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Characteristics of hormone use by travestis and transgender women of the Brazilian Federal District*

Características do uso de hormônios por travestis e mulheres transexuais do Distrito Federal brasileiro

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ABSTRACT: ***Introduction:*** *Travestis* and transgender women resort to the use of hormones for body modification. Due to restrictions in the access to health services, self-medication is frequent. The aim of this study was to describe the self-reported prevalence of hormones used by *travestis* and transgender women in the Federal District. ***Method:*** This is a cross-sectional study with Respondent Driven Sampling (RDS) and Knowledge, Attitudes and Practices questionnaire (KAP) along with *travestis* and transgender women over 18 years in the FD. Prevalence was calculated using the RDS-II estimator. Logistic models were used to investigate the associated factors. A total of 201 volunteers participated. ***Results:*** There was a young sample (median age of 24 years). The overall prevalence of continuous use of hormones was 64.5%. The most used formulation was the combination of estrogen and progesterone (86.2%) by injectable (75.1%) and oral (66%) administration. Most participants (84%) got the hormones without a prescription. Guidance on the use of these hormones came from their peers in 41% of the cases. We observed that the continuous use of hormones is associated with race, income and age, as well as the search for guidance of healthcare professionals, which is also associated with schooling. ***Discussion:*** The reality of the process of hormone use by these people in the quest for femininity is reflected in high rates of self-medication. ***Conclusion:*** This study contributes to the visibility of the need to improve the access conditions of these people to health services.

Keywords: Transgender people. Hormones. Body. Health services accessibility.

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RESUMO: ***Introdução:*** Travestis e mulheres transexuais recorrem ao uso de hormônios para modificação corporal. Devido a restrições de acesso a serviços de saúde, a automedicação é frequente. Objetivou-se descrever a prevalência autorrelatada do uso de hormônios por travestis e mulheres transexuais do Distrito Federal e fatores associados. ***Método:*** Trata-se de estudo transversal, com amostragem por *Respondent Driven Sampling* (RDS) e questionário do tipo Conhecimentos, Atitudes e Práticas (CAP) aplicado a 201 travestis e mulheres transexuais maiores de 18 anos, vinculadas ao Distrito Federal. As prevalências foram calculadas pelo estimador RDS-II. Foram utilizados modelos logísticos na investigação dos fatores associados. ***Resultados:*** Obteve-se uma amostra jovem (mediana de idade de 24 anos). A prevalência geral de uso contínuo de hormônios foi de 64,5%. A formulação mais utilizada foi a que combina estrogênio e progesterona (86,2%), nas vias injetável (75,1%) e oral (66%). A maioria das participantes (84%) consegue os hormônios sem receituário médico. As orientações sobre o uso desses hormônios vêm de seus pares, em 41% dos casos. Observou-se que o uso contínuo de hormônios está associado à raça, renda e idade, assim como a busca por orientação de profissionais de saúde, que também está relacionada à escolaridade. ***Discussão:*** Nota-se que o processo de hormonização destas pessoas na busca pela feminilidade se reflete em altas taxas de automedicação. ***Conclusão:*** Este estudo contribui na visibilidade da necessidade de melhorar as condições de acesso destas pessoas a serviços de saúde.

Palavras-chave: Pessoas transgênero. Hormônios. Corpo. Acesso aos serviços de saúde.

INTRODUCTION

Transgender people can be understood as those whose gender identity does not conform to the norms imposed by society regarding the gender designated at birth, based on the genitalia[1]. The transgender category is quite broad and involves *travestis*, transgender men and women as well as non-binary persons[2]. This study will focus on *travestis* and transgender women, who are designated as males at birth but have developed a female gender identity[2]. Much more than differences marked by genital surgeries or the ingestion of hormones, these two identities are distinguished by political and/or subjective connotation[3]. These categories were mixed with questions related only to sexual orientation—an interpretation that limits their identity nature. Transgender people demand, above all, social recognition and respect for their identity[4].

Many *travestis* and transgender women resort to biomedical technologies to suppress traits considered masculine, in order for the so-called female characteristics to manifest themselves in their bodies[5,6]. The attempt to affirm these female stereotypes occurs by their own desire, search for comfort and satisfaction with their own image, or by framing female models as a resource to escape the prejudice associated with the body/identity device[7].

For Butler, the normalization of trans women's bodies places them as abject bodies, that is, foreign bodies causing repulsion and exclusion, which turns them into "precarious lives"[5]. One of the medical technologies used by *travestis* and transgender women for body feminization is the use of hormones.

In Brazil, hormonalization should be prescribed by a doctor[8]. However, most transgender people self-medicate and do not resort to health services to perform their hormonalization. This is due to the scarcity of services and medical professionals who have mastered the specificities of the transgender matter and are able to prescribe drugs safely for these users[9]. Another obstacle is the prejudice rooted in the culture of health professionals who disrespect and delegitimize transgender identities, in addition to persisting pathological perspectives concerning these people[9]. On the other hand, it is known that self-medication is a practice conducted among transgender women and *travestis*; therefore, when they access such services, they have already been using hormones by indication of people in their respective networks or by information obtained on the Internet[10,11].

Even in the face of so many barriers, those who can access health services can opt for private consultations or for free care in the Unified Health System (SUS), through *Processo Transexualizador* (Transexualizing Process), instituted in Brazil in 2008[12,13]. This norm guarantees *travestis* and transgenders multidisciplinary follow-up as well as surgical and hormonal procedures[13].

For *travestis* and transgender women, homornalization consists in the administration of estrogen by oral or injectable route and antiandrogens that block the excessive action of testosterone[14,15]. This process should be individualized, based on personal goals, risk/benefit ratio of medications and health conditions, and take into account socioeconomic issues[16].

In view of the above, this article discusses the use of hormones by *travestis* and transgender women of the Brazilian Federal District and some associated factors.

METHOD

This is a cross-sectional epidemiological study based on the Respondent Driven Sampling (RDS) methodology, based on a Knowledge, Attitudes and Practices questionnaire[17]. This cut is derived from data from the Federal District collected in the "Estudo de abrangência nacional de comportamentos, atitudes, práticas e prevalência de HIV, Sífilis e Hepatites B e C entre Travestis" – Pesquisa Diversidade e Valorização da Saúde (Divas), held in 12 Brazilian capitals. This article focuses on the use of hormones for the body modification of *travestis* and transgender women.

As inclusion criteria, participants should: be 18 years of age or more; have been designated as males at birth, identified as belonging to the female gender; and have some connection with the Federal District (work, live, study and/or spend most of the time); and never having participated in this research, carrying a valid and unpublished invitation delivered by another already interviewed participant[17]. According to the RDS methodology, each participant could invite only 3 *travestis*/transgender women. All were reimbursed for the costs of travel and stay at the data collection site. A total of 201 people belonging to networks generated from ten "seeds" participated.

This study was carried out between May and September 2017 at the No. 1 Health Center of Brasília, Hospital-Dia, including conventional socio-demographic variables, gender identity and transition age. In this article we used the variables that detail the characteristics of hormone use.

Prevalences were calculated by means of the RDS-II[18] estimator, with 95% confidence intervals. Initially, the size of each individual's contact network was established by answering the question: "From the people you know by name/surname and who also know you by name/surname, how many you met or spoke in person, by phone or Facebook/WhatsApp in the last 30 days?". Based on this value, we assigned a sample weight for each individual equal to the reverse of the network size. Thus, the likelihood of being included in the search was adjusted due to network profile similarities. All analyses were performed in R, version 3.4.4[18] using the RDS[19] software package.

Logistic models were created to investigate the association between demographic variables related to the questions "Do you make continuous use of hormones?" and "Have you received advice from a health care professional about the use of hormones?". The women who answered yes to the second question had been guided by health professionals in general or endocrinologists, with them being grouped under the category Health Professionals and the remaining being grouped under Others. In each model, the following variables were evaluated: "Have you done sex work in the last 30 days?"; age group; race/color; schooling; and income. When necessary and adequate, re-categorization of the variables were performed and described. The modeling was initiated according to the fit of the complete model, containing all candidate variables; the non-significant ones were withdrawn, one by one, until a more parsimonious model was obtained, containing only significant variables[20]. It is important to highlight the exploratory nature of this sort of work, without pretension of causal relation between the explanatory variables and the analyzed outcomes.

This study was approved nationally by the Research Ethics Committee of the National School of Public Health from Fundação Oswaldo Cruz (CEP/ENSP/Fiocruz) as well as locally by the Research Ethics Committee of the Health Science Teaching and Research Foundation (Fepecs) (CAAE: 49359415.9.0000.5240 and Opinion No. 1.787.606). The database was provided by the Department of Chronic Conditions Diseases and Sexually Transmitted Infections of the Health Surveillance Secretariat of the Ministry of Health.

RESULTS

This study showed that of the 201 participants, more than half identified as transgender women (54.5%), followed by *travestis* (30.4%), and 14% self-referred to themselves as women, regardless of classifications such as trans or cisgender (Table 1).

Regarding the age group, there is a young sample, with 79.9% up to 34 years. The mean age was 28.2 years (95% CI: 25.9–30.5) and the median was 24 (Q1:22, Q3:30). In general, participants started the transition from the male gender assigned at birth to the female gender at an early age.

Table 1. Sociodemographic profile of the 201 participants of *Pesquisa Divas* in the Federal District, 2017.

Sociodemographic variables	% (95% CI)
Gender identity (n=201)	
Women	14 (5.2–22.7)
Transgender woman	54.5 (42.2–66.8)
Travesti	30.4 (19.4–41.4)
Others	1.1 (0.3–1.9)
Transition onset age (n=201)	
Before 16 years	29.9 (18.6–41.1)
Between 16 and 18 years	39.4 (27.8–51)
After 18 years	30.7 (18.1–43.3)
Age group (n=201)	
18–24 years	46.3 (34–58.7)
25–34 years	33.6 (21.3–45.8)
35–49 years	15.3 (5.9–24.5)
50–64 years	4.8 (0–10.4)
Race/color (n=201)	
White	27.5 (16–39)
Black	17.3 (9.7–24.9)
Brown	50.4 (37.9–62.7)
Others	4.8 (0.2–9.4)
Schooling (n=201)	
Elementary School	28.7 (19.2–38.1)
High School	48 (35.5–60.4)
Higher Education	21.4 (11.6–31.1)
Graduate degree	1.9 (0–6.6)
Occupation (n=201)	
Formal work (with a formal contract)	12.6 (2.2–22.8)
Informal work (no formal contract)	9.3 (3–15.5)
Self-employed	58.7 (46.7–70.8)
Student	9 (4–14)
Unemployed	10.4 (4.4–16.3)
Have you done sex work in the last 30 days (n=201)	
Yes	43.9 (31.3–56.5)
No	56.1 (43.5–68.6)
Income (n=201)	
Up to 2 monthly minimum wages	52.7 (39.3–66.1)
2 to 4 monthly minimum wages	27.7 (14.6–40.7)
4 or more monthly minimum wages	19.6 (8.3–30.9)

The majority started the process before reaching the age of 18 (68.3%), the youngest being 7 years old and the oldest being 58. The mean was 18 years (95% CI: 16.6–19.4) and the median was 17 (Q1:15, Q3:19).

More than half of the interviewees were self-declared brown (50.4%), followed by white (27.5%) and black (17.3%). Schooling was concentrated among those who studied until primary and secondary education (56.7%). A smaller amount was able to reach higher levels of formal education (about 24%).

Most of the participants reported working as self-employed (58.7%), while only 12.6% declared formal work (with formal contract). The majority responded that they receive up to four minimum wages per month (80.4%). There was also a small part of the interviewees who reported that they were studying (9%). Almost half reported having done sex work in the last 30 days (43.9%).

Table 2 presents information related to the use of hormones among participants, including their motivations, the types of hormone used, the respective route of administration and who administers it (if injected). These issues allowed for more than one response from each participant. Access to medication and user satisfaction with hormones are also described in Table 2.

The data reveal that the participants started using hormones with a mean age of 18.7 years (95% CI: 17.5–19.9). Table 2 also shows that most interviewees (64.5%) had already taken and continued to take hormones for body feminization.

Regarding the factors associated with the continuous use of hormones, the proposed logistic model (Table 3) showed that older individuals are less likely to make continuous use of hormones, as well as people who declare themselves black. People with higher incomes are more likely to make continuous use, unlike those who reported having had sex work in the last 30 days.

Regarding the type of hormone, the most used drug is that which combines estrogen and progesterone in the same formulation (about 87% of participants declare using it). The injectable and oral methods of administration were the most frequently chosen (75% and ≅ 66%, respectively).

Only 35% of the interviewees reported antiandrogen use. It is worth mentioning that, with regard to the injectable administration, more than half of the interviewees (55.7%) reported that the drug had been applied by a pharmacy clerk.

Regarding access, 84% of the participants reported that they purchased the hormones directly from pharmacies, without medical prescription. More than half of them reported having received advice about their use of the drug, mostly through their peers (other transgender women or *travestis*), or some health professional. The logistic regression model (Table 4) shows that, compared to the white, young and intermediate age group (25 to 34 years old), with lower income and schooling, used as reference in the model, individuals with higher income and schooling are more likely to seek guidance from health professionals about the use of hormones (the opposite option was for *travestis* / transgender couples).

Table 2. Distribution of information related to the use of hormones. Federal District, 2017.

Issues related to hormone use	General (n=201)% (95% CI)
Age at which started using hormones (mean)	18.7 (17.5–19.9)
Use of hormones	
Used before and keeps using	64.5 (52.2–76.8)
Used before but not anymore	31.9 (19.7–44.1)
Never used	3.6 (1.0.0–6.2)
Type of hormone used	
Estrogen	13.5 (6.2–20.8)
Progesterone	6.8 (0.1–13.6)
Estrogen + progesterone	86.2 (78.2–94.1)
Antiandrogen	35.7 (22.9–48.5)
Isoflavone	1.4 (0.0.0–7.3)
Route of hormone administration	
Injectable	75.1 (64.1–86.2)
Oral	65.9 (52.9–79)
Transdermal gel	5.4 (0.0.0–13.1)
Patch	18.9 (7.0.0–30.8)
Others	0.1 (0.0.0–0.1)
Where hormone is acquired	
Pharmacy without prescription	84 (74.1–94)
Pharmacy with prescription	7.9 (0.0.0–16.1)
Friends/co-workers	8.7 (0.0.0–17.4)
Bombadeiras	-
Other transgender people	5.3 (1.4–9.2)
SUS	0.9 (0.4–1.3)
Internet	1.4 (0.0.0–7.3)
Received guidance on hormone use care	55 (41.9–68.1)
Who provided guidance	
General health professional	39.3 (21.6–57)
Endocrinologist	17.5 (1.2–33.7)
Other *Travestis*/Transgenders	40.8 (24.0.0–57.5)
Bombadeira	5.2 (0.0.0–15)

Bombadeira: Non-healthcare professionals (often *travestis* or transgender women) who apply industrial silicone in *travestis* and transgender women.

Table 3. Final model adjusted for the question "Do you make continuous use of hormones?".

Variable	Level	OR	95% CI	P-value
Performed sex work in the last 30 days				
	No	1	-	-
	Yes	0.84	0.716 – 0.995	0.0447
Age Group				
	18 – 34	1	-	-
	35 or more	0.81	0.668 – 0.974	0.027
Race/Color				
	White	1	-	-
	Black	0.81	0.659 – 0.997	0.049
	Brown	1.01	0.856 – 1.187	0.924
	Others	0.93	0.654 – 1.318	0.678
Income				
	<2 MW	1	-	-
	2–4 MW	1.14	0.953 – 1.352	0.156
	>4 MW	1.37	1.125 – 1.659	0.002

CI: confidence interval; OR: odds ratio; MW: minimum wages.

Table 4. Final model adjusted for the question "Have you received advice from a health professional about the use of hormones?".

Variable	Level	OR	95% CI	P-value
Age group				
	18–24	1	-	-
	25–34	1.24	1.067 – 1.435	0.005
	35 or more	1.08	0.902 – 1.294	0.403
Race/color				
	White	1	-	-
	Black	0.74	0.613 – 0.903	0.003
	Brown	0.82	0.704 – 0.953	0.011
	Others	0.69	0.506 – 0.931	0.017
Schooling				
	Up to Primary School	1	-	-
	High School	1.30	1.114 – 1.516	0.001
	Higher Education or higher	1.24	1.032 – 1.493	0.023
Income				
	<2 SM	1	-	-
	2 or more	1.16	1.017 – 1.325	0.029

CI: confidence interval; OR: odds ratio; MW: minimum wages.

DISCUSSION

This study had a young sample beginning their transition from male to female, also at an early age, on average at 18 years of age. People of brown race/color and with high school complete were predominant. The average income of the interviewees was low, with a large majority not exceeding four minimum wages per month, as already observed in other studies. For example, in the research by Grinsztejn et al.[21], held in Rio de Janeiro and in Baixada Fluminense, the sample of 345 participants was also mainly constituted of those who referred to themselves as *travestis* and transgender women, only being different in that in Rio de Janeiro, most were self-declared *travestis*, followed by transgender women. A study conducted in São Paulo by Pinto et al.[22], with 576 participants, found the same identity pattern as that of the Federal District, with the majority being transgender women, followed by *travestis*.

With respect to age, these studies also had a young sampling. The median of the present study was 24 years, while in Rio de Janeiro it was 28. An investigation conducted in Fortaleza[23] with 304 participants, resulted in half of the sample being less than 24 years old; and in São Paulo a mean of 32 years. It can be seen that most studies, even those of RDS, end up approaching young populations, and as such the profile of more advanced ages remains unknown.

Regarding race/color, as in the Federal District, the majority of respondents from São Paulo and Fortaleza were self-referred brown, white and black, respectively. In Rio de Janeiro, the only difference was that the self-reported black people were ahead of white, but with brown people as the most prevalent. Here, the brown and black categories were over-represented compared to the Continuous National Household Sample Survey (Pnad-C – Pesquisa Nacional por Amostra de Domicílios Contínua) of 2016[24], in which ≅46% and ≅8%, respectively, declared themselves as brown and black. White people were underrepresented compared to Pnad-C, which had ≅44% of white people.

The reported schooling is quite similar between all the studies, with the majority of respondents reporting having completed high school, as well as with regard to monthly income, which was from low to average, according to participants' reports. Both data also meet the Pnad-C of 2016[24]. International studies carried out using the same methodology present similar socioeconomic patterns[25].

As for the type of hormone used, the most common one was the combination, in the same formulation, of estrogen and a progestogen, administered through injections or tablets, respectively. Often, access to these hormones is straightforward in pharmacies with no medical prescription, and guidelines on use come from peers. The level of satisfaction of these drugs is high, and unwanted effects lead to discontinuation of use.

The distribution of hormone use is also reported in studies by Grinsztejn et al.[21] and Pinto et al.[22]. Most interviewees from the Rio de Janeiro and São Paulo surveys report that they were using these drugs. Another study[26], also cross-sectional, but conducted by *snowball* methodology with 673 participants and specifically addressing the use of hormones,

offers greater detail on the practice. Many similarities between the surveys are found, with differences in sample size and method being preserved. While in this study about 65% of the interviewees report use of hormones, in the study by Maschião et al.[26] this value was higher than 90%. The mean onset age of hormone use in São Paulo was 17 years, and 18 years in the Federal District. The study conducted in São Paulo did not explore the types of hormones used, however, similarly to this study in Brasília, it demonstrated that the majority of respondents (more than 80% in both cases) purchase these drugs without a prescription.

These data corroborate results from the Brazilian Survey on Access, Use and Promotion of the Rational Drug Usage (PNAUM – Pesquisa Nacional de Acesso, Utilização e Promoção do Uso Racional de Medicamentos)[27], which interviewed 41,433 people between September and February 2014, finding a prevalence of self-medication of 16.1%. PNAUM also includes stratification per drug class, which shows a prevalence of use of hormonal contraceptive drugs equal to 32.7%, with 28.2% being oral contraceptives and 4.5% injectable. Cases of self-medication reach 3.1% in this pharmacological class. The study also points out that most users reported using single-phase combined oral contraceptives (estrogen and progesterone), representing 73.9% of all contraceptives identified, similarly to the results described in the present study.

The literature suggests that transgender women and *travestis* self-medicate due to lack of access to health services and supplies, a barrier imposed by the precarious care of this population, denial of their public existence, stigmatization and discrimination[9,10]. This scenario of cis-heteronormativity and biopolitical control of bodies in health services leads to the exclusion of certain identities due to a hegemonic binary-sexual perspective in the biomedical sciences, according to the logistic model demonstrated in Table 3[28,29].

This is also reflected in the lack of professional guidance on the use of these hormones, as shown in the proposed logistic model (Table 4). The fact that the older age group is not significant may reflect less statistical power or even a generational issue. Individuals of other races/colors were also shown to be less likely to seek guidance from health professionals than white people.

The National Drug Policy provides access to essential medicines contained in the Brazilian Drug List (*Rename – Relação Nacional de Medicamentos*)[30]. The constants are simply cyproterone acetate, finasteride and some conjugated estrogens, which does not comprise all prescription possibilities. This fact can be attributed to the lack of an Evidence-Based Clinical Protocol and Therapeutic Guidelines (PCDT) to subsidize a change in Rename, following the guidelines for access to the *Processo Transexualizador* (Transexualizing Process) provided for in the National LGBT Comprehensive Health Policy (*PNSILGBT – Política Nacional de Saúde Integral LGBT*)[8].

The Butlerian concept of intelligibility helps to understand the attempt to escape from a place of abjection to a place of social existence belonging to the feminine world[5]. The search for a fair and youthful beauty pattern is a possible explanatory hypothesis[31,32].

Transcending the notion of the body as a mere device of self-satisfaction with one's own image, configured in a social self-protection device, an "ever closer to that of a cis woman" appearance can avoid daily social constraints and transphobic violence. Brazil is the country with the highest number of murders of trans people due to transphobic motivations[32].

This study has the limitation of having worked with a small sample and whose total universe (number of transgender people in the Federal District, or even Brazil) is unknown[17]. Due to the punctual nature of cross-sectional studies, prevalence/survival bias may also be present. In the case of a population that is marginalized and stigmatized as trans and whose average life expectancy in Brazil is estimated to be 35 years[32], the fact it covers restricted age groups and certain social strata may lead to the concern of a possible generalization from the sample. In order to minimize this bias, the training research prior to the application of the questionnaires was careful to bring people quite different from each other, namely the seeds that initiated the bringing up of participants into the study.

There is also the influence of selecting RDS itself, whose sampling can still be considered for convenience, and therefore not probabilistic. Most invited people tend to recruit those with whom they resemble in race, ethnicity, education, income, religion, and other variables. This effect is known as homophilia[17]. For this reason, Bastos et al.[16] point out that the findings of the study cannot be extrapolated either to the country, or even to the city/study site, thus only being representative of the researched network itself.

CONCLUSION

Public and private health services need to expand access for transgender people. This translates into an increase in the number of services, decentralization of care to other sections of the healthcare network and more awareness among professionals. The creation of a PCDT by the Ministry of Health based on evidence and the consequent insertion of medicine for hormonalization of trans people in Rename are essential to increase access.

The structure of these services requires cultural competence in the integral reception of trans people, considering the health needs that go beyond the *Processo Transexualizador* (Transexualizing Process). To implement this reality in the life of trans people, the principle of equity, equally guaranteed in SUS, should guide health actions.

It is of utmost importance that there be continuous thought on the health of transgender people. Care must take into account the value of diversity in the trans collective, without being tied to the institutional requirement prescribind what is considered better in terms of hormonalization, but listening to demands, reproductive desires, and the practice of commercial sex. In order for PNSILGBT to take effect, the integral and integrated view of other sectors of society, in addition to the healthcare field, is essential in understanding trans people as subjects with full citizenship and rights.

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