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Use of unprescribed hormones in the body modification of *travestis* and transsexual women in Salvador/Bahia, Brazil

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Abstract *This article aims to analyze the use of non-prescribed hormones among* travestis *and transgender women (TrTGW) in Salvador, Bahia, Brazil. This cross-sectional study used the Respondent Driven Sampling (RDS) methodology to recruit TrTGW from 2014 to 2016 in Salvador and the Metropolitan Region. A comparative analysis was carried out between sociodemographic, behavioral, and gender declaration conditions using hormones. The RDS-II estimator weighted the data. Stata version 14 was used for statistical analyses. One hundred twenty-seven TrTGW were recruited. From the studied sample, 69.1% of participants used non-prescribed hormones, which was associated with industrial liquid silicone use and body satisfaction. The TrTGW who were comfortable with the penis and felt pleasure with the penis used hormone less. The seropositive participants reported a higher proportion of hormone use. The non-prescribed use of hormones was used by most TrTGW. This use is likely associated with better satisfaction with self-image and body among TrTGW. Elevated and exacerbated use of these hormones was identified, probably due to the rare access to public health services.*

Key words *Travestis, Transgender women, Hormone*

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Introduction

In Brazil, the terms transvestites and transsexual women are more commonly used by the communities themselves and refer to the spectrum of trans women whose gender identity does not correspond to the biological sex assigned to them at birth. These terms indicate different female performances and claim the legitimacy of their identity beyond male and female binary parameters[1,2]. Also, they seek to transform their bodies according to their gender identities, using hormones and silicone, addressing them as women and the social name they identify with[3,4]. However, a transit between these identities is identified. It is fixed or isolated but always in dispute, negotiation, constant interaction, and movement[5].

Hormonization is used as part of the body change desired by transvestites and transgender women (TrTGW) for gender affirmation, which two primary goals: to reduce the biologically induced secondary sexual characteristics and induce the secondary sexual characteristics of the new gender identity[6]. The desire for a quick feminization process leads to self-medication with high hormone doses, besides the difficulty in finding specialized health professionals[7]. Also, health facilities providing prescribed hormones (prescription and monitoring of hormone use in clinics to care for transgender people or formal health services) are scarce, and access to these can still have several barriers, such as discrimination, stigma, and, consequently, a lower demand for SUS health services[8,9].

It is noteworthy that the World Health Organization (WHO) depathologized transgender identities in 2018, in the new edition of the International Classification of Diseases (ICD-11), which will come into force in January 2022. This process becomes continuous and permanent in listening, declassification, and deconstruction of societal social and cultural paradigms[10]. Rocon et al.[11] argue that conditioning a diagnosis of transsexuality has made selective access to health services, which can promote and protect the health of the trans population, in a complete and universal offer, avoiding the risks of using unprescribed hormones and industrial liquid silicone.

Hormone-using TrTGW may have breast development, fat redistribution to a female body, reduced muscle mass, reduction or thinning of body hair, smoother and thinner skin, and testicle shrinkage or retraction[12]. Professionals qualified for such procedure are endocrinologists or general practitioners, who should perform hormonization for TrTGW, as per Ordinance No. 2803/2013[13]. According to the 2013 Comprehensive National Policy for Lesbians, Gays, Bisexuals, and Transgender (LGBT), care and hormonization for transgender people must be facilitated in the Unified Health System (SUS) units[2]. However, it is common for TrTGW to self-medicate with large amounts of female hormones found in contraceptive drugs[14].

Few longitudinal studies among TrTGW analyze the long-term effects of hormonization[7,15]. Qualitative studies also discuss the paucity of data on the prolonged use of hormones in transgender people[16,17]. Noteworthy are the elevated health risks with self-medication of high hormone doses, which can lead to severe complications, such as deep vein thrombosis, thromboembolic changes, increased blood pressure, liver changes, and bone problems[18,19]. Based on these considerations, this study aims to analyze the use of unprescribed hormones among TrTGW in Salvador, Bahia, Brazil.

Methods

Study type

This study is nested in the Project "*Vulnerability to HIV/AIDS, syphilis and viral hepatitis in the population of transvestites and transsexual women and their ways of life in Salvador, Bahia - PopTrans Study*" (Free translation from Portuguese). It was a socio-behavioral and serological survey with TrTGW[20]. We used the Respondent Driven Sampling (RDS) recruitment technique – or participant-directed sampling, as this is a population of difficult access in terms of sampling. RDS consists of recruiting people from the same social network. To this end, the participants themselves recruited their acquaintances[20].

Seed inclusion and recruitment criteria

RDS data collection is initiated by non-randomly selecting some initial participants (seeds) from the population of interest. The researchers selected them after qualitative formative research to represent the heterogeneity of the TrTGW population by demographic and socioeconomic conditions. Seeds are educated about their function and are given a fixed number of coupons to recruit others. These recruits, in turn, receive coupons to recruit new participants.

Ten seeds started the recruitment. The following questions were asked in the questionnaire to measure the size of each TrTGW social net-

work: "How many TrTGW do you know by name and how many of them know you by name in Salvador?"; "Of the TrTGW you know, how many would you invite to participate in the survey?". The inclusion criteria were being older than 15 years, self-identifying as transvestite, trans woman, or woman, and residing in Salvador for at least three months. Also, we verified whether the TrTGW were in complete psychological and emotional condition and were not under the effects of drug or alcohol use that interfered with the interview. Upon arrival at the data collection site, each participant answered an eligibility questionnaire to verify whether the guest met all the necessary characteristics to participate in the study. RDS recruitment started from a fixed number of coupons distributed to each participant, with a serial number later used to design the social network and analyze recruitment patterns[21]. Each seed and then each participant received three invitations to invite TrTGW from their network of contacts (recruitment chains). This process was repeated until the sample size (n = 127) was reached. The recruiter's connection was monitored through a specific program ("coupon manager"). Recruitment chains reached up to eight waves. Each participant received a primary incentive of BRL 30.00 in food stamps and a secondary incentive, of the same amount, for each participant they recruited and who completed the research procedures. Moreover, all received educational material, snacks, water-based lubricating gel, condoms, and a beauty kit (containing lipstick, nail polish, and mirror). The recruitment of participants was held from September 2014 to April 2016 in a space organized for this reception in Salvador, with opening hours from 1:00 p.m. to 5:00 p.m., Monday through Friday.

Data were collected in an electronic questionnaire using a tablet. The study variables were classified as sociodemographic: gender identity (transvestite and transsexual woman), age (> 25 years; and ≤ 25 years), ethnicity/skin color (white; black – black or mixed), schooling (> 8 years of study; < 8 years of study), income (≥ to BRL 1,000.00; < BRL 1,000.00), marital status (single or married), and in socio-behavioral and sexual practices: sex work history (yes or no); having suffered discrimination for being TrTGW (yes or no); use of illegal drugs (yes or no); being comfortable with own body image (yes or no); use of industrial liquid silicone (yes or no); comfortable with own penis (yes or no); feeling pleasure with own penis (yes or no); sex partners in the last 6 months (men only; men, women, transvestites and transsexual women); sex worker (yes or no); condom use in receptive anal sex with steady partners (always; never use/irregular use); condom use in receptive anal sex with casual partners (always; never use/irregular use); illicit drug use (yes or no).

Data on hormone use were collected from the questions: "have you ever used hormones?"; "What hormones did you use?"; "How old were you when you used the hormone for the first time?"; "Where did you obtain hormones?"; "Have you ever felt adverse effects from the use of hormones?"; "Have you used hormones in the last three months?"; "Have you ever received information about hormone use?".

Data analysis

Data analysis considered the complex design of recruitment sampling by RDS, which is the dependence between the observations resulting from the recruitment chains and the unequal selection probabilities[22]. The sample was weighted by the RDS-II estimator[23]. The RDS Analyst program calculated the weights based on the RDS estimators and the STATA 14 program (StataCorp, College 192 Station, TX, USA) for data analysis using the complex sample analysis routine (survey) (24). Descriptive analysis of the TrTGW profile and variables of hormone use and gender affirmation was carried out, and bivariate analysis between study variables and hormone use. We considered statistical significance at the descriptive level of $p \leq 0.05$. Most TrTGW used hormones; thus, not reaching a sufficient sample N for multivariate analysis.

Ethical aspects

The *PopTrans* study was approved by the Research Ethics Committee of the State Health Secretariat of Bahia, under Opinion N° 225.943 and CAAE 07135912.7.0000.0052, meeting all the requirements defined in CNS Resolution No. 466/2012. Therefore, the autonomy and dignity of the participants were respected, ensuring their willingness to remain or not in the research and assuring that all foreseeable damage would be avoided. Participants signed the Informed Consent Form or the Informed Assent Form when under 18 years of age.

Results

A total of 127 TrTGW were recruited, mostly young (57% under 25 years), single (63.5%), self-declared black (51%). Regarding schooling, 73.2% reported more than eight years of study. Around 55.4% of the participants reported having a monthly income greater than BRL 1,000.00. Concerning socio-behavioral variables, 64% reported using illicit drugs, 77% were sex workers, and 83% reported having suffered some type of discrimination for being a transvestite or a transsexual woman (Table 1).

Most TrTGW reported using hormones (94.8%); of these (n = 118), 59.6% started to use with less than 18 years of age; 68.9% had used the hormone in the last three months. Of the latter (n = 80), 68.1% used non-prescribed hormones from one to seven times a week, and 31.9% used hormones at least three times a month. Regarding obtaining hormones, 93.9% reported having acquired them from pharmacies and without a medical prescription. Other acquisition methods were receiving hormones from a friend (38.1%), through a co-worker (7.5%), "*pumped ladies*" (6.2%) – *this term usually refers to older and more experienced transvestites who acquired the practice of injecting silicone or applying hormones*[9], through the SUS (10.5%), and through the internet (6.2%). A total of 6.4% had never received guidance on the use of hormones (Table 1).

Figure 1 shows the interquartile range of age at the onset of hormone use by gender identity. Transsexual women used hormones a little earlier, at ten years of age, while transvestites started at 11. The median age was 16 years for transvestites and 17 years for transsexual women. The use of hormones was started for 75% of the sample at the age of 19. The TrTGW claimed to use different types of dosage forms of hormones. Only 8.5% reported using one type of pharmaceutical form, whether oral, transdermal, percutaneous, intramuscular, or nasal injectable. Most (82.2%) used more than one combined pharmaceutical form (Table 2).

In the bivariate analysis (Table 3), participants who self-identified as transsexual women were more likely to use hormones than those who self-identified as transvestites (OR 3.78; 95% CI 1.06-13.40). The likelihood to use the hormone was also higher among those aged 15-24 years (OR 1.37; 95% CI 0.36-5.27), with lower income (OR 1.57; 95% CI 0.43-5.64), and who performed sex work (OR 1.32; 95% CI 0.34-5.06), but these associations were not statistically significant. TrTGW self-declared black or mixed (OR 0.48; 95% CI 0.13-1.70) were less likely to use the hormone than whites, but this association was not statistically significant. Those with more than eight years of schooling (OR 0.22; 95% CI 0.06-0.80) were less likely to use the hormone than less educated TrTGW. However, these associations were not statistically significant at the level of a $p \leq 0.05$ value.

The likelihood of using hormones was higher among those who used industrial liquid silicone (OR 1.27; 95% CI 0.35-4.53) and those who reported being satisfied with their body (OR 1.15; 95% CI 0.31-4.31). Participants who were comfortable with their penis (OR 0.45; 95% CI 0.10-2.03) and those who felt pleasure with their penis (OR 0.63; 95% CI 0.16-2.46), in turn, were less likely to use them. The TrTGW who reported having sexual intercourse with men, women, and transvestites were more likely to use the hormone (OR 2.67; 95%; CI 0.64-11.10). The TrTGW who did not always use condoms with steady partners were more likely to use hormones (OR 3.06; 95% CI 0.72-12.94), unlike those with casual partners (OR 0.59; 95% CI 0.16-2.14). HIV-positive participants were more likely to use hormones (OR 2.48; 95% CI 0.47-12.85). However, these associations were not statistically significant at the level of a p-value ≤ 0.05.

Discussion

This study shows that the use of unprescribed hormones was adopted by most TrTGW. The use of hormones and silicone implants, whether industrial or not, are the most widely used substances for producing the female body. The change in body biology produces the most significant effects regarding the construction of transvestilities and transsexualities[25,26]. Thus, in the process of gender affirmation among TrTGW, the body becomes the "receptacle" of hormones and illicit substances to achieve a desired female body[16,17,19,27-30].

Also, as highlighted in a study carried out in Brasília, in 2017 with 201 TrTGW, self-medication with hormones was explained by barriers in accessing health services and lack of supplies within public health, and lack of preparation of professionals in the prescription of these drugs to trans women[31]. Other studies also argue that barriers and stigma in health services can trigger hormone self-medication among TrTGW, besides low socioeconomic status for access to spe-

Table 1. Sociodemographic and behavioral characteristics of TGW and hormone use in Salvador, Bahia, Brazil.

Variables	N	%	%*
Sociodemographic			
Gender identity			
Travesti	60	47.2	31.5
Transgender woman	67	52.8	47.9
Age			
≥ 25 years	60	47.2	42.8
< 25 years	67	52.8	57.2
Ethnicity/skin color			
White	63	49.6	48.4
Black/brown	64	50.4	51.6
Schooling			
> 8 years	78	61.4	73.2
≤ 8 years	49	31.6	23.8
Income			
≥ 1,000 BRLs	71	55.9	51
< 1,000 BRLs	56	44.1	49
Marital status			
Married	35	27.6	36.5
Single	92	72.4	63.5
Sex work history			
No	37	29.1	22.4
Yes	90	70.9	77.6
Suffered discrimination for being TrTGW			
No	26	20.5	16.3
Yes	101	79.5	83.7
Used illicit drugs			
No	62	48.8	35.6
Yes	65	51.2	64.4
Uses or has used hormones			
Yes	118	92.9	94.8
No	9	7.1	5.2
Age of onset of hormone use			
≥ 18 years	48	37.8	40.4
< 18 years	70	55.1	59.6
Used hormone in the last 3 months			
No	38	32.2	31.1
Yes	80	67.8	68.9
Hormone use frequency			
Three times a month or less	41	51.2	31.9
1-7 times a week	39	48.8	68.1
Hormone acquisition place			
Pharmacy without prescription			
No	10	8.5	6.1
Yes	108	91.5	93.9
Received guidance on hormone use?			
No	68	57.6	66.4
Yes	50	42.4	33.6

* Estimates weighted by RDS II weights.

Source: Authors.

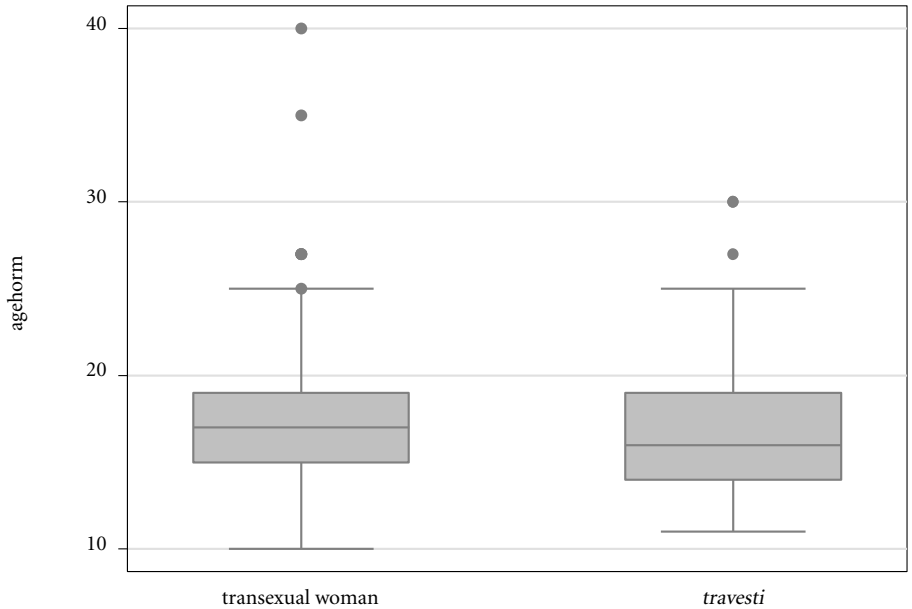

Figure 1. Interquartile range of age of onset of hormone use not prescribed by TrTGW in Salvador, Bahia, Brazil, 2016.

Source: Authors.

Table 2. Pharmaceutical forms of hormone use among TrTGW in Salvador, Bahia, Brazil.

Pharmaceutical forms*	n	%
Doesn't know which pharmaceutical form of hormone was used	11	9.3
Used one type of hormone pharmaceutical form	10	8.5
Used more than one type of hormone pharmaceutical form	97	82.2
Total	118	100

*Oral; transdermic; percutaneous; intramuscular injectable; nasal.

Source: Authors.

cialized professionals and the belief that a more significant amount of hormone will produce a faster change in the body[1,30,32]. In Salvador, where the research was conducted, until 2019, only two outpatient reference centers carried out outpatient transsexualizing (sexual reassignment) activities.

In this study, the participants reported having started unprescribed hormone use at a minimum age of 10 and 12 years for transsexual women and transvestites, respectively. A high proportion (59.6%) started with less than 18 years of age. A study that analyzed data from 616 TrTGW residing in seven municipalities in the State of São Paulo between 2014 and 2015 reported that the use of unprescribed hormones was also started by 60.8% of the participants before the minimum legal age (18 years) for starting the transsexualizing process in the SUS[33]. These data can be explained by the easy access to estradiol and progesterone in Brazilian pharmacies, as 93.9% reported having acquired the hormones in pharmacies and without a medical prescription. On the other hand, this finding differs from those found in other countries, where the purchase of hormones is prohibited without a prescription by a health professional. Literature reveals that, in other countries, TrTGW acquire hormones via the internet due to the lack of access to health services or due to their high cost[32,34].

In Brazil, clinical care protocols for the transsexualizing process were established in August 2008 by Ordinance No. 1.707/2008[35], which, in turn, considered the Federal Council of Medicine Resolution No. 1652/2002[36], which addressed the transgenitalization surgery. Ordinance N° 1.707/2008 was revoked by Ordinance

Table 3. Bivariate analysis of hormone use according to sociodemographic and behavioral factors among TGW in Salvador, Bahia, Brazil.

Variables	Hormone use			
	n/N	% Weighted	OR	95% CI
Sociodemographic data				
Gender identity				
Travesti	39/60	31.5	1.00	
Transgender woman	52/67	47.9	3.78	1.06-13.40
Age				
≥ 25 years	38/60	32.8	1.00	
15-24 years	53/67	46.7	1.37	0.36-5.27
Years of study				
≤ 8 years	33/49	15.9	1.00	
> 8 years	58/78	63.5	0.22	0.06-0.80
Skin color				
White	46/63	41.4	1.00	
Black/brown	45/64	38.1	0.48	0.13-1.70
Income				
≥ 1,000 BRLs	52/71	38.73	1.00	
< 1,000 BRLs	39/56	40.73	1.57	0.43 - 5.64
Sex work				
No	25/37	16.9	1.00	
Yes	66/90	62.5	1.32	0.34 - 5.06
Gender affirmation				
Used industrial liquid silicone				
No	61/83	51.6	1.00	
Yes	30/44	27.9	1.27	0.35 - 4.53
Body image satisfaction				
No	43/61	41.4	1.00	
Yes	48/66	38.1	1.15	0.31 - 4.31
Feels comfortable with penis				
No	27/34	21.8	1.00	
Yes	64/93	57.7	0.45	0.10 - 2.03
Sexual practice and condom use				
Feels pleasure with penis				
No	30/40	25.6	1.00	
Yes	61/87	53.8	0.63	0.16 - 2.46
Sexual practice				
Sex with only men in the last 6 months	75/104	60.3	1.00	
Sexo with M*, W** and Trans*** in the last 6 months	16/23	19.2	2.67	0.64 - 11.10
Condom use in receptive anal sex with steady partners				
Always uses	30/42	16.6	1.00	
Never uses/irregular use	53/74	62.5	3.06	0.72 - 12.94
Condom use in receptive anal sex with casual partners				
Always uses	69/95	64.9	1.00	
Never uses/irregular use	22/32	14.6	0.59	0.16 - 2.14
Serology				
HIV				
Negative	79/112	71.3	1.00	
Positive	12/15	8.1	2.48	0.47 - 12.85

*M = men; **W = women; *** Trans = transexual.

Source: Authors.

No. 2.803/2013[13], which redefined and expanded the transsexualizing process in the SUS. Parallel to this, the National Policy on Comprehensive Health for Lesbians, Gays, Bisexuals, Transvestites, and Transsexuals (LGBT)[2] was reaffirmed in its guidelines and objectives. One of its responsibilities is developing clinical protocols on using hormones in cross therapy and implantation of silicone prosthesis for transvestites and transsexuals[19,37]. According to Ordinance No. 2803/2013[13], hormonal treatment can only start in the public service after 18 years of age. However, protocols for starting hormonization for TrTGW may differ from the legislation of different countries, considering the level of autonomy of people to understand the risks and benefits of this hormonization[18,38,39]. The informed assent can be valid for the use of hormones in 16-year-old adolescents, in most contexts, contrary to what is determined in Brazil by Ordinance No. 2803/2013, which states that consent must be from 18 years of age[33,40].

In the analysis performed, the youngest TrTGW aged 15-24 years, those with lower income, and those who reported engaging in sex work were most likely to use unprescribed hormones. Concerning the use of hormones at an early age, studies reveal that trans people who did not start hormonal treatment reported higher levels of social distress, anxiety, and depression than those in crossover hormonal treatment. Such studies showed that the discomfort generated by gender dysphoria could be reduced and anxiety minimized when hormonization is started earlier[32,41,42].

The Federal Council of Medicine launched Resolution No. 2265, providing specific care for people with gender incongruence only in 2019, coming into force in January 2020, published in the Federal Official Gazette on January 9, 2020[43]. The document contains greater flexibility for hormonization in trans people under 18 years and pubertal blocking. Pubertal blocking is the interrupted production of sex hormones, preventing the development of secondary sex characters of the biological sex using analogs of gonadotropin-releasing hormone – GnRH. This resolution also indicates that a complex relationship established between the pubescent child or adolescent and their body that is not congruent with their gender identity escalates at the onset of puberty, which can lead to intense psychological distress, and bodily conduct attempting to hide the biological sexual characters to achieve social recognition and acceptance, which often cause health problems. It also mentions that pubertal blocking and the use of hormones will be performed by endocrinologists, gynecologists, or urologists, all with specific scientific knowledge and that this will only happen with the presence of a responsible psychiatrist. The resolution states that proper monitoring at this stage of development can prevent future corrective surgeries and the emergence of morbidities, such as anorexia nervosa, social phobia, depression, suicidal behavior, drug abuse, and conduct disorders related to bodily experience[43].

It is worth emphasizing some aspects for the initiation of hormone use: it is recommended[39] that adolescents who meet the eligibility and readiness criteria for transgenitalization surgery be initially submitted to treatment to suppress pubertal development; that suppression of puberty hormones begin when girls and boys begin to display the first physical changes of puberty (confirmed by pubertal levels of estradiol and testosterone, respectively); that pubertal development, of the desired opposite sex, begin around 16 years of age; to postpone the transsexualizing process surgery until the person is at least 18 years old[42].

Occupation through sex work is one of the first labor activity possibilities, as most TrTGW leave the family and school very early due to prejudice and discrimination. This can determine the need to build the body faster to be accepted in the competitive sex work environment[33,44]. Silva and Lopes[26] argue that the process of bodily transformations in TrTGW does not occur independently or apart from changes in body references and values in contemporaneity. Considering these values and the anxieties and tensions experienced in their daily lives, the TrTGW seek to achieve an ideal model of femininity that seems as "natural" as possible.

In our study, TrTGW who used ILS and those who felt satisfied with their bodies were more likely to use the hormone. The exclusive use of hormones does not often achieve an exuberant body. Because of this, TrTGW sculpt their bodies with ILS so that this transformation is faster and they increasingly feel a female body, regardless of the risk of such procedures[25,37]. Furthermore, ILS values the body of TrTGW, and its use is desired for "passing" as a woman. Having a body closer to the female body facilitates higher earnings in sex work and makes one more attractive to men and have greater social acceptability[45].

The association of hormone use among the TrTGW who "feel comfortable with their penis"

and have "pleasure with their penis" was lower, which can be explained by decreased libido and erectile dysfunction as a result of hormonization[12,18,38,42,46].

HIV-positive TrTGW were more likely to use hormones. Unlike our study, one RDS study with a sample of 250 transsexual women in two Chinese provinces related HIV infection to the non-use of hormones. The explanation proposed by the authors was justified for the transsexual women who did not want the feminizing effects of hormones or could not afford it and, therefore, were seen transgressing gender norms by the trans and cisgender communities, becoming more vulnerable and, thus, at greater risk of HIV infection. Another point addressed in the study is that trans women who have more sex do not use hormones to reduce their libido, increasing their risk of sexually transmitted infections[47].

The method used, the type, and the number of hormones used can pose severe risks to the health of TrTGW, according to the Center of Excellence for Transgender Health protocols, at the University of California at San Francisco[12]. The use of conjugated hormones based on equine urine is not recommended in the hormonization process, as this hormone (ethinyl estradiol) increases the possibility of thrombogenicity and cardiovascular risks[18]. Both the Center of Excellence for Transgender Health (USA) and the Société Française d'Études et de Prise in Charge de la Transidentité[48] share that the "bioidentical" hormones – 17-beta estradiol (a hormone chemically identical to that produced by the human ovary) – should be the most commonly used in the TrTGW feminization process. These can reach the bloodstream via transdermal (in the form of patches), oral or sublingual tablet, or injection of a conjugated ester (estradiol valerate or estradiol cypionate)[12]. Transdermal gels or sprays can be used in this process. Unlike what happens in cis women, the combination of progesterone and estradiol for the treatment of feminization may be advised for TrTGW.

In this study, the several pharmaceutical forms were used in combination and with prolonged use (Table 2) without monitoring by a health professional. According to Unger[18] and Deutsch[12], transsexual women's hormonization should follow doses based on the administration route. Such protocols were defined considering the long-term use of hormones for this population. The hormone types and administration routes are essential, considering health status, lifestyle, and age group. According to the data in Table 3, it can be observed that the TrTGW used hormones indiscriminately and, possibly, with concentrations not recommended by the protocols seen here. The frequency of Perlutan use in this study was higher than other hormones, corroborating the data on the illicit use of this drug by transgender women in the U.S.[32]

A survey on the National Health Surveillance Agency[49] website identified more than 20 documents published on Ethinyl estradiol and some of these on its impacts on the health of users. The regulatory agency warns that any hormone should be sold in pharmacies with medical prescriptions. The unprescribed or unsupervised use of high hormonal doses of oral ethinyl estradiol in TrTGW has been associated with deep vein thrombosis and increased cardiovascular mortality[33,39].

Study limitations [sub]

The RDS study has limitations, such as the study's estimates representing the social network recruited by the participants. Therefore, our estimates cannot be extrapolated to the TrTGW population of Salvador. Another point to be addressed is that the small sample size decreased the power of statistically significant association at a p-value of 5%. The studied population is considered hidden, hindering access, even with recruiters and peers with the same characteristics. Despite the limitations, our study brings new possibilities to discuss public policies for the health of TrTGW populations and new paths for future research.

Final considerations

When it comes to the use of hormones by TrTGW in Brazil, there is evidence of a self-medication process and easy acquisition of these products. It is essential to highlight the need for greater access and resoluteness in public services to serve transgender people.

The right to access hormonal technologies occurs in the resolutions and ordinances referred to here. However, there are still limitations to the use of hormones, as the legislation determines that one has to reach the legal age to start hormone use in the body. Our research showed that most TrTGW who participated in this work (67%) were aged 10-18 years when they used hormones for the first time, and 22% were aged 10-14 years. Thus, we believe that new actions regarding the suppression or delay of puberty are

essential for a better way of dealing with the process of transvestility and transsexuality, considering that gender-related conflicts and tensions may be found in puberty when secondary sexual characters emerge.

It is essential to highlight aspects of citizenship, rights, and human dignity in the process of receiving and caring for the health of trans people, considering their needs for body modification and the use of hormones for self-recognition. It is also necessary to question the blaming of trans people for the disease processes and consider the problem as a matter of public and community health. Thus, we suggest extensive training of PHC professionals to refer this target audience. Despite attempts to advance, gender dissidence is still pathologized in the legal-medical scope, as emphasized in Resolution No. 2265/2020 of the Federal Council of Medicine cited in this text.

Collaborations

Ricardo Araújo da Silva: main author, contributed to the literature review, construction of tables; statistical analysis and organization of the work of this research. Maria Inês da Costa Dourado: supervisor of the PhD research work, revised the text and tables and contributed with the theme. Luís Augusto Vasconcelos da Silva: doctoral co-advisor, revised the text and contributed with the theme. Fabiane Soares: revised the text and contributed with the theme content.

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