own experience in this way. However, it appears to me that when she/his describes the effects of testosterone on her/his own body, not only does she associate them directly to attributes traditionally considered to be male in our society (such as productive capacity, lucidity, physical energy, intense sexual desire) but she also appears to concede an isolated or *per se* agency to the substance: “Then, an extraordinary lucidity settles in, gradually, accompanied by an explosion of the desire to fuck, walk, go out everywhere in the city. This is the climax in which the spiritual force of the testosterone mixing with my blood takes to the fore. Absolutely all the unpleasant sensations disappear” (Preciado 2013: 21).

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